

SECTION 02860**FURNISH AND PLANT TREES, SHRUBS, VINES,
GROUNDCOVERS, AND SEEDLING STOCK****02860.01 GENERAL****A. Description**

Furnishing and planting trees, shrubs, vines, groundcovers, and seedling stock shall include, but not necessarily be limited to, all material and planting operations, plant care and replacement necessary to complete the work as specified in accordance with the Contract Documents.

B. Related Work Included Elsewhere

Turf establishment; Section 02820.

C. Quality Assurance

1. Inspection at Nursery

- a. Inspection will be made at the nursery. Prior to starting work, the Contractor shall submit in writing an itemized list of sources of all plant items and shall give the Engineer all necessary assistance when inspections are made.
- b. All shipments of plant material shall be properly inspected at the nursery by the authorized Federal and State authorities as may be required by the Federal Horticultural Board, Washington, D.C., for the necessary transporting of the same from the state or district where the nursery is situated to the project.
- c. Plant materials, represented by each shipment, invoice, or stock order, shall be declared and certified free from disease of any kind. All necessary inspection certificates to the effect which are required by law for the necessary interstate or interdistrict transportation shall accompany each shipment, invoice, or stock order.
- d. Certain plant materials may be inspected prior to digging by a representative of the County. Certain items selected may be marked with a seal furnished by the County. Plant material grown in fields or blocks which show evidence of containing any parts (seed, rhizomes, roots, etc.) of Johnsongrass or Canada Thistle will not be accepted. An approval of material on such inspection shall not be construed as an acceptance of it. The plant materials will again be inspected upon arrival on the project site.

2. Inspection at Project Site
 - a. Inspection will be made by the Engineer at the project site upon the Contractor's receipt of nursery stock.
 - b. No shipment of plant material shall be planted by the Contractor until inspected and accepted by the Engineer. Plant materials arriving with broken seals; broken or loose balls; insufficient protection of roots or top; shriveled, dry, or insufficiently developed roots; or which are weak, thin, damaged, defective, or which do not comply with the Contract Documents will be rejected.
 - c. All rejected material shall be immediately removed from the Project Site by the Contractor or his agent. The County will not assume any responsibility for such rejected material.
3. Peat Moss

Certified delivery slips designating the size and quantity of the bales shall be furnished the Engineer.
4. Peat Humus

Samples of peat humus to be analyzed may be taken by the Engineer. The approval shall be based on this test, but the Engineer reserves the right to reject on or after delivery any material that does not meet the requirements specified herein.

02860.02 MATERIALS

A. Materials Furnished by the County

1. The County will not furnish any trees, shrubs, vines, groundcovers, seedling, stock, or other materials.
2. The Contractor may purchase water from the County's potable water system. The Contractor shall contact the Bureau of Utilities, Meter Section, for requirements.

B. Contractor's Options

Mulch may consist of either hardwood or softwood chips.

C. Detailed Material Requirements

1. Topsoil shall be as specified in Section 02813.02.
2. Ground limestone shall be as specified in Section 02820.02.
3. Fertilizer shall be as specified in Section 02820.02

4. Seed shall be as specified in Section 02820.02.
5. Mulch
 - a. Wood Chips

Wood chips shall be either hardwood or softwood chips, produced by a chipping machine to a size acceptable to the Engineer. Chips shall not have been subjected to any conditions that would shorten their life or cause them to lose any of their value as mulch. Wood chips shall be free from leaves, twigs, wood shavings, sawdust, toxic substances, and any foreign materials.
 - b. Licorice Root

Licorice root shall be the byproduct of the Licorice Extraction Process. It shall be fibrous material free from foreign and toxic substances.
 - c. Tan Bark or Root

Tan bark or tan root shall be the byproduct of the tanning process. It shall be fibrous material free from foreign and toxic substances.
6. Plant Material
 - a. Plants
 - 1) All plants shall be first class representatives of the normal species or varieties unless otherwise specified.
 - 2) All plants shall be nursery grown, unless otherwise specifically permitted; i.e., collected or plantation grown, and shall have been grown within plant hardiness zones five, six, seven, or the Maryland and Virginia portion of zone eight as recorded in the current edition of "Plant Hardiness Zone Map", prepared by the U. S. National Arboretum, Agricultural Research Service, U. S. Department of Agriculture, in cooperation with the American Horticultural Society.
 - 3) All plant materials shall have normal, well developed branches and a vigorous root system. They shall be healthy vigorous plants free from defects, decay, disfigured roots, sunscald injuries, abrasions of the bark, plant diseases, insect pest eggs, bores, and all forms of infestations or objectionable disfigurements.
 - 4) Shade and flowering trees are to be symmetrically balanced according to the normal habit of growth. Shade trees of standard variety shall have a single leader and shall be branched

approximately 6 feet from the ground. Evergreens are to be full foliage, specimens of mature growth. Deciduous shrubs shall be well furnished with branches and have ample, well balanced root systems capable of sustaining vigorous growth.

