

Payment will be made under:

Item No.	Pay Item	Pay Unit
8100001	Permanent Vegetation	MSY
8101000	Seeding (Mulched)	MSY
8102100	Seeding (Unmulched)	MSY
8103000	Temporary Seeding	MSY
8103001	Temporary Vegetation	MSY
8104X00	Fertilizer ( <i>analysis</i> )	Ton
8105000	Lime	Ton
8106000	Nitrogen	Pound
8109900	Mowing	MSY
8101100	Organic Topsoil	Cubic Yard

## SECTION 811

### PLANTING TREES, SHRUBS, VINES, AND GROUNDCOVERS

**811.01 Description.** This work shall consist of furnishing, delivering, and planting trees, shrubs, vines, and groundcover plants of the type and size indicated on the plans or in the special provisions. This work shall also including all materials and incidental operations (including plant maintenance and guarantee) completed in accordance with these specifications and in conformity with the locations and elevations shown on the plans or specified by the Engineer.

## MATERIALS

### 811.02 Plant Materials.

**A. Quality of Plant Materials.** All Plants shall be first-class representatives of their normal species or varieties unless otherwise specified as “street-tree”, “extra heavy”, “clump” and other of like import, according to the particular exception.

Unless otherwise specified, all plants shall be nursery grown stock that has been transplanted or root-trimmed two or more times, according to the kind and size of plants. The branch system shall be normal development and free from disfiguring knots, sun-scald, injuries, abrasions of the bark, dead or dry wood, broken terminal growth or other objectionable disfigurements. The trunks shall be undamaged. Trees shall have reasonably straight stems and shall be well branched, symmetrical shaped, and typical of their species.

**B. Plant Names.** All scientific and common plant names of the items specified shall conform to the edition of *Standardized Plant Names*, as adopted by the American Joint Committee on Horticultural Nomenclature that is in effect at the time of the invitation for bids. Names of varieties not included therein conform generally to names accepted in the nursery trade.

All plants delivered shall be true to name and legibly tagged with the names and sizes of the plant. In all cases, botanical names shall take precedence over common names.

**C. Substitutions.** There shall be no substitutions, deletions, or additions without approval of the Engineer. The Engineer may allow substitutions after award of contract only upon submission of proof in writing that a plant is not obtainable and authorization for use of the nearest equivalent obtainable size or variety of plant having the

same essential characteristics. Should this approved substitution result in the use of a smaller or less valuable plant, a supplemental agreement will be issued with an equitable adjustment in contract price.

**D. Grading Standards.** Grading of plants shall conform to the *American Standard for Nursery Stock (ASNS)*, as approved by the American Nursery & Landscape Association in effect at the time of invitation for bids and to any further requirements that may appear in the special provisions. This includes measurements, branching, grading, quality of balling, and burlapping standards.

**E. Nursery Inspection & Plant Quarantine.** All plants shall be free from plant diseases and insect pests. All shipments of plants shall comply with all nursery inspection and plant quarantine regulations of the States of origin and destination, as well as with Federal regulations governing interstate movement of nursery stock. A valid copy of the certificate of inspection shall accompany each package, box, bale, or carload shipped or otherwise delivered.

**F. Balled and Burlapped Plants.** Balled and burlapped plants shall be dug so as to retain as many fibrous roots as possible and shall come from soil which will form a firm ball. The soil in the ball shall be the original and undisturbed soil in which the plant has been grown. The plant shall be dug, wrapped, transported, and handled in such manner that the soil in the ball will not be so loosened that it would cause stripping of the small and fine feeding roots or cause the soil to drop away from such roots.

**G. Container Grown Plants.** Plants that are furnished in containers shall be well rooted and established in the container in which they are shipped. An established container grown plant shall be a plant transplanted into a container and grown in that container sufficiently long for the new fibrous roots to have developed so the root mass will retain its shape and hold together when removed from

the container. Container grown stock shall not be removed from containers until planting time.

