Section 329000
Planting

PART 1 - GENERAL

1.01 General Requirements

A. The requirements set forth in the General Conditions shall be in addition to the standards provided herein.

B. The requirements set forth in the Supplemental Conditions shall be in addition to the standards provided herein.

1.02 Description

A. Furnish all labor, materials and equipment for the complete installation of landscape items, including all trees, shrubs, groundcovers and turf; maintenance for the establishment of new plant materials; and all necessary appurtenances for proper planting, noted or implied, as shown on the Plans and as specified herein.

1.03 Related Work

A. Section 312000: Earthwork

B. Section 328400: Irrigation System

1.04 Quality Assurance

A. Provide an experienced foreman who shall directly supervise the work force during all work to be performed under this contract. The foreman shall be present during the time when work is to be performed.

B. Plant material shall conform to current “American Standards for Nursery Stock” and the State of California Grading Code of Nursery Stock, No. 1 grade. Use only nursery-grown stock.

C. All plant material shall be certified free of plant diseases and insect infestations from the County Agricultural Commissioner as required by law. Each shipment of plant material shall be required to have clearance certificates.

D. Prior to planting, a soils fertility test/analysis shall be conducted by an accepted and qualified testing laboratory. Test results shall contain existing nutrient levels, soil texture, cation exchange capacity, soluble salts, pH levels, infiltration rates and recommended soil amendments/fertilizers to ensure proper growth of the specified plantings.

1.05 Submittals

A. Submittals for specified items are not required, however, submittals are required for any proposed substitutions or deviations from the Plans or Specifications. Additionally, submittals are required for the specific items listed below. The Contractor shall submit a materials summary sheet indicating which items will be installed as specified and which items are proposed for substitutions. The Contractor shall submit proof of order within ten (10) working days of the Notice to Proceed, indicating all specified materials have been ordered, noting “as specified” or “substitution proposed”. Submittals are required on the following items:
   1. Bark mulch material,
   2. Certificates of compliance for turf seed mix, soil amendments, fertilizers and hydroseed mix,
   3. Soils test for imported fill material with soil amendment recommendations.

1.06 Product Delivery, Handling and Storage

A. All materials shall be delivered bearing nursery label with botanical, common names, including cultivars.

B. Carefully handle plant material to ensure that limbs are not broken during the planting or storage of the material.

C. Store plant material in a covered area on-site, protected from inclement or hot weather on-site. Keep root balls moist by frequent watering (during hot weather) of all accepted stock until such time as planting occurs.

1.07 Inspection of Plant Material

A. Notify the Project Manager a minimum of 48 hours prior to date of delivery. All plant material is subject to inspection at the time of delivery. A sample number of plants will be inspected for the following items:

If the sample....	**then the plant shall be...**
is healthy, shapely and well rooted,	accepted.
bears a strong central leader	accepted.
is wilted, wind-blown or sunburned,	rejected.
is root-bound, restricted or deformed,	rejected.
does not bear a strong central leader or has been severely pruned back,	rejected.

B. Based on the sample inspection, the Project Manager or Inspector reserves the right to reject any or all of the plant material delivered. All rejected plant material shall be immediately disposed of off -site.

1.08 Record Drawings

A. The Contractor shall keep an accurate record of the as-built conditions of the landscaping. These records shall be updated daily and kept at the construction site. At any time, the Inspector may examine the conditions of the “as-builts” to ensure compliance of the above.

PART 2 - PRODUCTS

2.01 Plants

A. The material to be planted shall conform to that indicated on the plans, unless otherwise accepted. The quantity shown on the Plans is approximate and is furnished for convenience only. Verify all quantities prior to ordering plant material.

2.02 Turf

A. Turf shall be seed or sod.

B. 98% pure, weed-free mixture with a minimum of 95% germination. Deliver on-site unopened and in the original containers.