b. Plant Names

The current edition of "Standardized Plant Names," adopted by the American Joint Committee on Horticultural Nomenclature, shall be the authority for all plant names.

c. Sizing

All plant material furnished shall meet the sizing and grading standards of the current edition of "American Standard for Nursery Stock," as approved by the American Standards Association, Inc., unless otherwise specified. Oversized and exceptionally heavy plants are acceptable at no increase in unit price if the size of the ball is proportionally increased to the satisfaction of the Engineer. Plant materials that are weak or have been cut back from larger grades to meet certain specified requirements will be rejected.

d. Plant Digging

- 1) All plants shall be freshly dug at the time of delivery in accordance with the digging specifications in the current edition of "American Standard for Nursery Stock," unless otherwise specified.
- 2) During the spring planting season, all bare root deciduous plants shall be dug and delivered to the site of the project prior to the plant material coming into leaf.
- 3) All plants in leaf, including evergreens, shall be sprayed with an antidesiccant, approved by the Engineer, before delivery and preferably before digging. All shipments shall be accompanied by an invoice, furnished to the Engineer giving a detailed description of the plant materials, the date of shipment, a certification that all plants in leaf, including all evergreens, have been sprayed with an antidesiccant, and other pertinent information.
- 4) Representative samples of every shipment of plant materials shall be labeled as to genus, species, and specified size.

e. All plant material shall be handled and packed in an approved manner, having regard to climatic conditions and the time of transit or to delivery. All precautions that are good trade practice shall be taken to ensure the arrival of plants at the Project Site in good condition for successful growth.

- f. Substitute Plants
 - 1) No substitutions shall be made without written permission of the Engineer.
 - 2) In cases where plant materials are not available at the time of planting, the Contractor shall submit, in writing, evidence from a minimum of three competent sources that the plants are unavailable. If, in the opinion of the Engineer, there are existing plant items in the Contract similar in size and type which will perform the function intended, these similar plant items shall be used for plant substitution. If existing plant items are not similar and the Engineer and Contractor can mutually agree on a suitable substitution at the same bid price, the Engineer will allow the Contractor to make this substitution.

- 7. Miscellaneous Items
 - a. Water shall be as specified in Section 02820.02
 - b. Stakes for bracing and supporting trees shall be rough sawn, straight grain oak or other wood approved by the Engineer, reasonably free from knotholes, bark, wane, warp, and splits. Stakes for major trees and evergreen trees shall be 2 inch x 2 inch by 10 feet long. Stakes for minor trees and evergreen trees shall be 2 inch x 2 inch by 5 to 8 feet long. All measurements shall be nominal.
 - c. Rubber shall be 5/8 inch or 3/4 inch corded rubber hose or equal.
 - d. Wire shall be Nos. 12 and 14 gage new annealed galvanized wire.
 - e. Wrapping material for trees shall be clean new burlap 6 to 7 ounces per square yard in strips 4 to 6 inches wide.
 - f. Twine used for tying wrapping on trees shall be jute twine not less than two-ply for trees 3 inches or less in caliper and three-ply for trees over 3 inches in caliper.
 - g. Antidesiccant shall be an approved emulsion which will provide a film over plant surfaces permeable enough to permit transpiration. Antidesiccant shall be used only after approval by the Engineer.
 - h. Deadmen shall be sound 8 inch minimum diameter oak or locust logs 4 feet long.
 - i. Turnbuckles shall be galvanized or cadmium plated with 4-1/2 inch openings and 5/16 inch threaded ends with screw eyes.