**H. Bare Rooted Plants.** The minimum root system of bare rooted trees or scrubs shall conform to the standards stated in the *ASNS*. Bare rooted plants shall be dug only when the air temperature exceeds 35°F. Particular attention shall be given to the fibrous roots. The maximum time lapse between loading for shipment and delivery to the work or approved storage site shall be four (4) days unless other shipping arrangements are approved.

**I. Collected Plants.** Collected plants, when specified in connection with any species or variety, shall not be nursery grown, but shall have been grown under natural conditions at the location from which they were procured. They may be balled and burlapped or bare root as specified in the plant list on the plans. In either case, the collected material shall conform to the applicable requirements given in the current issue of *ASNS* for quality, size, ball and grade.

**J. Forms, Shapes, and Condition of Plants.**

1. Vines and ground cover plants shall conform to grades and specifications shown in the *ASNS* unless otherwise specified.

2. Plants. Plants larger than specified in the plant list may be used if approved by the Engineer, but use of such plants shall not increase the contract price. Plants designated on the plans as street trees, specimen, extra heavy, clump or of other import shall conform to the standards as given in the *ASNS* for the special type specified.

3. Trees shall have straight trunks, be well branched and have symmetrical tops. There shall be no cuts of limbs over 3/4 inch in diameter that have not completely healed over. Each tree shall have the top and

root characteristics of its variety and growth that are typical of such trees in this region. Deciduous trees, unless otherwise specified, shall have branching between one quarter and one half of the distance of their height from the ground. Street trees, if so specified, shall be of uniform branching height. Bush form, when specified, shall be branching at the base of the plant or within one foot of the base. Clumps, when specified, shall have three or more main leaders or trunks starting at the ground. At least two of these shall be of the caliber specified.

**K. Inspection.** Plant materials shall be subject to inspection at any time during the life of the contract. Such inspection shall not be construed as final acceptance of the plants involved. Any stock which does not conform to these specifications will be rejected and shall be removed from the project by the Contractor. The Contractor shall notify the Department's representative in advance when he expects to have the stakes set to show position of holes for all trees and shrubs; when he expects to have the holes dug to receive trees, shrubs or vines; when the plant materials will be assembled for inspection before planting; and when the planting will be done.

**L. Shipment.** All precautions that are customary in good trade practice shall be taken to insure the arrival of the plants in good condition. Plants shall be packed or covered in such a manner to insure adequate protection against damage while in transit. The roots of bare root plants shall be carefully protected with wet straw or other suitable material to insure the arrival at destination with the roots in a moist condition. When shipment is made in an enclosed vehicle, the vehicle shall be adequately ventilated to prevent overheating of the plants in transit.

**M. Certificate of Compliance.** The Contractor shall furnish certificates of compliance from all plant supply sources certifying that all plants furnished comply with the requirements specified in these specifications.

**811.03 Topsoil.** Topsoil shall consist of fertile, friable soil and shall contain a normal amount of organic matter. It shall be reasonably free from subsoil, refuse, roots, heavy or stiff clay, stones larger than one inch in size, coarse sand, noxious seeds, brush, litter or other deleterious substances. Topsoil shall be free from toxic amounts of either acid or alkaline elements and shall be capable of sustaining healthy plant life. Topsoil shall not be stripped below the average depth of fertility and in no case more than 12 inches. All topsoil will be subject to inspection during the planting period and any material that does not meet the specifications will be rejected.

**811.04 Fertilizer and Lime.** Fertilizer and lime shall conform to the requirements specified in Subsections **810.06** and **810.07** respectively.

**811.05 Super-phosphate.** Super-phosphate shall be composed of finely ground phosphate rock as commonly used for agricultural purposes containing not less than 18% available phosphoric acid.

**811.06 Mulch Materials.** Mulch shall consist of medium grade, pine bark, or shredded pine wood containing bark, or other approved material. The mulch shall contain no noxious weed seeds, soil, sawdust, or any substance toxic to plant growth and shall be considered incidental to the planting operation and no separate payment will be made therefore.

**811.07 Miscellaneous Material.**

**A. Water.** Water used in the planting or care of vegetation shall be free from oil, acids, alkalis, salts or any substance injurious to plant life. Water from streams, lakes, ponds or similar sources shall not be used unless approved.

