

SECTION 02900
LANDSCAPE

PART 1 - GENERAL

1-1. SCOPE OF WORK.

The work includes all labor, materials, appliances, tools, equipment, facilities, transportation and services necessary for, and incidental to performing all operations in connection with furnishing, delivery, and installation of "landscaping," complete as shown on the drawings and as specified herein.

1-2. DEFINITIONS OF TERMS.

"Planting area" shall mean all areas to be planted with trees, shrubs, and/or groundcovers.

"Soil test" shall be submitted by a qualified laboratory that complies with the California soil testing procedures program inaugurated by the California Fertilizer Association in compliance with approved methods of analysis of the University of California and the United States Department of Agriculture Handbook Publication No. 60. The District shall appoint a representative to oversee soil sampling that may be required. Time, depth, location and number of samples to be as per the District's instructions. All samples taken shall be split into two samples, one half will go to a qualified laboratory by the contractor (at his expense) and the other half will be retained by the District's representative. All samples shall be at least one pint in volume. All samples shall be analyzed for:

- Alkaline earth carbonates
- Percolation rate
- Saturation % of soil
- Boron (ppm)
- pH
- Saturation extract conductivity (c.c. x 10')
- Total soluble salts: meg/l
- Soluble calcium + magnesium: meg/l
- Soluble sodium: meg/l
- Sodium absorption ratio (sar)
- Exchangeable sodium percentage (esp)
- Estimated cation exchange capacity (c.e.c.) of soil, estimated: meg/l
- Sodium in soil: meg/loo g
- Sodium to be removed: meg/loo g

Each soil analysis shall include recommended soil treatments/amendments based upon test results. These recommendations shall include:

Volume of soil amendment per 1000 sq.ft. or cu.yd. of backfill mix.
Pounds of gypsum per 1000 sq.ft. or cu.yd. of backfill mix.
Pounds of soil sulfur per 1000 sq.ft. or cu.yd. of backfill mix.
Pounds of iron sulfate per 1000 sq.ft. or cu.yd. of backfill mix.
Pounds of pre-plant fertilizer per 1000 sq.ft. or cu.yd. of backfill mix.
Pounds of soil polymers per 1000 sq.ft.
Recommendation for soil leaching.
Recommendation for tree drain installation.
Pounds of maintenance fertilizer per 1000 sq. Ft. and analysis.
Recommendation for soil wetting agent and application rate.
Percent of site soil to soil amendment in backfill mix.

If any of the above listed items are not recommended, the recommendation shall call for zero volume or poundage per 1000 square feet. All soil test costs will be the responsibility of the contractor.

1-3. VERIFICATION OF EXISTING CONDITIONS.

All scaled dimensions on the drawings are approximate. Before proceeding with any work, the contractor shall carefully check and verify all dimensions, quantities, and grade elevations, and shall immediately inform the District's representative of any discrepancies.

Prior to the excavation for planting or placing of plant materials, the contractor shall verify the location of all underground utility lines and other improvements, and take proper precautions to avoid damage to such improvements. In the event of conflict between such improvements and plant locations, the contractor shall notify the District's representative, and arrangements will be made for relocation as necessary. Failure to follow this procedure places upon the contractor the responsibility for making any and all repairs for damage resulting from work as herein specified at his own expense.

The specified soil amendments and their rates of application are for bidding purpose only. The contractor shall verify the soil conditions through soil testing. See Part 3 for execution of soil amendments.

1-4. SUBMITTALS AND SUBSTITUTIONS.

Upon 15 days after the contractor has received the District's notice to proceed, the contractor shall submit to the District three (3) typewritten lists of all materials proposed with quantities, size, quality and source.

Actual samples of the soil amendments shall be submitted to the District along with the product specifications, if requested by the District at submittal time.

Substitutions for the indicated materials will only be permitted provided the substitute materials are approved in writing, in advance, by the District. All substitute materials shall conform to the requirements of these specifications. If accepted substitute materials are of less value than those indicated or specified, the contract price will be adjusted in accordance with the provisions of the contract.

1-5. PLANT MATERIAL QUANTITY.

Quantities for plant materials are shown per plan for convenience only and not guaranteed. Contractor shall make his own plant count and notify District at the time of bidding of any discrepancies.

1-6. GUARANTEES AND REPLACEMENTS.