C. Turf seed mix shall be Blue tag certified:
   i. Blue/Rye Blend
      32% - Repell GLS Ryegrass – Resistant to Grey Leaf Spot
      32% - SR 4600 Ryegrass – Resistant to Grey Leaf Spot
      26% - Pizzazz Ryegrass – Resistant to Brown Patch
      10% - Merit Kentucky Bluegrass

   ii. Tall Fescue Blend
      100% Barenbrug Turf Saver RTF (Rhizomonous Tall Fescue)

D. Sod must be accepted by the Project Manager prior to ordering.

2.03 Organic Based Soil Conditioners and Fertilizer

A. All products to be organic.

B. Rates based on soils report recommendations. (Insert soils report recommendations)

C. Pre-plant fertilizer for sod shall be by Live Earth Products or approved equal.

D. Hydroseed fertilizer shall be by Live Earth Products, Liquid 6, or approved equal.

2.04 Soil Amendment

A. (Insert soils report recommendations)

2.05 Mulch

A. Regular “Walk-on” fir bark as manufactured by Redi-Gro Corporation, Sacramento, CA (916) 381-6063 or accepted equal.

B. Trees shall be mulched with hardwood or softwood woodchips materials such as oak, white fir, douglas fir, or cedar. Bark, shredded lumber or saw dust, and construction debris are not permitted. The mulch must be free of needles.

2.06 Topsoil

A. Stockpiled, on-site material.

B. Imported topsoil shall be natural, friable, well draining, free from admixture of subsoil and foreign objects larger than one inch (1”) in diameter, free from toxins or any other harmful substance which may deter healthy plant growth.

2.07 Pre-Emergent

A. Clean, and non-staining. Consult with a pesticide specialist.

2.08 Tree Stakes and Ties

A. Two (2) inch diameter by ten (10) feet long minimum, lodge pole pine or douglas fir (pressure or non-pressure treated).

B. Ties to be Zip it tree ties systems or accepted equal, 24-inch minimum length

2.09 Native Hydroseed Mix for Erosion Control

A. Mix for natural areas or erosion control purposes, See Section 312000, paragraph 2.08.

PART 3 - EXECUTION

3.01 Site Preparations

A. Prior to start of landscaping work, review the site conditions to verify that final grades have been established, plant/turf beds are weed free, and the irrigation system is operational as shown on the Plans and as indicated in the Specifications.

B. For landscaping within all street right-of-ways, conduct a soils analysis test of the existing soils and remove all lime-treated soils, aggregate base or other non-organic material to a minimum depth of two feet before planting or irrigation installation. Import topsoil to bring the finish grade to specified grades. Submit the soils analysis test results of the imported material prior to import.

C. Notify the Inspector immediately of any existing conditions which are unacceptable for the commencement of landscaping work.

3.02 Coordination of Work

A. Coordinate all work with other trades.

3.03 Preparation of Planting Areas

A. Place stockpiled topsoil in all areas to receive planting or turf to a minimum depth of twelve inches (12”).

B. Rip topsoil surface in two directions to a minimum depth of twelve inches (12”).

C. Spread soil amendments at the rates indicated in the soils report.

D. Rototill amendments to recommended depths.

E. Remove all rock and debris which are greater than ½ inch in areas to be turfed and one inch (1”) in areas to be planted.

F. All planted and turf areas to be smooth and uniform in grade as shown on the Plans.

G. Planting areas to be sloped to drain as shown on the Plans.

3.04 Plant Installation

A. Tree and Shrub Planting

1. Remove only those plants which will be planted the same day. Place such plants in the proposed locations for review and accepted by the City prior to actual planting. Notify the Inspector a minimum of 48 hours prior to day of planting.

2. Dig planting pits as shown on the Plans and as shown in the Parks Construction Standards. Scarify the sides and bottom of pit to prevent glazing. Fill pit completely with water and allow the water to completely drain from the pit prior to actual planting.