**B. Stakes for Bracing and Anchoring.** Stakes for bracing or supporting trees shall be of cedar, locust, oak, or other approved wood free from knots, rot, cross grain, or other defects that would impair the strength of the stake for which it is to be used. Stakes shall be a minimum 2 inches by 2 inches square in cross-section and of adequate length. The bracing stakes shall be painted or stained dark green.

**C. Weed Control Cloth.** The weed control cloth shall be an approved geotextile landscape fabric made of polypropylene, black in color, and UV stabilized. It shall weigh from 4.8 to 5.3 ounces per square yard. Black plastic film is not acceptable.

**D. Porous Material.** Porous material for tree root protection may be gravel, crushed stone, slag or other porous material varying in size from 1 to 3 inches and shall be approved before being used.

**E. Pipe.** Pipe for underdrains shall comply with Section **802** for the size and type specified.

## CONSTRUCTION REQUIREMENTS

**811.08 Clearing and Grubbing.** The scope and method of work shall be as described in these specifications for Clearing and Grubbing, Section **201** with the following additions or exceptions. Some selective thinning or removal of trees or plants may be required. Trimming may be required on selected trees which are to remain in place.

**811.09 Grading.** The scope and method of work shall in general be as prescribed in these specifications for Roadway and Drainage Excavation, Section **203**, with the following addition. Special attention is to be given to the elimination or reduction of construction scars. The slopes are to have transitions blending into each other to give a pleasing appearance and to reduce cost of maintenance. The first operation of grading should be the stripping of topsoil as directed by the

Engineer and the piling of it for convenient later use in the planting of grass, trees, shrubs, vines, etc. This topsoil will be paid for as excavation or be subject to the requirements of Subsection **104.09**, Rights of the Use of Materials Found on the Work.

**811.10 Planting Season.** All planting of trees, shrubs, vines, etc., shall be done from the first of November to the middle of March, preferably just after the fall of the leaves of deciduous plants. The Engineer may permit planting at other times when necessary. Work shall not be done when, in the judgment of the Engineer, the weather and soil conditions are unfavorable.

**811.11 Reception and Care of Plant Materials.** All plants shall be handled so that the roots are adequately protected at all times from drying out, freezing or from other injury. The balls of balled and burlapped plants that are not planted immediately on delivery shall be well protected with moist soil or other acceptable material. If bare-rooted plants are not planted on delivery, they shall be healed-in immediately in moist soil and kept watered until planted.

The Contractor is responsible for loss due to theft. The Contractor shall replace all plants lost due to theft at no additional charge to the Department, until the Initial Construction Inspection is completed.

**811.12 Locating Planting Pits.** The Contractor shall place a stake where each plant is to be planted. This staking shall be approved by the Engineer before the planting pits are dug. The Engineer may require variations from the plans. No plant material shall be planted in drainage ditches, or within the minimum setback distance from the edge of travelway.

**811.13 Preparation of Planting Pits.** The area within a radius of five feet of the center of each plant shall be cleared of weeds, brush, etc.

Planting pits and beds shall be prepared before or concurrently with digging of the plants so that no delay will occur as a result of the planting area not being ready. All plant materials shall be planted in pits, except those specifically designated on the plans to be planted in beds.

All planting pits shall be circular in outline, have vertical sides and flat bottoms. The depths of planting pits, specified below, shall be measured from finished grade. Minimum depth of pits for trees shall be 2 feet and this depth shall be increased as much as may be necessary to accommodate the ball or roots when the tree is set to finished grade. Diameter of pits for trees shall be at least 2 feet greater than the diameter of the ball, container or spread of roots. Minimum depth of pits for all shrubs and vines shall be 16 inches and this depth shall be increased as much as may be necessary to accommodate the ball or roots when the plant is set to grade. Diameter of pits for all shrubs and vines, except those supplied bare-rooted, shall be at least 2 feet greater than the ball. Bare-rooted shrubs and vines shall be planted in pits at least one foot greater in diameter than the spread of roots.

During the excavation of planting pits, any soil that meets the specifications for topsoil shall be placed in piles separate from the poorer subsoil.