All plant material 24" box size and larger shall be guaranteed to live and grow in healthy condition during the contract period, maintenance period and for 1 year from the date of final acceptance. The contractor shall not be held responsible for failure due to neglect by District, vandalism, etc. during the guarantee period. Report such conditions to the District's representative in writing.

All plant material smaller than 24" box size shall be guaranteed to live and grow in vigorous, healthy, and upright condition for a minimum of 90 days after final acceptance of work (excluding seasonal color).

Replacement: All plants not healthy and in a vigorous growing condition as determined by the District's representative shall be replaced immediately. Plants used for replacement shall be the same kind and size as specified in the plant list. They shall be furnished, planted and fertilized as originally specified at no cost to District.

1-7. PROTECTION OF EXISTING IMPROVEMENTS.

During the construction and maintenance period, the contractor shall take every precaution to protect and avoid damage to sprinkler heads, irrigation lines, drainage lines, existing underground facilities, paving, structures, fixtures, and existing plantings. The contractor shall be held responsible for any and all damage to such improvements and shall completely repair or replace the same at no cost to the District.

1-8. DELIVERING AND INVOICING OF MATERIALS.

The contractor shall notify the District in advance when material is scheduled for each delivery, in order to ensure satisfactory coordination of delivery and to expedite the required inspection at the point of delivery. The delivery of the material shall include invoices certifying that subject material has been inspected as required by the State Agricultural Code prior to acceptance or installation. Particular care, using approved equipment, shall be exercised to

ensure safe loading, unloading, shipping and handling for all material from source to in place locations indicated on the drawings.

The contractor shall furnish the District with three (3) copies of signed, legible certificates and/or invoices stating the quality and quantity of all items herein specified at time of delivery. The District maintains the authority to stop work progress until certificates are received and reviewed by the District.

Upon delivery of materials and/or completion of all soil amending and with the heretofore specified signed copies of required certificates, trip slips and invoices for soil preparation materials the District shall invoice such material, comparing the total quantities of each material furnished against the total area of each operation. If the minimum rates of application have not been met, the District will require the distribution of additional quantities of these materials to fulfill the minimum application requirements specified.

After installation of plant materials, but prior to the pre-maintenance site observation, the District, with the heretofore specified signed copies of the required certificates and related items, shall invoice such material, comparing the total area and/or the amounts specified. If the minimum amounts have not been furnished, the District will require the installation of additional materials to fulfill the minimum requirements specified.

1-9. SITE OBSERVATIONS.

Site observations herein specified shall be made by the District during office hours. The contractor or his authorized representative shall be on the site at the time of each observation. The contractor will not be permitted to initiate the succeeding step of work until he has received approval to proceed by the District. The contractor shall notify the District of a site observation at least three (3) days in advance of an observation.

All changes to and deviations from the plans and specifications by the District to the contractor shall be confirmed in writing.

The contractor shall have sufficient work personnel available during normal working hours to correct deficiencies immediately upon request of the District. Such repair or re-work services are to be performed without interference of regular project schedule.

Site observations will be required for the following parts of work:

Landscape & Irrigation Pre-construction meeting: Immediately prior to the commencement of work of this section, the District and contractor shall meet for the approval of the materials specified, equipment, schedule of work and the method of installation.

Layout of specimen trees: when trees are spotted in place for planting, but before planting holes are excavated.

Incorporation of soil amendments: Specified soil amendments are for bidding purposes only. A final soil test performed by a licensed laboratory shall be submitted and paid for by the contractor for agricultural suitability recommendations and approved by the District before planting proceeds.

Layout of plant materials & boulders: When materials are spotted in place for planting and placement, but prior to excavation of planting holes or burial of boulders.

Pre-maintenance observation: When planting and all specified work has been installed and completed. The District will prepare a written "punch" list indicating all items to be corrected. These items must be completed prior to initiating the beginning date of the maintenance period. The District will inform the contractor of the actual date of the start of the maintenance period in writing. This observation is not the final acceptance and does not relieve the contractor from any of the responsibilities in the contract documents.

Final site observation and acceptance: At the conclusion of the maintenance period a final site observation will be made. The contractor shall show all corrections made from "punch" list. Any items deemed not acceptable shall be reworked and the maintenance period will be extended. The contractor will be notified in writing that the contract work and maintenance period has been accepted or that the maintenance period has been extended to correct any deficiencies remaining. Final acceptance shall establish the beginning date for the guarantee period.