- j. Outline stakes for 12 to 18 inch shrub areas and seedling areas shall be 1 inch x 2 inch sound wood 4 foot long. They shall have the words MOW LIMIT stenciled in orange paint vertically on one side in 1-1/2 inch letters beginning within 2 inches from the top of the stake.
- k. Insecticide shall be a chemical to provide protection against insect pests, and shall be used only after approval of the Engineer.
- l. Herbicide shall be a chemical to eliminate and prevent regrowth of undesirable vegetation and shall be used only after approval by the Engineer.
- m. Red dye shall be oil soluble from a commercial source.
- n. Manure shall be dehydrated cow manure.
- o. Pegs shall be wooden wedges 1/2 inch x 1 inch x 6 inch to 1/2 inch x 1 inch x 12 inch.
- p. Staples shall be made from No. 11 or heavier steel wire bent to form a U. The staples shall average 1 to 1-1/2 inches wide. The staple shall be at least 6 inches long from top to bottom after bending.
- q. "T"-pin staples shall be made of No. 8 wire with an 8 inch leg, 4 inch head and a 1 inch secondary leg.
- r. Wood cellulose fiber shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state. Wood cellulose fiber shall contain a green dye that will provide easy visual inspection for uniformity of the spread slurry. The wood cellulose fiber, including dye, shall contain no germination or growth inhibiting properties. The material shall be manufactured and processed so that the wood cellulose fiber will remain in uniform suspension in water under agitation and will blend with seed, fertilizer, and other additives to form a homogeneous slurry. The wood cellulose fiber shall perform satisfactorily in hydraulic seeding equipment without clogging or damaging the system.

The manufacturer shall certify that the wood cellulose fiber meets the following requirements:

Particle length	-	Approximately 3/8 inch
Particle Thickness	-	Approximately 1/32 inch
Net Dry Weight Content	-	Minimum stated on bag
pH, ASTM D 778	-	4.0 to 8.5
Ash Content, ASTM D 586	-	1.6% maximum
Water Holding Capacity	-	90% minimum

The material shall be delivered in packages of uniform weight not exceeding 75 pounds net weight. The packages shall bear the name of the manufacturer, the net weight and a supplemental statement of the contents.

- s. Peat moss shall be sphagnum peat moss free from woody substances. Bales shall measure not less than 5.5 cubic feet per bale compressed.
- t. Peat humus shall be from fresh water sites, obtained from sedge peat and reed peat deposits in which the organic matter consists of incompletely decomposed plant residues and a negligible amount of woody matter. Peat humus shall be shredded to a fineness subject to approval by the Engineer. Peat humus shall have a minimum organic content of 70% by weight when tested by the method in Federal Specification Q-P-166. Inorganic material shall consist only of sand, silt, and clay. Peat humus shall not contain roots, gravel, debris, or toxic compounds. Peat humus with a pH value less than 4.5 shall have lime added as directed by the Engineer. The Engineer will designate where the peat humus shall be stored on the job.
- u. Tree anchors shall be earth anchors of a type commonly used for anchoring large trees.
- v. Wire rope shall be 1/4 inch zinc coated steel wire strand as commonly used for guying large trees.
- w. Cable clamps shall be galvanized or cadmium plated.

02860.03 EXECUTION

A. Planting Schedule

Plant material shall be planted only during the following periods:

Deciduous Material	-	October 15 to April 30
Evergreen Material	-	Spring - March 15 to May 15
	-	Fall - August 15 to November 15
Seedling Stock	-	March 5 to April 15

The above periods may be extended or reduced according to weather and soil conditions at the time, at the discretion of the Engineer. No bare root plants shall be planted from December 15 to March 1 or during periods of freezing temperatures. Preparations for planting may begin prior to the specified seasons, provided the staking of plant locations has been approved by the Engineer as specified herein.

B. Plant Protection and Storage

1. The Contractor shall provide adequate facilities for the protection and temporary storage of all plant material used on the project. Immediately following delivery and inspection at the project site, all plants with exposed roots shall be "heeled-in" in moist soil in a manner satisfactory to the Engineer. All plants "heeled-in" shall be properly maintained by the Contractor until planted.
2. The balls of balled and burlapped (B & B) plants shall, if not immediately planted after delivery and inspection, be protected by covering in a manner appropriate to the conditions. The Contractor shall in loading, unloading, or handling plants exercise utmost care to prevent injuries to the branches or roots of the plants. The solidity of the balls of B & B plants shall be carefully preserved. Plants with exposed roots which are being transported to and from "heel-in", distributed in planting beds, or awaiting planting after distribution shall have the roots protected from drying by means of wet canvas, burlap, straw, or puddling if necessary. All seedlings shall be carried in a pail or bucket filled with sufficient mud to puddle the roots until planting. The means employed shall be satisfactory to the Engineer and depend on weather conditions and length of time the roots must remain out of the ground.