It is the responsibility of the contractor to verify that each excavated tree or shrub pit will percolate (drain) before adding topsoil and installing trees or shrubs. The contractor shall fill the bottom of selected holes with 6 inches of water. This water should percolate within a twenty-four (24) hour period. The Engineer shall verify accuracy and effect of percolation testing. If the soil at given area does not drain properly, a PVC drain or gravel sump shall be installed or the plantings relocated. If the soil is consistent throughout the project site, then selective tree or shrub pits may be tested for drainage.

Should the contractor encounter unsatisfactory surface or subsurface drainage conditions, soil depth, latent soils, hard pans, steam or other utility lines or other conditions that will

jeopardize the health and vigor of the plants, he must advise the Engineer in writing of the conditions prior to installing the plants. Otherwise, the Contractor warrants that the planting areas are suitable for proper growth and development of the plants to be installed.

No excavation or planting pit shall be left unattended or open overnight, except pits for percolation tests.

Each pit shall be approved by the Engineer and after approval, partly filled and compacted with the backfill mixture to a depth of 6 inches. This operation may be performed either before or after the depth of the pit is tested for the individual plant to go in it, but must be repeated if the loose soil is removed to deepen the pit. The mixed soil in beds shall be moist, but shall not contain excessive water to cause puddling or undue compaction at the time plants are set.

**811.14 Preparation of Soil for Backfill.** Backfill mixture for filling plant pits shall consist of 75%, by volume, acceptable topsoil and 25%, by volume, composted organic matter or other approved matter. During planting, 3 pounds of 4-12-12 or equivalent fertilizer shall be added to each cubic yard of backfill mixture. The topsoil, organic matter and fertilizer shall be thoroughly mixed before being placed into the pits or beds. Slow-release fertilizer tablets may be used, at rates according to manufacturer's instructions. All backfill materials are considered incidental to the planting and payment of this work will be included in the unit price for trees, shrubs, and ground covers.

**811.15 Special Acid Soil Mixture.** Rhododendron, Kalmia, Azalea and other members of the Heath family (Ericaceae); Thea, Camellia, Gardenia, and other members of the Tea family (Theaceae); and a few other shrubs that require an acid soil will have the notation in the legend "Require Acid Soil". The backfill around them shall be composed of "Woods Earth" or rich topsoil and leaf mold or rich topsoil and peat moss. One pound of cottonseed meal to each 5 cubic feet of backfill shall be well mixed in. No commercial fertilizer of un-

known composition, bone meal, lime ashes, limestone soil, fresh manure or other alkaline material shall be placed around them.

**811.16 Planting.** Before setting plants, a minimum of 3 inches of prepared soil as described above shall be placed in the pits for all shrubs and trees with root balls less than 2 foot in diameter. Plants shall be set at such level that, after settlement, they will bear the same relation to the level of the surrounding ground as they bore to the ground from which they were dug; they shall be planted upright and faced to give the best appearance. When shrubs vary in height, the larger shall be placed in the center of the group or at its wider parts. In the case of balled plants, all burlap, cloth, twine, wire, etc. shall be removed from the tops and sides of the balls, but no burlap or cloth shall be pulled out from under the balls. Roots of bare-root plants shall be spread out to approximately their original position and the prepared soil mixture carefully worked in among them. All broken or frayed roots shall be cut off cleanly. The backfill shall be put in and tamped in successive 8 inch layers. When the hole has been nearly filled, water shall be poured in and allowed to soak so that all voids or air pockets under or around the roots are eliminated. After the water has soaked down, the hole shall be filled with the prepared soil. A shallow saucer, capable of holding water, shall be formed around each plant by placing a mound of topsoil around the edge of each pit.

Pre-emergent herbicides shall be used unless indicated otherwise in the notes on the plans or special provisions. After planting, tree, shrub, and ground cover beds shall be treated with Ronstar G., Treflan, or a comparable pre-emergent herbicide, which will not harm the type plants to be installed in the beds. These herbicides shall be used strictly according to manufacturer's direction as to application quantity, methods, and precautions to be used for effectively and safely applying such a toxic product.