Site observations of the work shall not relieve the contractor of the obligation to fulfill all conditions of the contract.

1-10. SUSPENSION OF WORK.

The District's representative shall recommend to the District any necessity to suspend the work wholly, or in part, for such period or periods as he may deem necessary due to unsuitable weather, or such other conditions as are considered unfavorable for the reasonable performance of the work, or for such time as is necessary due to the failure on the part of the contractor to carry out orders given or to perform any or all provisions of the contract.

If it should become necessary to stop work for an indefinite period, the contractor shall store all materials in such a manner that they will not become an obstruction nor become damaged in any way, and he shall take every precaution to prevent damage or deterioration of the work performed. The contractor shall cover all open excavations and shall provide suitable drainage by opening ditches, planting pits, etc., and erect temporary structures where necessary.

Grading, soil preparation, and planting work shall be performed only during periods when beneficial and optimum results may be obtained. If the moisture content of the soil should reach a level that working it would destroy the soil structure, spreading, grading and tilling operations shall be suspended until the moisture content reaches acceptable levels and the desired results are attainable.

PART 2 - PRODUCTS

2-1. QUALITY

All materials shall be of standard, approved, and first grade quality and shall be in prime condition when installed and accepted. All commercially processed and/or packaged materials shall be delivered to the site in the original unopened containers bearing the manufacturer's guaranteed analysis.

2-2. SOIL AMENDMENT AND FERTILIZER.

Soil amendment shall be a product that aids the structure of the soil consisting of rapidly decaying, slowly decaying and non-decaying material. The rate of decomposition of this amendment is very important.

Wt./cu.yd. + 560#-820#.

Nitrogen (organic) 0.5%

pH (less than) 6.8.

Salinity (ec x 10' at 25' c) = 2.5.

Ash content not to exceed 10%.

Iron (Fe) expressed as metallic, 0.08%.

Organic matter, 85%.

A non-ionic wetting agent should be used.

Properties: Screen analysis (% retained on stacked screens):

1 mesh + 0.2%; 8-mesh + 25.7%; 32-mesh + 5.9%; 10-mesh + 36.6%; 12-mesh + 30.7%; remainder 0.9%.

The commercial grade product used shall be Loamex, Gro-power, or approved equal.

Agricultural grade gypsum - shall be a (CaSO - H₂O) calcium sulfate product - 94.3%. 90% shall pass a 50-mesh screen. Control of dust during application is mandatory. The commercial grade product used shall be U.S. Gypsum, Sof'n'soil, or Dolmar, or approved equal.

Sulfur (soil) - shall be elemental sulfur (99.5%) commercially manufactured so that a pure sulfur product is used. Sulfur is a constituent of three amino acids (cystine, methionne and cysteine) and is essential for protein synthesis. The sulfur used shall be 99.5% elemental. Sizing on stacked screen shall be approximately: 8-mesh 4.3 %; 20-mesh 7.8 %; 50-mesh 46.9 %; 100-

mesh 39.3 %; 200-mesh 1.7%. The commercial grade product used shall be Wil-Gro; Union Chemicals or Baker Industries.

Iron sulfate - iron shall be expressed as metallic-derived from sulfate-deep green ($\text{FeSO}_4 \cdot \text{H}_2\text{O}$) a minimum analysis of 20.0% and 98.3% read on a 10-mesh screen. The commercial grade product used shall be Wil-Gro, Bandini, or Wilson & Geo. Meyer. If none of these products are available, then an equal may be used.

Chelated granular iron sulfate shall be iron (expressed as elemental) 10.0%. The source of iron shall be from a metal salt, which is complexed with polyflavonoid. Elemental sulfur is converted into sulfite and sulfate forms before combining into the polyflavonoid complex. Product shall contain 4% organic nitrogen; 10% sulfur and 10% iron. The commercial grade product used shall be Ruffin-Tuff chelated granular iron; Rigo chelated granular iron or Black Leaf chelated granular iron.

Pre-plant starter fertilizer (1-0-10) analysis shall be a commercial grade flowable fertilizer with a 1% nitrogen analysis; and 10% potassium sulfate. No potassium chloride is to be used. Organic nitrogen shall be from cottonseed meal and urea. Phosphorous from superphosphate and cottonseed meal. Potassium (potash) from sulfate of potash and cottonseed meal. Screen analysis 74% to be retained on a 20 mesh screen. 0% to pass a 4-mesh screen, and 2 % to pass a 48 mesh screen. The commercial grade product used shall be Wil-Gro, Gro- Power, Bandini or Kellogg.