C. Unsuitable Subsurface Conditions

When utility lines are encountered or other subsurface conditions in plant pits are unsuitable for the particular varieties of plants to be planted, the Engineer will direct the plants be relocated to satisfactory locations, or will direct the Contractor to install subsurface drainage.

When the Engineer directs that any plant be relocated or drained, the Contractor shall perform the work as directed and specified in Section 02860.03, Articles D and E.

D. Subsurface Drainage

When subdrainage in pits or trenches is required, as determined by the Engineer, the Contractor shall install the drainage as specified in Section 02510.03.

E. Backfilling and Seeding Abandoned Planting Pits

When the Engineer directs any plant pit be abandoned after it is partially or fully excavated, due to conditions not reasonably determinable prior to excavation, the Contractor shall backfill the pit with the excavated soil compacted in 8 inch deep layers and finished by respreading the stripped topsoil to compacted finished grade. Unsuitable material shall be removed from the property. The disturbed area shall be prepared and seeded according to Section 02820.03.

F. Preparations for Planting

The Contractor shall perform all laying out, excavating, planting, soil mixing, and backfill operations in accordance with the following:

1. Layout and Starting Work

The Contractor, when laying out and starting work, shall provide the stakes and stake out the locations of all plant pits and outlines of all planting areas and beds as shown and detailed on the Plans. No excavation or cultivation shall begin until the locations and outlines have been approved by the Engineer. Outline stakes for 12 to 18 inch shrub areas and seedling stock areas shall be spaced approximately 30 feet apart, or as directed by the Engineer. They shall be driven approximately 1 foot into the ground and remain a permanent means of outline identification through the life of the Contract.

All plants shall be planted in individual pits.

2. Planting Beds

Planting beds are cultivated, edged, reared, and finished areas within which individual pits shall be excavated for each plant.

For planting beds located on steep slopes, as determined by the Engineer, all existing grass and stabilizing growth between the pits shall be cut to a height of 2 inches before performing mulching operations.

Prior to excavating plant pits in planting beds, except on steep slopes as noted above, the entire surface of the beds shall be prepared to a depth of 6 inches by the use of a suitable tillage machine. All grass, sod, weeds, and other growth shall be thoroughly broken up, turned, and covered with soil. Or, when directed, all sod, weeds, roots, and other objectionable material shall be removed and immediately disposed of by the Contractor.

No topsoil shall be removed from planting beds.

3. Excavation for Planting

The Contractor shall excavate all plant pits to the following diameters, depths, and to such additional depths as may be required to install 6 inches of compacted planting soil mix under the balls or root systems.

a. Deciduous Trees

5 to 6 inch caliper, pit diameter 30 inches greater than ball, minimum depth 36 inches

2-1/2 to 5 inch caliper, pit diameter 24 inches greater than ball, minimum depth 30 inches

5 feet high, 2-1/2 inch caliper, pit diameter 18 inches greater than ball, minimum depth 24 inches

less than 5 feet high, pit diameter 30 inches, minimum depth 20 inches

b. Evergreen Trees

more than 5 feet high, pit diameter 18 inches greater than ball, minimum depth 24 inches

less than 5 feet high, pit diameter 18 inches greater than ball, minimum depth 20 inches

12 to 18 inches container grown, pit diameter 18 inches, minimum depth 18 inches

c. Shrubs

12 to 18 inches high and potted vines, pit diameter 12 inches, minimum depth 10 inches

18 to 24 inches high, pit diameter 18 inches, minimum depth 18 inches

2 to 4 feet high, pit diameter 24 inches, minimum depth 16 inches

4 to 6 feet high, pit diameter 30 inches, minimum depth 20 inches

d. Tree Whips

5 to 6 feet high bare root , pit diameter 18 inches, minimum depth 18 inches

5 to 6 feet high balled and burlapped, pit diameter 30 inches, minimum depth 20 inches

e. Seedlings (1 to 0 stock)

6 to 12 inches high, pit diameter 8 inches, minimum depth 10 inches.

A tolerance of minus 1 inch will be allowed for the above dimensions.

All excavated material, except material excavated for 12 to 18 inch shrubs and that which is specifically allowed in Section 02860.03 Article G, Paragraph 1, shall be removed before backfilling with the specified planting soil mixtures.