3. For pits that retain water, completely penetrate the hardpan layer at the bottom of the pit and backfill with topsoil. Fill pit with water to test and ensure proper drainage

4. Plants shall be removed from their containers only at the time of placement within the plant pit. Scarify the root ball and cut all girdling roots on the sides and bottom to allow for root penetration within the basin. Spread all roots to the side to allow proper root development. Add native backfill and amendments as shown in the Parks Construction Standards and as recommended by the soils testing laboratory.

5. Plant tree at least three inches (3”) above grade on mount to prevent bowl effect; creation of plant basins is not permitted. The tree’s beginning root flare must be located at top of grade with installed sod.

6. Mulch shall be placed circular around the tree base, six (inches) away from the tree trunk, and at least (4) four feet in diameter with a thickness of (4) four inches

7. Carefully place plant into the plant pit without damaging the root ball. Water the backfill until saturated.

8. Construct berm and place tree stakes and mulch per the Parks Construction Standards. Mulch is required for trees within the turf area. The creation of plant basins shall be avoided to prevent decay on the tree's root system.

9. Where mowing will occur, provide an eight-foot (8') minimum clearance between trees and other site improvements, including shrubs.

B. Groundcover Planting

1. Place groundcover plants in neat, straight and parallel rows, triangularly spaced as shown on the Plans and as indicated herein.

2. Start the first row of planting one-half the distance required per Plan from the edge of the adjacent hardscape, mowband or header board.

3. Groundcover shall be installed to the outside edge of the water basins of trees or shrubs.

3.05 Turf Planting

(Seeding)

A. Remove all "humps" and depressions prior to seeding.

B. Ensure that the wind is not a factor in the seeding process.

C. Sow the seed with an accepted spreader, starting with half the required application rate in one direction and the second half in a second direction perpendicular to the direction of the first application.

D. Rake seeded areas lightly to cover seed.

E. Keep seeded areas moist until seed has germinated.

F. Apply seed at 8-lbs/1,000 sf.

(Hydroseeding for turf or natural areas)

A. Lightly scarify areas to be hydroseeded.

B. Tank, hose and associated apparatus must be thoroughly clean and free of debris or other material prior to placement/spraying of seed.

C. Hydroseed turf mix shall contain the following:

Material	Application Rate
Turf Seed	Per Manufacturer's Recommendations
Wood Cellulose Fiber Mulch	60 lbs. per 1,000 SF
Binder	Per Manufacturer's Recommendation
Fungicide turf only	1/3 lb. per 1,000 SF

D. Blend mix in a hydraulic mixer until all material is consistently blended.

E. Apply mix at a rate of 125 pounds per 1,000 square feet unless otherwise recommended by the manufacturer.

F. Spray mixture consistently over the area to be hydroseeded. Protect adjacent areas such as paving, walls, play areas and other from overspray.

G. At the end of each day of spraying operations, clean up all areas where overspray has occurred.

H. After the initial 24-hour setting period, apply water at regular intervals to keep all seed moist and to encourage seed germination. Time of year and weather shall determine the appropriate watering schedule for such growth.

(Sod)

A. Remove all "humps" and depressions prior to sodding.

B. Keep all sod rolls shaded and moist prior to installation.

C. Do not store sod rolls more than one (1) day. Sod shall be laid upon delivery.

D. Unroll sod one at a time for immediate installation.

E. Provide tight seam between rolls of sod (less than 1/8" gaps).

F. Stagger rows so that the ends of sod rolls are stepped.

G. For turf areas where sod is partially provided, add topsoil at all transition edges to same as finish grade.

3.06 Mulch

A. Prior to placing mulch, apply weed control in all planting areas, per manufacturer's specifications.

B. Apply two inches (2") of mulch in all shrub/groundcover areas.

3.07 Watering

A. Upon completion of each planting or turf area, apply water to ensure proper health and growth.

B. Adjust the watering schedule to apply increased watering times when weather is 90 degrees Fahrenheit or more. Apply supplemental hand watering, if necessary.

3.08 Clean-up

A. Upon completion of planting operations, collect and remove from site all empty plant containers, debris, rubbish and other trash.