Prilled post fertilizer (14-0-3) for maintenance - all areas. A maintenance fertilizer shall be used that is granular and homogeneous. Iron and zinc shall be in chelated form and sizing of granules during manufacture is very important. A regular maintenance program using this product for at least the first year is recommended. The homogeneous fertilizer granules used shall contain a fertilizer analysis of 14% nitrogen. Remainder of nitrogen shall be 8.75% water soluble and 1.25% water insoluble. Potassium oxide shall be 3.0%. Minor elements shall be chelated 25% by volume consisting of iron 2.0%; zinc 0.15% and manganese 0.15%. By-product calcium shall be 2.0%. Organic nitrogen is derived from urea and cottonseed meal. Phosphate from superphosphate and cottonseed meal. Potash from sulfate of potash and cottonseed meal. No potassium chloride is to be used. Sulfur from sulfate of ammonia. Calcium from superphosphate, iron from ferrous sulfate and mixed sulfides. Zinc and manganese are expressed as metallic and in their elemental form. Screen analysis (% retained) approximately: 4-mesh 1.3%; 8 mesh = 24.2%; 20-mesh = 74.0%; and 48-mesh = 0.05%. The commercial grade product used shall be Wil-Gro Fairway, Gro-Power, Bandini or Kellogg.

Planting tablets shall be tightly compressed chip type commercial grade planting tablets, of varying sizes with the following available percentages by weight of plant food:

Nitrogen	20.0 % min.
Phosphoric acid	10.0% min.
Potash	5.0 % min.

The commercial grade product used shall be Agriform, Gro-power, or approved equal.

2-3. PLANTING BACKFILL FOR TREES AND SHRUBS.

Planting backfill shall be a thoroughly blended mixture of site soil and soil amendments at the following mixtures:

soil amendments	1/2 cu.yd.
stock-piled site soil	1/2 cu.yd.
gypsum	10lbs. per cu.yd. of mix.
iron sulfate	5lbs. per cu.yd. of mix.
pre-plant (1-10-10)	5lbs. per cu.yd. of mix.

2-4. IMPORTED SOIL – IF USED FOR THIS PROJECT.

2-4.01. Definition

Imported soil shall be from a source outside the limits of the project selected by the contractor and in compliance with the requirements specified herein. The District's representative may make such inspections and perform such tests as deemed necessary to determine that the material meets the requirements.

At least 15 days before scheduled use, the proposed source of imported soil must be submitted to the District for approval. The contractor shall submit a written request for approval, which shall be accompanied by a written report of a testing agency registered by the state for agricultural soil evaluation, which states that the proposed source complies with these specifications. The imported soil shall be screened, fertile, friable soil from well drained aerated land, and free from nutgrass, refuse, roots, heavy clay, noxious weeds, stones larger than 1-inch (25 mm) in greatest dimensions or any material toxic to plant growth. It shall not be infested with nematodes or other undesirable insects and plant disease organisms. The imported soil shall meet the following requirements:

2-4.02. Gradation limits. Sand, 50-80 percent, clay 20 percent maximum, and silt, 30 percent maximum. The sand, clay and silt gradation limits shall be as defined in ASTM D 422.

2-4.03. Permeability rate. Not less than 0.5 inches (13 mm)-per hour nor more than 2 inches (50 mm) per hour when tested in accordance with astm d 2434 or other approved methods.

2-4.04. Agricultural suitability. The soil shall be suitable to sustain the growth of the plants specified as per USDA specs.

2-4.05. Supply imported soil in the following proportions:

For all trees and shrubs, imported soil for backfill mixes shall be supplied and mixed with soil amendments at the specified mixture shown in section "planting backfill for trees and shrubs."

2-5. PLANT MATERIALS.

2-5.01. Nomenclature: Scientific and common names of plants herein specified shall conform with the approved names given in "U.C. Berkeley/Jepson Herbaria", <https://ucjeps.berkeley.edu/>.

2-5.02. Pruning: At no time shall the plant materials be pruned, trimmed or topped prior to delivery, and any alteration on the site of their shape shall be conducted only with the approval and in the presence of the District.

