



CITY OF SAN RAMON

LANDSCAPE MAINTENANCE SPECIFICATIONS

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SECTION 02935**

PART I - GENERAL

1.01 RELATED DOCUMENTS:

The General Conditions of the Contract, including General and Special Provisions, and General Requirements apply to the work in this Section.

1.02 DESCRIPTION:

Guidelines for day-to-day maintenance, which are not listed here, shall include those landscape maintenance practices which are generally accepted by the University of California, the California Cooperative Extension, The California Association of Nursery, and the International Society of Arboriculture.

A. Maintenance work shall be done for all areas within the project's limits and for areas outside this project where replacement planting has been installed as part of this project. Maintenance includes, but is not necessarily limited to, the following:

1. Watering, including any hand-watering;
2. Fertilization;
3. Weed, disease, insect and rodent control;
4. Pruning, thinning, staking (including replacement and removal), and edging;
5. Maintenance and operation of irrigation system;
6. Mulching and soil conditioning;
7. Replacement of plant material; and
8. Clean-up (litter and vegetative debris).

B. Maintenance period:

1. Furnish all labor, material, equipment, and services required to maintain the landscape in a healthy and attractive condition for a period of 90 calendar days or as otherwise specified.
2. Maintenance period shall not start until all elements of planting and irrigation for the entire project are complete and approved by the City. Project will not be segmented into maintenance phases, unless specifically authorized in writing by the City.
3. The maintenance period will be extended if the provisions required within the Drawings and Specifications are not fulfilled.
4. Maintain the site with a minimum of three (3) site visits per week.

- C. Related Work:
 - 1. Irrigation
 - 2. Planting

1.03 QUALITY ASSURANCE:

- A. Personnel:
 - 1. Employ at least one (1) qualified supervisor familiar with the products and the requirements of this Section. Submit the supervisor's name to the City before beginning work.
 - 2. Employ workers familiar with the products and requirements of this Section.
- B. Safety:
 - 1. Safe work practices shall be enforced at all times. Wear protective gear and appropriate clothing. Workers exposed to hazardous traffic or equipment conditions are required to wear highly visible, reflective clothing. All work areas shall be properly posted.
 - 2. Machinery should be used only for the originally intended purpose. No modifications or alterations are allowed.
 - 3. Maintain all machinery according to the manufacturer's specifications do not use machinery which has defective or missing safety devices.
 - 4. Do not use machinery in unsafe environmental conditions or on terrain which is unsuitable for its use. Operate all machinery utilizing the exact number of people required by the manufacturer's specifications. Conform to generally accepted safety practices at all times.

1.04 SUBMITTALS:

- A. Submit to the City proof of any required permits for the use of pesticides, insecticides, and herbicides.
- B. Submit to the City a copy of the monthly pesticide use report submitted to the Contra Costa County Agriculture Department.
- C. Submit to the City dates of fertilizer application(s) and type.

1.05 PLANT REPLACEMENT:

- A. Contractor is responsible for replacing any dead plants, regardless of size, if demise is from concealed defects of the plants purchased by the Contractor such as a disease, or virus, or improper planting methodology, or injury incurred from the Contractor's work for a period of 12 months after final acceptance of the total project by the City.

- B. During the maintenance period, Contractor shall replace plants that are dead or dying and not in a vigorous, healthy growing condition, at no additional cost to the City, and to the satisfaction of the City. Dead plants shall be replaced with identical plants of the same species, variety and size as originally specified for the project and described on the Drawings and in the Specifications.
- C. Contractor is responsible for the replacement of any tree species that dies during the 12 month guarantee period for the project. Replacement trees shall be of the same variety and size, replanted according to the Drawings and Specifications for the project and shall be provided at no cost additional to the City. All planting work shall be completed in a timely manner to the satisfaction of the City.
- D. Contractor is responsible for replacing landscape improvements damaged due to acts of vandalism or from accidents caused beyond the control of the Contractor while still under the Contractors warranty.

PART 2 - PRODUCTS

2.01 GENERAL:

Provide all equipment and products necessary for, and incidental to, the requirements of this Specification.

2.02 PESTICIDES, INSECTICIDES, RODENTICIDES, HERBICIDES, AND GROWTH REGULATORS:

Use only products approved for use by applicable government agencies.