B. Sweep clean and wash all hardscape areas.

C. Clean up shall occur, at minimum of once a week, at the end of the work week.

D. Maintain the entire site in a clean condition to the satisfaction of the City.

3.09 Pre-Final Review

A. The following items shall be complete prior to requesting a Pre-Final review. Partial acceptances will not be granted.
   1. All construction items.
   2. Installation of all site furnishings, including lights and signs.
   3. All planting, including weeding of planting areas.
   4. Seeding of all turf areas.

B. Notify the Inspector of the request for a Pre-Final review a minimum of one week prior to the requested date.

C. A punch list shall be formulated at the Pre-Final review. Performance of the Pre-Final review shall not automatically trigger the start of maintenance. The City shall have sole discretion in determining the appropriateness of the commencement of maintenance.

3.10 Establishment Period

A. The establishment period shall not commence until after the second mowing of completely germinated turf. Upon completion of the second mowing, the Contractor shall notify the Project Manager in writing of such and the date of which the mowing occurred. The maintenance period shall begin on the indicated date of the second mowing.

B. The establishment period shall immediately follow construction and shall be a continuous ninety (90) calendar day operation until final acceptance of the project by the City.

C. All areas within the project site shall be protected against damage including vandalism, erosion, trespass, rodents and other acts. Immediately repair all damaged areas.

D. All walkways and paved areas shall be kept clean and all debris within planting and turf areas shall be immediately removed.

E. The irrigation system shall be checked weekly to ensure proper operations. Make all necessary adjustments, including watering schedule to ensure proper and healthy plant growth.

F. Immediately replace all dead plants.

G. Maintain turf to a height of two and one half inches (2-1/2”) for cool season turf varieties and one and one half inches (1-1/2”) for warm season turf varieties. Maintained height shall be measured from the surface of finish grade to the top of the leaf blade throughout the establishment period, and mowed as frequently as required to maintain said height.

H. Edge all turf areas as required.

I. Re-seed all bare areas within the turf as soon as evident.

J. As necessary, raise all trees and shrubs which have sunk within the plant pit beyond the levels indicated in the Parks Construction Standards.

K. Keep all areas free of weeds.

L. For trees located in turf areas, maintain a circle free of turf at a distance of three feet (3’) out from the tree per PK-20 and PK-21.

3.11 Final Review

A. Notify the Inspector of the request for final review a minimum of one-week prior to date of review.

B. All corrective work identified in the punch list shall have been complete.

C. The site shall be prepared for review, by ensuring that
   1. all spray heads have been properly adjusted,
   2. dead plants have been replaced,
   3. planting and turf areas have been weeded,
   4. walkways and paved areas have been swept and washed, and
   5. all nursery stakes have been removed.

D. Failure to complete any one or all of the above items may constitute non-performance of the final review and will require re-scheduling. In this case, the cost of the extended establishment period shall be at no additional cost to the City.

PART 4 - GUARANTEE

4.01 General

A. Contractor shall provide a written guarantee covering all materials and plants furnished by him to be free of all defects or disease and that all plants are in a healthy and thriving condition at the completion of the contract. Deciduous plant material shall be warranted beyond the time of contract completion until such time as growth becomes evident.

For all park construction projects.

B. All plants, except those provided by the City, shall be warranted for a period of one (1) year, commencing on the date of final acceptance. The warrantee shall be as outlined in Section 011000: Summary of Work, paragraph 1.16.

For all streetscapes, street landscape frontage, street medians and Lighting & Landscape District projects.

C. All plants, except those provided by the City, shall be warranted for a period of nine (9) months, minimum, commencing on the date of final acceptance. Warrantee responsibilities expire upon acceptance and approval of the "Certificate of Completion" for the overall development project. The warrantee shall be as outlined in Section 011000: Summary of Work, paragraph 1.16. Sub-section B shall reflect the nine (9) month period.

END OF SECTION