2-5.03. Inspection of plant materials: Plants shall be subject to inspection at the project site at any time before or during progress of work for condition and injuries.

2-5.04. Protection: All plants at all times shall be handled and stored so that they are adequately protected from drying out, from wind burn, and from all other injury. All plants determined by the District's representative to be wilted, burned, or dried out, may be rejected at any time, whether in the ground or not. All plants shall be handled solely by their containers and all plants that have been handled by the stem or trunk shall be rejected, and removed from the site. The contractor's on-site plant storage area shall be approved by the District's representative prior to the delivery of any plant materials

2-6. STAKING MATERIAL.

Tree stakes shall be sound, straight, pressure treated, lodge pole pine stakes of two (2) inch minimum diameter height per detail. Tree ties shall be cinch tie or approved equal.

2-7. PRE-EMERGENT HERBICIDE

Pre-emergent herbicide shall be as determined by the landscape contractor. The purpose of the pre-emergence herbicide is to control the growth of weeds within planter areas below firbark mulch or decomposed granite.

2-8. WEED CONTACT HERBICIDE.

Weed contact herbicide shall be as determined by the landscape contractor.

2-9. BOULDERS

As specified on plans.

PART 3 - EXECUTION

3-1. SITE REVIEW

Examine proposed planting areas and conditions of installation. Do not start planting work until unsatisfactory conditions are corrected.

3-2. PREPARATION

3-2.01. GENERAL: The areas to receive trees, shrubs, ground-cover and seed planting and their respective requirements for imported soil, fertilizing, soil amendments, and other treatment shall be as defined on the drawings. Equipment necessary for preparation of the ground surface and for handling and placing all required material shall be on hand in good working condition. Work shall be performed only during periods when beneficial results can be obtained.

3-2.02. CLEARING AND GRUBBING: Prior to ripping and tillage operations, all vegetation in the area to be planted shall be grubbed, raked, and cleared from the site. The ground surface shall be cleared of all material which has accumulated during construction and all material which might hinder proper grading, tillage, planting, and subsequent maintenance operations. All grubbed materials and debris shall be lawfully disposed of off the site by the contractor at his cost.

3-2.03. Obstruction below ground: All subsurface rocks over 2" in diameter and other underground obstructions shall be removed to the depth necessary to permit proper fine grading, tilling, or planting according to plans and specifications. All abandoned utility lines uncovered or severed shall be cut below grade and capped or plugged with concrete. Explosives shall not be used for removal. When the location of utility lines is shown on the plans or has been made known to the contractor, all damage to these lines shall be repaired by the contractor in a manner approved by the District's representative and affected utility.

3-3. SOIL AMENDMENTS, FERTILIZING, AND ROTOTILLING.

Specified soil amendments are for bidding purposes only. At the time of rough grade, the contractor shall meet with the District's representative to determine quantity and locations of soil samples to be taken. The soil tests are the responsibility of the contractor. The contractor shall submit the results to the District for interpretation and recommendations. If the test's results reduce or increase the quantities specified the District's representative shall be notified.

After the areas have been deep ripped, the following rates of soil amendment materials shall be evenly spread over all planting areas and shall be thoroughly scarified to an average depth of eight (8) inches by rototilling a minimum of two alternating passes. Amendment must be intimately blended with soil.

soil amendment:	3 cu.yd 1,000 sq. Ft.
gypsum:	40 lbs. Per 1,000 sq. Ft.
soil sulfur:	2 lbs. Per 1,000 sq. Ft.
iron sulfate:	3 lbs. Per 1,000 sq. Ft.

A commercial grade fertilizer shall be applied at the rate of 2 pounds per thousand square feet and scarified into the top two inches of finish grade. Fertilizer shall be applied prior to leaching operation.

The wetting agent shall be sprayed on the soil amendments and soil prior to rototilling the amendments into the soil. The rate of application shall be as specified by the manufacturer.

The thoroughness and completeness of the rototilling and incorporation of the soil amendments shall be acceptable to the District's representative. Omit soil amendments on all slopes 2:1 and steeper or as indicated on the drawings.

Deep Water Leaching And Soil Testing:

After rototilling in soil amendments, the area shall be deep water leached a minimum of three (3) times. Apply 1/2" of water evenly to all landscape areas and then allow the soil to dry out between applications. Soil type (sand, silt or clay) will determine the amount of time required for the soil to dry out. Do not apply more water if the soil saturation exceeds 50% between applications. Treat and/or remove weeds that germinate.