PART 3 - EXECUTION

3.01 GENERAL:

- A. Maintain the landscaped and hardscaped areas including fertilizing, watering, weed control, insect and disease control, and trash removal.
- B. A conference with the City, scheduled by the Contractor, shall be conducted on the site at the completion of the maintenance period. All deficiencies shall be completed prior to the meeting. If any corrections have not been completed to the satisfaction of the City, the Contractor shall continue to maintain the project at the Contractor's expense until all the deficiencies have been corrected to the satisfaction of the City. When the City has inspected the project and approved the completed work, a letter accepting the project will be sent to the Contractor. The first day of the guarantee period will be indicated in the acceptance letter sent to the Contractor.

3.02 PESTICIDES AND HERBICIDES:

- A. All plant chemicals shall be used only in accordance with label specifications and applied by qualified applicators. All laws governing the use, application rates, environmental conditions and product restrictions shall be enforced at all times. Particulate drift shall be minimized when a spray application is made and completed only when prevailing winds are less than those specified by the County Agricultural Commissioner and/or the label specifications.

- B. Extreme caution shall be exercised in avoiding non-target contamination. Public safety shall be a priority at all times.
- C. The City must be notified, in writing, at least 24 hours prior to the application of any pesticides, herbicide or growth regulator. No materials exceeding the toxicity of class III (caution) chemicals shall be applied without the written consent of the City. Proper posting and notification procedures as specified by the County Agricultural Commissioner shall be strictly adhered to.

3.03 SHRUBS AND TREES:

A. General:

- 1. Keep all tree, shrub, groundcover and planting areas, including mulched, weed-free and litter-free. Remove weeds and trash a minimum of three times per week, or as often as necessary to maintain a neat, attractive appearance and dispose of in an approved manner. Apply pre-emergent herbicides as often as necessary to control weeds. Where use of herbicides is deemed hazardous or impractical, utilize hand weeding methods.
- 2. Care shall be taken at all times to avoid damage to plant materials. Report any damage to the City.

B. Shrub pruning:

- 1. Prune shrubs, using hand clippers, and as necessary to encourage healthy, natural growth patterns for each specific variety. Use of shears and creation of curved or straight line shapes is not allowed. Prune all shrubs by thinning and in a manner which results in a natural appearing and shapely cut. Avoid use of heading cuts unless they are specifically required. Shrubs shall not obstruct visibility, such as those adjacent to left hand turn lanes or uncontrolled intersections. Remove spent flowering stalks and rank growth to maintain a clean, neat appearance.
- 2. Keep all shrubs pruned back to clear all roadways, sidewalks, curbs, and gutter. Shrubs shall not block signs, utilities, or other facilities. Shrubs shall not block access to controllers or electric valves and shall be pruned so as to minimize blockage of irrigation head spray patterns.
- 3. Do not clip or shear shrubs into balled or boxed forms.

C. Tree pruning:

- 1. Prune new and existing trees as necessary and/or as directed by the City, to encourage healthy, natural growth patterns for each specific variety. Prune all trees by thinning and natural appearing shapely cuts. Heading cuts shall not be allowed unless specifically required to provide the desired appearance. All pruning shall conform to the International Society of Arboriculture (ISA) Pruning Standards.
- 2. Pruning shall be done under the supervision of a licensed, ISA Certified Arborist so that the tree's natural appearance will be preserved during the pruning process. At no time will topping a tree be allowed.

3. Water sprouts and root suckers shall be removed as often as necessary to maintain a neat, clean appearance.
4. Remove the following types of branches unless otherwise approved by the City:
 - a. Branches which obstruct walks, traffic ways, or any other type of structure. Typical minimum standards are 13-feet 6-inches over roadways and 8-feet over walk and landscape areas.
 - b. Branches which are likely to obstruct any of the above in the near future.
 - c. Branches which are dead, dying, weak, diseased, or otherwise structurally unsound.
 - d. Branches which have crotch angles narrower than 30 degrees.
 - e. Branches which are parallel and may eventually damage each other. Remove the less vigorous one of the two.
 - f. Branches subject to wind-breakage. Crowns that are too dense should be thinned, and where suitable, drop crotched to appropriate laterals.
 - g. Extensively vigorous branches or those which conflict with the general branching pattern shall be balanced.
 - h. Make pruning cuts between the center ridges of the shoulder rings (branch bark ridge) on the upper and lower sides of the branch. Cut shall not be flush or parallel to the trunk, but shall be out from it slightly with the lower edge of the cut further away from the trunk than the top. The cutting position shall be approximated by a line connecting the point bisecting the top angle of the crotch and a similar point bisecting the lower angle of the attachment.
 - i. Remove all laterals immediately beyond the branch bark ridge, always preserving the branch collar.
 - j. No stub cuts should be made which leave an inch or more beyond the branch collar.
 - k. No flush cuts through the branch collar shall occur.
 - l. All large branches, greater than three inches in diameter shall be removed by means of a triple cut; undercutting branch 4- to 8-inches beyond base, removing branch beyond undercut, and removing remaining stub utilizing a shoulder cut.
 - m. Do not apply asphalt emulsion to pruning wounds.
 - n. All pruning shall be Supervised by a licensed, Certified Arborist.