Plant pits located within the recover area, which is the relatively flat area a vehicle could travel without an abrupt change of direction, shall be backfilled with the specified planting soil mixture the same day they are excavated. All other pits shall be backfilled within 14 days of excavation.

4. Planting Soil Mixtures

Planting soil mixtures, hereinafter referred to as soil mixes, shall consist of the following materials:

- a. Soil mix for all plants except ericaceous material and seedling stock: 200 pounds dehydrated cow manure and ten 5.5 cubic foot bales of peat moss or 4.0 cubic yards of peat humus to 12 cubic yards of furnished topsoil.
- b. Soil mix for ericaceous material: ten 5.5 cubic foot bales of peat moss or 4.0 cubic yards of peat humus to 10 cubic yards of furnished topsoil to which no lime has been added.
- c. Soil mix for seeding stock: 4 ounces of dehydrated cow manure added to the excavated soil from each seedling planting pit immediately prior to installing the seedling plants.

Only the foregoing soil mixtures shall be used as backfill in plant pits both under and around the plant roots. No backfill shall be placed in any pits until the excavated material has been removed and the pit has been inspected and approved by the Engineer.

No soil mix shall be mixed, worked or placed when it is in a muddy or frozen condition.

G. Planting

The Contractor will be required to perform all planting, staking, wiring, wrapping, pruning, mulching, and watering in accordance with the following:

1. General

No plants shall be planted until they have been inspected and approved as specified under Section 02860.02.

All seals and tags shall be removed after delivery when directed by the Engineer.

Before installing plants, sufficient soil mix shall be placed and tamped in the bottom of the pits to set the plants at the proper height when fully settled after watering. The depth of this layer shall not be less than 6 inches.

Balled and burlapped plants and potted plants, from which the pots have been carefully removed, shall be set vertically thereon; the soil mix shall then be filled

in around the plant balls to one-half the depth of the balls, tamped and thoroughly watered. The top of the burlap around the balls shall be loosened before or after this watering and spread out away from the plants, or if too bulky, cut away and removed. The remainder of the pit shall then be filled with the soil mix, tamped and again watered, all within the same day of planting.

The roots of bare root plants shall be spread carefully in natural positions; the soil mix shall be worked around the roots, using a method acceptable to the Engineer, thoroughly tamped into place and thoroughly watered, all within the same day of planting.

Every care shall be taken during the backfilling, tamping, and watering to avoid injuring the roots and to eliminate air pockets. Any roots which are bruised or broken before or during planting shall immediately be pruned with a clean cut to sound tissue.

Watering shall mean full and thorough saturation of all backfill in the pits. Water shall be applied only by open end hoses at low pressure. In no case shall hoses from tank trucks be laid across ramps, roadways, or other pavements. When planted, watered, and fully settled, the plants shall be vertical and at the depth at which they were grown in the nursery.

Upon completion of planting, the outline of the planting beds shall be neatly edged, except on lower edge of planting beds on slopes where a 3 inch deep shoulder of planting soil mix or furnished topsoil shall be placed. All grass, weeds, roots and other objectionable material shall be promptly removed. All planting beds shall be free of weeds or grass except those beds on steep slopes, or where so directed by the Engineer, which shall have existing growth cut to a height of 2 inches between pits.

Individual plant pits shall be furnished with a shoulder of soil placed outside the rim of the pits to form a saucer over the entire area of the pits. In shrub beds, the soil shoulder around individual shrubs or trees may consist of excavated soil. Trees on flat areas outside of shrub beds must be shouldered with soil mix or furnished topsoil. Trees on slopes outside of shrub beds may be shouldered with excavated soil with a minimum of 2 inches of topsoil placed over the excavated soil. On all slopes the soil shall be formed into an adequately compacted dam or shoulder on the downhill side to catch and hold water and avoid erosion. Any excess excavated material from seedling planting pits shall be used to form a saucer for water retention for seedling stock. All slope shoulders, dams, slopes, and other disturbed or damaged areas outside of plant beds shall be seeded.