One day after final application of water, the soil shall be tested for content of soluble salts (electrical conductivity e.c.). District's representative and contractor shall take several soil samples and deliver the samples to a laboratory for testing of soluble salts. E. C. Test reading shall not be above 3.0.

If soil test reading for a particular area tested is above 3.0, the soil amending, tilling and deep watering procedure shall be repeated until test readings are not above 3.0.

Care shall be taken that the rate of application of water does not cause erosion, sloughing of soils, damage to hardscape or structures. Contractor assumes all responsibility for monitoring of all areas during leaching period.

All depressions, voids, erosion scars and settled trenches generated by the deep watering shall be filled with amended soil and brought to finish grade.

3-4. IMPORTED SOIL – IF USED FOR THIS PROJECT.

3-4.01. Subgrades. of all planting areas (as noted on the plans to receive imported soil), shall be established at below finish grade in order to accommodate imported soil.

3-4.02. Scarify. the subgrade shall be scarified before placement of the imported soil.

3-4.03. Placement. of the imported soil shall be smooth and even in all planting areas. Finish grades in lawn areas shall be 1 inch below adjacent finished paving surfaces and 2 inches in shrub areas without abrupt changes in gradient, not only in the surface of the soil but also where soil meets walks, curbs, pavement or other features, unless otherwise indicated on the drawings.

3-5. SOIL PREPARATION AND FINISH GRADING.

Rough Grade: Site to be received by landscape contractor to within 1/10th of a foot plus or minus by others based on civil engineer's drawing.

Finish Grade: Finish grading to consist of grading, raking, watering in, mechanically compacting and settling to achieve desired contour and flow line patterns resulting in evenly finished surface.

All undulations and irregularities in the planting surfaces resulting from tillage, rototilling and all other operations shall be leveled and floated out before planting operations are initiated.

The contractor shall take every precaution to protect and avoid damage to sprinkler heads, irrigation lines, and other underground utilities during soil amending and fertilizing operations.

Finish grades shall insure positive drainage of the site with all surface drainage away from buildings, walls, over sidewalks, and toward roadways, drains and catch basins. Planting surfaces shall be graded with no less than 2 percent surface slope for positive drainage.

All rock and debris shall be removed from planting areas and then from the site in accordance with the following criteria: 1" dia. in lawn areas; 2" dia. in shrub areas.

Final finish grade shall be 2" below sidewalk finish surfaces. Final grades shall be acceptable to the District's representative before planting operations will be allowed to begin.

3-6. PLANTING INSTALLATION.

Timing: Actual planting shall be performed during those periods when weather and soil conditions are suitable and in accordance with locally acceptable practice.

Layout of trees: All trees shall be placed in the landscape per the direction of the District prior to installation of irrigation system. The trees shall then be moved so that planting holes can be excavated and amended. The trees shall then be installed in their respective holes and positioned in the holes per direction of the District.

Layout of planting: Locations shall be approved by the District. All plant locations shall be checked for possible interference with existing underground utility lines.

Backfill for trees and Shrubs: shall be as specified in part 11. If artificial drainage is requested, then drains shall be installed first, then backfilled with soil.

Disposal of excess soil and debris: all excess excavated subsoil, rocks and debris shall be legally disposed off the site by the contractor at his cost or utilized on the site as directed by and at the option of the District's representative.

3-7. PLANTING TREES.

Soil moisture level prior to planting shall be no less than horticulturally acceptable. The contractor shall request approval of moisture, and if found to be insufficient for planting, the planting pits shall be filled with water and allowed to drain before starting any planting operations.

All excavated holes shall have vertical sides with roughened surfaces and shall be of the minimum sizes indicated on drawings. Holes shall be in all cases large enough to permit handling and planting without injury or breakage of root balls or roots.

Excavation shall include the stripping and stacking of all acceptable soil encountered within the areas to be excavated for plant pits and planting beds. Protect all areas that are to be trucked over and upon which soil is to be temporarily stacked pending its re-use for the filling of holes, pits and beds.

Plants shall be removed from containers in such a manner that the ball of earth surrounding the roots is not broken, and they shall be planted and watered immediately after the removal from the containers.