**811.17 Mulching.** Mulch material satisfactory to the Engineer shall be carefully placed as a top layer on the backfilled

plant hole after all planting operations have been completed. In general, the depth of this layer of mulch shall be up to three inches, but shall vary according to the climatic conditions and to the type of material used, and shall be determined by the Engineer. Mulch shall be placed within forty-eight (48) hours after planting.

Weed control cloth shall be used unless otherwise directed in the plans or special provisions, and shall meet the specifications of Subsection **811.07C**.

**811.18 Transplanting Selected Trees and Shrubs.** Plants on the project that are to be moved will be indicated or listed on the plans or in the special provisions. Diameter of ball or root system, method of planting for each kind and size of plant, etc. will be specified in a list on the plans or in the special provisions. One of the following methods will be specified:

**A. Ball and Burlap.** This method shall consist of digging the plants with a ball of earth that shall be securely wrapped in burlap. Due care shall be used to preserve the solidity of the ball. Only experienced nursery workers shall be use for this work. This method will be employed for evergreens and other plants likely to be injured by moving without a ball.

**B. Canvas and Platform.** This method shall consist of digging with large ball which shall have its circumference wrapped in a canvas and rope apparatus made for the purpose and shall then be placed and fastened on a platform made for the purpose. Apparatus and procedure shall meet the approval of the Engineer. Only experienced nursery workers shall be used for this work. A truck with a windlass may be required. This method shall be employed for plants with balls of earth weighing over 800 pounds.

**C. Tree-Moving Machinery.** This method shall consist of moving by tree-moving machinery, both apparatus and

procedure to be approved by the Engineer. Only experienced machinery operators shall be used for this work. This method shall be used for trees of over 6 inches in diameter.

**D. Loose Ball.** This method shall consist of moving the plant with all dirt practicable adhering to the roots, but without wrapping the ball in burlap or necessarily keeping it solid. The plant shall be dug without shaking the dirt from the roots and shall be placed carefully on a piece of burlap and carried to the new position by two or more persons or in a wheelbarrow and carefully placed in the pit with or without taking it off the burlap. Great care shall be used not to have the dirt fall off the roots. This method will be specified for most shrubs and some evergreens that do not have to be moved more than two hundred feet.

**E. Bare Root.** This method shall consist of digging and moving the plant without keeping any dirt on the roots. It will be specified for plants that are not ordinarily injured greatly by moving and that do not readily hold the dirt to their roots.

In all respects other than those outlined above, the planting of plants from the project shall be done as specified for plants purchased from outside, including preparation of pits, planting, pruning, wrapping, etc.

**811.19 Wrapping.** Trees shall not be wrapped unless indicated in the plant list on the plans. If indicated, trees shall be wrapped as follows:

Promptly after planting, the trunks of all deciduous thin-barked trees shall be wrapped spirally from the ground line to the height of the second branches or to the height directed by the Engineer, using burlap or heavy crepe paper strips 6 to 10 inches wide, which shall be securely tied with twine.

**811.20 Top Pruning.** Pruning shall be done as directed by the Engineer. The general principles of pruning shall be as follows:

Remove all undesirable branches; those that are weak or damaged; that tend to cross the plant; that detract from the appearance of the plant; and tree branches that hang too low. Cut back until enough of the branches are removed to balance roots cut in digging on all kinds of plants that usually receive a severe setback by being transplanted, such as Oaks (*Quercus*), Hawthorn (*Crataegus*), Firethorn (*Pyracantha*), etc.

**811.21 Retaining Walls and Tree-Wells.** Retaining walls around the roots of trees or shrubs and tree-wells around the trunks of trees or shrubs shall be constructed at the locations and to the shape and dimensions shown on the plans or as otherwise designated. They shall be of mortar and rubble masonry, dry rubble masonry, or other type, and shall conform to the requirements of Section **718**. Only dry rubble masonry shall be used in any portion of tree wells extending below the top of contiguous porous material used for tree root protection. The inside face of a tree well shall be no less than 2 feet from the outside edge of the trunk of the tree or shrub. No material shall be placed between the tree trunk and the wall of the tree-well.