2. Mulching

All plant beds and pits shall be mulched. The mulch shall be spread to a minimum 2 inches and maximum 3 inches thickness over the entire area of the pits and plant beds. Prior to the application of wood chips, ureaform fertilizer

shall be applied at the rate of 10 pounds per 1000 square feet and evenly spread over the area specified to be mulched. The mulch shall be raked to an even surface to the limits specified on the Plans or as directed by the Engineer. All mulch shall be applied within four days after planting, except seedling stock which shall be mulched the same day the seedlings are planted. On slopes where the existing growth is to remain between plant pits, the growth is to be cut prior to applying the mulch as specified under Section 02860.03, Article F, Paragraph 1, and Section 02860.03, Article G, Paragraph 1.

3. Staking

All deciduous trees over 5 feet in height and all evergreen trees over 4 feet in height shall be staked with tree stakes. All stakes shall be installed as detailed within 24 hours of the day the trees are planted. Stakes shall be neat and secure and shall evenly support the trees to true vertical line.

Major trees over 4-inch caliper shall be anchored with three guys attached to deadmen or tree anchors.

Major trees 3-to-4-inch caliper shall be staked with three 10 foot stakes.

Major trees less than 3-inch caliper shall be staked with two 8 foot stakes.

Evergreen trees 4 to 10 feet in height, and all minor deciduous trees more than 6 feet in height, shall be staked with two 5-to-8-foot stakes as required and detailed.

Evergreen trees over 10 feet in height shall be staked with three 10 foot stakes.

In driving stakes, the Contractor shall avoid damage to the tree branches, particularly evergreens and low branched minor trees. All stakes shall be driven just outside the ball to solid bearing below the pit bottom.

Wires shall be covered with hose where in contact with trunk and branches, wrapped two full turns around the stakes, and secured in a notch so the tree is held firm and vertical. Tops of stakes shall be neatly trimmed to the proper height.

4. Pruning

All trees, shrubs, and seedlings shall be pruned after inspection on the site with care being taken to preserve the natural appearance of the plant. Broken or badly bruised branches shall be removed with a clean cut. The pruning shall be done by skilled men in accordance with acceptable horticultural practice; appropriate to the type of seedling, shrub, or tree; and to the special requirements of the individual shrub or tree. Major trees shall be pruned after inspection on the site and before planting.

5. Wrapping

All major trees over 1-1/2 inch caliper shall be wrapped with wrapping material, overlapping 1-1/2 inches, wound from the ground line to the lowest main branches.

The wrapping shall be tied at places including the bottom, middle and top with not more than 2 foot intervals between ties. The wrapping shall be done before staking but not before the condition of the tree trunk has been inspected and tree approved by the Engineer. Wrapping material shall be maintained in place until final acceptance of the Project. Immediately before wrapping is installed, the trunks shall be thoroughly wetted with an approved insecticide for borer control, applied with a brush and daubed into all cracks and crevices in the bark.

6. Cleanup

During the course of planting, excess and waste materials shall be continuously and promptly removed, the turf areas kept clean, and all reasonable precautions taken to avoid damage to existing structures, plants, and grass. When planting in an area has been completed, the area shall be thoroughly cleaned. All debris, rubbish, subsoil, and waste materials shall be cleaned up and removed. Existing turf areas which have been injured shall be regraded and seeded or sodded, and the entire area when completed shall be neat and clean.

H. Care and Replacement During Construction

The Contractor shall perform all care and replacement operations in accordance with the following:

1. General

The care and replacement of planting shall begin immediately after each plant is satisfactorily planted as specified under Section 02860.03, Article G, and shall continue during the entire life of the Contract. During such time, the Contractor shall do all work necessary to establish and keep the plants in a live, healthy condition.

2. Watering

The Contractor shall water all plant pits with the following minimum quantities of water for each watering:

Major Trees	25 gallons per pit
Minor Trees	15 gallons per pit
Evergreen Trees	20 gallons per pit
Shrubs over 18 inches	3.5 gallons per pit
Shrubs 12 to 18 inches	1 gallon per pit
Tree Whips	3 gallons per pit
Seedlings	1 gallon per pit

Prior to beginning watering, the Contractor shall notify the Engineer in writing 48 hours in advance of the day the watering must begin; and unless directed by the Engineer, the Contractor shall continue to water daily where and as directed until all plant pits on the Contract have been watered with the minimum specified quantities for each watering. Each watering shall be completed within 10 working days of the day watering is designated to begin.

Watering shall be performed every 14 calendar days following planting. Watering will not be required at the end of a 14 calendar day period if 1 inch or more of rainfall as measured by the National Weather Service has occurred in the area during the preceding 14 calendar days since the last watering.