D. Fertilization:

1. Fertilize all trees and shrubs to maintain a healthy, vigorous condition. Over fertilizing which causes weak, rank growth is not permitted.
2. Fertilize once a month during the maintenance period as follows: apply 5-lbs. of ammonium sulfate (21-0-0) per 1,000 sq. ft.

E. Tree Support:

1. Use tree stakes only where trees are not capable of fully supporting themselves. Tree stakes shall be kept in good repair.
2. Tree ties shall not at any time be allowed to girdle trunks or limbs. Loosen ties or replace as necessary to prevent girdling.
3. Remove and repair tree stakes and apparatus as necessary.
 - a. Tree stakes should be removed once the trunk diameter is greater than the tree stake and the root system provides sufficient anchorage to prevent the tree from leaning without staking.
 - b. Trees with a trunk diameter smaller than 3-inches: Stake per the City's Standard Tree Staking Detail.
 - c. Trees with a trunk diameter greater than 3-inches: Stake per the City's Standard Tree Staking Detail omitting the bottom batter board.
 - d. Leaning trees: Offset staking on the windward side per the City's Standard Tree Staking Detail omitting the bottom batter board or single stake on the windward side with two (2) tree ties.
 - e. Adjust tree ties and batten boards to prevent damage to trees.
 - f. Replace tree ties as necessary.

F. Chemical Sprays:

1. Use all chemical sprays to control insects, rodents, weeds, fungus and to regulate growth in strict accordance with labeling.
2. Apply chemicals on as-needed basis. Chemicals applied on a preventative basis shall be used in accordance with generally accepted practices as outlined by the University of California.
3. Plant pests shall be monitored throughout the maintenance period and applications shall be made as nearly as possible to optimum times.

G. Ground Cover:

1. Apply approved pre-emergent herbicide to all broad leaf ground cover areas in accordance to manufacturer's instructions.

2. Edge ground cover to keep in bounds; trim top growth as necessary to maintain an overall uniform appearance.
3. Replace dead and missing plants, weekly.
4. Remove any trash from the area at a minimum of three (3) times per week.

3.04 TURF:

A. General:

All areas shall be policed before each mowing. Any foreign matter, including broken glass, litter, paper, dog or animal waste, etc. shall be removed prior to mowing. Contractor is responsible for clean-up and removal of any trash, debris, animal waste or other objects scattered or shredded by mowers during servicing prior to leaving job site.

B. Service:

1. Turf shall be serviced to maintain turf height no greater than 2-1/2-inches.
2. Any irrigation damaged by the Contractor during service, must be immediately repaired.
3. Equipment shall have sharp blades at all times. No tattering, shredding, bruising, or tearing of grass blades shall be allowed. 'Windrowed clippings' or clumps of cut grass shall not be left on the turf areas following mowing and shall be removed during the same service visit.

C. Turf Condition:

For saturated turf conditions, the Contractor is required to use equipment of a lighter weight so as not to cause ruts and damage to the turf.

D. Mow Height:

The mowing height shall be 2-1/2-inches. Depending on site conditions and the length of the grass at the time of mowing, the Contractor shall adjust the cutting height so that one-third (1/3) of the grass height is removed in a single mowing. Scalping, scraping, or crown damage to the turf shall at no time be permitted. All mowers shall have recycling decks or grass catchers attached during operation.

E. Edging and Trimming:

1. Turf growing along public sidewalks, bender boards, header boards, planting boarders, and other walkways shall be edged weekly in order to maintain a neat, clean, and even appearance.
2. All turf must be trimmed to maintain clearance from any adjacent sprinkler heads to allow for proper distribution of irrigation water, at each edging service.