The plants shall be planted at approved locations with the heretofore specified amendments and soil planting backfill.

Backfill shall be placed at the bottom of each hole and thoroughly watered and compacted to a height so that when a plant is placed in the hole, its roots crown is slightly above the established final grade unless otherwise noted on the detail.

Planting tablets shall be placed in each planting hole at the following rates and per the manufacturer's recommendations:

- 1-5 gram tablet per individual liner and flat size plant.
- 1-21 gram tablet per gallon container.
- 3-21 gram tablets per 5 gallon container.
- 4-21 gram tablets per 15 gallon container.
- 1-21 gram tablet per each 4 inch of box size.

Random testing to verify planting tablet installation shall be conducted by the District's representative.

All plants shall be thoroughly watered to the full depth of each planting hole immediately after planting.

Staking: All trees and any other plants indicated on the plans shall be staked per detail. Stakes shall be driven into the ground of the windward side of the tree. The stakes shall be driven in plumb and secured. Special care shall be taken that the driving in of the stake does not damage the tree bark, tree roots or root ball.

Guying: All trees and any other plants indicated on the plans shall be guyed as detailed.

The contractor shall be responsible for all surface and subsurface drainage required which may affect his guarantee of the trees, shrubs and vines.

All trees shall be spotted and planted with a crane.

3-8. PRE-EMERGENT HERBICIDE.

Pre-emergent herbicide shall be applied to all shrub and groundcover areas only and in accordance with manufacturer's specifications. The herbicide shall not be applied to sod or seeded areas (lawn seed or hydroseed areas). The District's representative shall be notified and present at the time of application.

3-9. WEED CONTACT.

Weed contact shall be applied to all areas as recommended by manufacturer's specifications.

3-10. TREE DRAIN.

Install as per construction detail and on all trees within 4' of walkways, walls or buildings.

3-11. BOULDERS

Boulders shall be buried a minimum of one-third boulder's depth and no more than one-half or as directed by the district's representative.

3-12. CLEAN-UP.

As project progresses, contractor shall maintain all areas in a neat manner and remove unsightly debris as necessary. After completion of project each day, contractor shall remove all debris and containers used in accomplishing work. He shall sweep and clean all sidewalks, asphalt, and concrete areas adjacent to plantings.

3-13. GENERAL MAINTENANCE AND THE MAINTENANCE PERIOD.

General maintenance operations shall begin immediately after each plant is planted. The general maintenance and maintenance period shall include the following:

Keeping the plants in a healthy, growing condition by watering, fertilizing, pruning, spraying, weeding and all other necessary operations of maintenance. All paving and walks shall be kept clear, clean and washed down.

Protection: The contractor shall be responsible for providing adequate protection of all planting areas against traffic or other use by erecting fencing or other acceptable means immediately after the planting is completed. Warning signs and barricades shall be placed in various high traffic areas. Damaged areas shall be repaired immediately by the Contractor.

Weeding and cultivating: All tree, shrub, groundcover and hydroseeded areas shall be kept free of weeds, noxious grasses, rocks over 1" in diameter, clods, trash and debris on a weekly basis. Groundcover and shrub areas shall be cultivated at intervals of not more than fourteen (14) days minimum.

Replacement: During the maintenance period, plants which die or which are in an unhealthy or badly impaired condition shall be replaced by the contractor within fourteen (14) days after unsatisfactory condition is evident. No replacement of plantings shall be made in any season definitely unfavorable for planting. At the conclusion of the maintenance period, the District will make an inspection of the work to determine the condition of all plants. All unhealthy plants shall be removed from the site and replaced with plants of the same kinds and sizes as originally specified. Such replacement shall be made in the same manner as specified for the original planting and at no extra cost to the District.

Fertilization:

Trees - post fertilization shall occur at 100 day intervals after planting. Bore holes around dripline (various depths) and apply fertilizer at the rate of 1-lb. per 1" caliper in holes. Fertilizer shall be 14-7- 3 or approved equal.

Maintenance period: The maintenance period shall begin on the first day after the pre-maintenance observation acceptance and shall continue thereafter for no less than 360 continuous calendar days.

Extended maintenance: When, in the opinion of the District, there is improper maintenance, poor or unhealthy condition of plant materials, the contractor shall be responsible for additional maintenance of the work at no additional cost to the contract until all work is acceptable.

END OF SECTION 02900