3. Weeding

All plants, plant saucers, and plant beds, including those on steep slopes, shall be weeded of all weeds, including grasses, approximately three times during the life of the Contract when and as directed by the Engineer. Each weeding shall be completed within 15 working days of the day weeding is designated to begin. The Contractor may request in writing the use of herbicides for the control of weeds and grasses. The Contractor shall prune and spray plants, repair or replace stakes and wires, reshape plant saucers, and repair washouts when and as directed by the Engineer.

4. Defective Plant Removal

All dead or unhealthy plants shall be promptly removed. If this occurs during a planting season, these plants shall be replaced during that planting season. If between planting seasons, they shall be replaced during the first 60 days of the next proper planting season. Plants that have sizeable die-back beyond the normal pruning limit shall also be replaced.

If and when plant replacements are made, mulch shall be replaced to its original specified depth at no additional cost to the County. Time is an essential element in the establishment of plant materials, and it is important that care and replacement operations be vigorously prosecuted until completion, as failure to complete this work within the designated time limits can result in unsatisfactory plant establishment and future performance.

02860.04 METHOD OF MEASUREMENT

A. Furnishing and Planting Trees, Shrubs, Vines, Groundcovers, and Seedling Stock

Measurement for furnishing and planting trees, shrubs, vines, groundcovers, and seedling stock will be made of the number and type of plant items satisfactorily furnished and planted in accordance with the Contract Documents or as directed by the Engineer.

B. Mulch

Measurement for mulch within shrub planting beds will be made of the surface area for the thickness specified, satisfactorily placed to the limits indicated in the Contract Documents or as directed by the Engineer.

C. Water

Measurement for water shall be made by means of satisfactorily installed meters or by measurement in tanks or tank trucks of predetermined capacity. The Contractor shall furnish the Engineer with measurements and capacity of all tanks or tank trucks used for this work item and shall provide a complete and accurate record of quantities of water furnished.

D. Abandoned Planting Pits

Measurement for abandoned planting pits will be made based on the volume of the plant pit before backfilling.

02860.05 BASIS OF PAYMENT

A. General

1. Payment will be made at the unit prices bid. The prices bid shall include furnishing all labor, tools, equipment, materials, and all incidental items of work necessary to complete the work as shown and specified in strict accordance with the Contract Documents, and accepted by the Engineer.
2. Payment will be made for contingent items when ordered by the Engineer. Payment will be as specified in Sections 02951, 02952, 02953, 02954, 02955, 02956, and 02957.

B. Furnishing and Planting Trees, Shrubs, Vines, Groundcovers, and Seedling Stock

Payment for planting will be made at the unit price bid for each size and type of plant material contained in the Proposal. The price bid shall include the cost of furnishing the plant material and protection thereof before planting; excavating, planting, and backfilling with planting soil mixture; pruning, wrapping, and supporting trees; mulching trees, seedlings, and individual shrubs not in shrub beds; watering during and immediately after planting; repairing and reseeding ground surface; disposal of excess

excavated and waste materials; care and replacement of planting until final acceptance; furnishing and installing all replacements; and all incidentals necessary to satisfactorily complete the work, except as indicated in Section 02860.05, Articles C, D, and E.

If, at any time after planting, live plant material is destroyed because of traffic, replacements will be paid for at the unit price bid for the item.

The Contractor shall be responsible for replacing any plant material stolen or vandalized before the semi-final inspection is held. Any live plant material stolen or vandalized after the semi-final inspection shall be replaced by the Contractor and paid for at the unit price bid for the item.

C. Mulch

Payment for mulch placed within the shrub planting beds will be made per square yard furnished and spread to the thickness indicated in the Contract Documents. The price bid shall include all incidentals necessary to satisfactorily complete the work.

No additional payment will be made for mulch placed on tree pits that are located in shrub planting beds.

D. Watering

Payment for watering will be made per 1,000 gallons for the quantities of water for each tree or shrub specified herein. The price bid shall include the cost of furnishing, transporting, and dispensing the water and all incidentals necessary to satisfactorily complete the work.

No payment for watering will be made during and immediately after planting or for water in excess of the specified minimum quantities unless authorized in writing by the Engineer.

E. Abandoned Planting Pits

Payment for abandoned planting pits will be made per cubic foot of pit ordered abandoned by the Engineer. The price bid shall include the placing of backfill and seeding of all damaged turf, and all incidentals necessary to satisfactorily complete the work.

END OF SECTION