**811.22 Tree Root Protection.** Where tree root protection is specified, the entire area of the root spread shall be protected. The limits of this area shall be as designated, but in general, this area will correspond to the area of the ground surface lying beneath the limb spread of the tree. This area shall first be thoroughly cleaned of all vegetation and debris. Porous material as specified in Subsection **811.07** shall then be placed uniformly over the area to a depth in proportion to the height of fill, varying proportionally from 3 inches for fills of one foot or less to 12 inches for fills of 4 feet or more, or to such other depths as may be designated. A layer of No. FA-12 or No. FA-13 sand or other approved material shall then be placed in sufficient quantity to choke the top layer of p-

rous material and will be measured and paid for as porous material.

Where the earth fill is less than 12 inches and tree root protection is specified without the construction of a tree-well, the thickness of the porous material at the tree trunk shall be increased to the height of the fill and extend outward from the tree trunk in collar form for a distance of 12 inches, unless otherwise shown on the plans. Rubble aggregate as specified in Section **718** shall be used for placement against the tree trunk.

No fill shall be placed over the root spread of any tree or shrub that is to be protected in the above manner until the required depth of porous material has been placed.

**811.23 Pipe Underdrains.** Pipe underdrains, when so shown on the plans or directed, shall be placed to drain tree-wells or porous material for tree root protection. These shall be placed under applicable provisions of Section **802**.

**811.24 Staking.** All trees having a diameter of  $\geq 1\frac{1}{2}$  inches or less shall be staked. Stakes shall be approximately 8 feet in length and shall be driven into firm ground at least 2 feet if driven outside the planting pit and at least  $2\frac{1}{2}$  feet if driven through the pit. The trees shall be tied to the stakes by garden hose through which wire has been strung or nylon strips with eyelets manufactured specifically for tree staking in such a manner as not to injure the trees. The Contractor shall make every effort to stake the trees in an approved manner that will present the most satisfactory appearance.

**811.25 Guying.** All trees over  $2\frac{1}{2}$  inches in diameter shall be guyed with 3 guys consisting of 2 strands of No. 12 gage galvanized wire placed at approximately equal distances from each other. Guys shall be tightened by twisting the strands together. Wires shall not come in direct contact with the tree, but shall be covered with rubber hose or heavy cloth padding at the point of contact. They shall be fastened to the tree in such a manner as to avoid pulling crotches apart. Wires shall

run from the trunk of the tree at about 8 feet above the ground at an angle of about 45 degrees to stakes driven in the ground. As far as possible, wires shall be placed so as to avoid danger of persons tripping over them. All wires to be placed with brightly colored uniform flagging for easy sighting.

**811.26 Clean-Up.** At the conclusion of the work, all unused soil, all sticks, stones, other refuse and unsightly materials shall be removed and disposed of as directed by the Engineer. Holes left by moving plants shall be filled and tamped. The planted area shall be smoothed and dressed. Streets and paved areas shall be cleaned regularly to remove construction materials and other debris resulting from the Contractor's work.

### **811.27 Inspection.**

**A. Initial Construction Inspection.** The Initial Construction Inspection will be held within fifteen (15) days after the Engineer has been notified that all work including final cleanup has been completed. This inspection will serve to check the Contractor's workmanship. No plants will be accepted or rejected except as set forth in Subsection **811.02K**.

**B. Final Inspection.** The Final Inspection will be held on or before the end of the establishment period. At that time, it will be determined as to which plants are rejected or missing and need replacing.

**C. Replacements.** Plants that are rejected or designated to be replaced during the Final Inspection will be replaced within thirty (30) calendar days following the Final Inspection or during the next planting season as determined by the Engineer.

Replacements of plant material shall be done using the methods and procedures outlined previously for initial plantings. The Contractor shall furnish, install, and care

for the replacement plantings for a thirty (30) day period without any additional compensation.

If any of the replacement plantings are defective, missing, or otherwise unsatisfactory at the end of the thirty (30) day period, they shall be replaced with satisfactory plantings.