3. Edging and trimming shall be performed bi-weekly (every other week) March 1st through November 30th and once every four (4) weeks December 1st through February 28th. Edging shall include trimming grass around trees, poles, utilities, valve boxes and any other structures within or contiguous to the turf areas. Edging shall be done by power equipment or by hand. Chemical edging or soil sterilants shall not be used.
4. Care shall be taken at all times to avoid damage to the turf, tree trunks, shrubs, irrigation heads, and any other utilities, facilities or structures within or adjacent to turf areas.

H. Tree Wells:

1. Tree wells are to be cleared of all weeds, grasses and sucker growth.
2. The Contractor must exercise care when utilizing a string trimmer while maintaining the perimeter edges of the Tree wells.

I. Aerification:

1. All turf areas will be aerified annually in April with a hollow-tined aerator unless specified otherwise. Tines shall have a diameter not less than one-quarter of one-inch (1/4") and not more than three-quarters of one-inch (3/4") and spaced not less than two-inches (2") and not more than six-inches (6").
2. The depth of penetration shall not be less than one-inch (1") and not more than four-inches (4") unless approved by the City.
3. Aeration shall be completed in two (2) passes. The first pass shall be followed by a second pass in a direction at a right angle to the first pass whenever reasonably possible.

J. Thatch Removal:

1. All turf areas are to be mechanically de-thatched using a vertical mower when an excessive thatch layer develops greater or equal to one and one half an inch (1-1/2") or minimum of one (1) time per every two (2) years unless specified otherwise. Blades shall be adjusted so as not to penetrate the soil surface more than one-half of one-inch (1/2") but, shall penetrate the entire thatch layer. Vertical blades shall be mounted or spaced not less than one-inch (1") and not greater than two-inches (2").
2. De-thatching will be completed in two passes. The second pass shall be at a right angle from the first pass whenever reasonably possible. Thatch material removed from the turf shall be cleared from the site immediately following the operation.

K. Leaf, Trash & Clipping Removal:

1. All clippings shall be dispersed evenly. No clumping and wind-rows shall be permitted. Lawn clippings shall be removed if damage to the turf will occur from excessive clumping. Clippings and leaves shall be bagged when they inhibit growth or health of the turf.
2. The Contractor shall not blow, rake or cause to be deposited, any leaf or clippings debris, onto private property, streets, gutters, or any other area. All debris within the designated service areas, no matter the origin, is the responsibility of the Contractor and must be removed from the site during each service.

L. Turf and Landscape Weed Abatement:

All turf and landscape areas shall be kept relatively free of weeds and litter - one percent (1%) weed cover tolerance. Weeds shall not be allowed to spread and produce seeds.

M. Turf and Landscape - Control of Pests:

All turf and landscape areas shall be kept relatively free of turf pests and diseases, and litter. All turf and landscape shall be maintained in a healthy condition that is tolerable of diseases, insects, rodents, algae growth, etc. and any other pests detrimental to the health of the turf or the safety of the public. Contractor shall supply all necessary pesticides, materials, equipment and labor to perform routine or reasonable care in order to control infestations which may occur from time to time.

3.05 IRRIGATION SYSTEM:

A. General:

1. The irrigation system shall be inspected and operated by the Contractor at least once per week to ensure that the system is operating correctly. All sprinkler heads shall operate normally, free from any blockage from foreign material, and sprinkler operation and spray pattern will be adjusted for optimal coverage.
2. Keep valves clean and maintain valve boxes free of any soil or water accumulation and in proper working condition.
3. Adjust all spray heads to eliminate an over spray onto sidewalks, away from buildings or any other interference or obstacle.
4. Any irrigation parts or materials which are worn or fail due to normal use or any damage from vandalism shall be replaced immediately at no cost to the City. No modifications may be made to existing irrigation systems without the written approval of the City.

5. Check the condition of the plants to ensure that all plantings are receiving adequate moisture, and to ensure vigorous and healthy growth in accordance with accepted horticultural standards. In addition, bore test holes to 3-feet deep (measured from finish grade of planting bed) on a monthly basis (unless site conditions require more frequent inspections), to monitor water saturation of soil below grade. Modify watering cycles as required to maintain planting in healthy growing condition in accordance with accepted horticultural methods and standards and to prevent build-up of water saturation of soil which may be detrimental to plant growth and health.

3.06 HARDSCAPE AREAS:

A. General:

1. Hardscaped areas including: stone paving, curb and gutters, and all non-landscaped areas adjacent to landscaped areas shall be kept free from litter and debris. All areas are to be inspected and all trash removed.
2. More frequent policing and removal of debris from the landscaped areas may be necessary depending on conditions of the site.

END OF SECTION