**D. Establishment Period Inspection.** Regular inspections will be made throughout the plant establishment period. These shall serve as an inspection of the care and maintenance performed by the Contractor. After notification of a problem with the care and maintenance performed by the Contractor, the problem shall be corrected by ten (10) working days. Failure to perform maintenance may result in a delay in the payment to the Contractor midway through the plant establishment period as specified in Subsection **811.31**.

**811.28 Establishment Period.** The plant establishment period shall be that time from planting through and including twelve months following the initial construction inspection.

**811.29 Plant Establishment Work.** Plant establishment work shall include fertilizing as described below, watering as necessary as described below, adding mulch to saucers, pruning, weeding, pest control, repair, and adjustment of guys and stakes and saucers, and any other work deemed necessary by the Engineer. These maintenance items shall be considered incidental to the tree planting work and will be included in the unit price for tree planting.

All transplanted plant material shall be fertilized in mid-spring with 16-4-8 fertilizer as follows:

Ground cover beds and small shrubs, apply 2 pounds per 100 square yard. For shrubs, apply 0.5 cup to each shrub. For trees, at the rate of 1.5 pounds per inch of trunk diameter. Spread fertilizer

evenly in the area under the end of the branches. The plants shall be thoroughly watered afterwards.

Watering shall be done as follows:

Water trees, shrubs, and ground covers by filling plant saucers a minimum of once every two weeks during dry periods. A dry period is a period of less than one inch of rain for one week, as recorded weekly. Each tree shall receive a minimum of 5 gallons of water and each shrub shall receive a minimum of 2 gallons of water. Watering is required only during March, April, May, June, July, August, September, and October.

At the end of the plant establishment period, or when directed by the Engineer, the Contractor shall remove all stakes, wire, hoses, etc., used to stake trees. All materials shall be disposed of off-site.

**811.30 Method of Measurement.** Furnishing and planting trees, shrubs and vines will be measured by the number of units of each type specified, installed and accepted. Rubble masonry and rubble masonry tree-well, either or both grouted or dry as specified, will be measured and paid for as specified in Subsections **718.16** and **718.17**; porous material for root protection by the ton; and drain tile or pipe by the linear foot. Herbicide, weed control cloth, mulch, and other items used in preparation of planting shall be considered incidental to the planting, and no separate measurement will be made for this work.

**811.31 Basis of Payment.** The number of trees, shrubs and vines of each species or variety planted (determined as provided above) will be paid for according to the progress payment schedule below for each landscape pay item. Final payment will constitute full compensation for furnishing all material, tools, equipment, labor, and incidentals necessary to complete the work according to the plans and specifications except for items set out as separate pay items in proposal.

**Progress Payment Schedule For Planting Trees, Shrubs And Vines.** Payment of 90% of the contract unit price for each landscape pay item will be made when the tree, shrub or vine has been completely and satisfactorily planted. The remaining portion of the payment will be for maintenance and plant replacement required during the plant establishment period. At the midway point of the plant establishment period, the Contractor may be paid an amount that is not to exceed 95% of the contract unit price for each landscape pay item. After the final inspection, the Contractor shall be paid 100% of the contract unit for each landscape pay item that was accepted during the final inspection. Final payment will be made after replacements are planted and final acceptance is made.

Payment will be made at the contract unit price for Rubble Masonry Wall, Rubble Masonry Tree-Well, Porous Material for Root Protection; and Drain Tile or Pipe all complete in place, which price and payment shall be full compensation for all material, tools, equipment, labor, and incidentals necessary to satisfactorily complete the work.

Payment for each item includes all direct and indirect costs and expenses required to complete the work.

Payment will be made under:

<b>Item No.</b>	<b>Pay Item</b>	<b>Pay Unit</b>
8111XXX	Plant ( <i>type</i> )	Each
7183000	Rubble Masonry	Cubic Yard
7183006	Rubble Masonry Tree-Well	Cubic Yard
8114000	Porous Material for Root Protection	Ton
8115XXX	Drain Tile or Pipe, ( <i>diameter</i> )"	Linear Foot