

SECTION 329300 - EXTERIOR PLANTS – **ADDENDUM 1**

## PART 1 - GENERAL

## 1.1 SUMMARY

- A. This Section includes **ALL** trees, shrubs, groundcover, bulbs, and perennial plants.
- B. Provide all labor, materials, tools and equipment as required to have plants, topsoil, amendments, and mulch applied on all areas called for on the approved plans.
- C. Related Sections:
  - 1. Section 310000 Earthwork
  - 2. Section 311000 Site Clearing, Preparation, Demolition and Removals
  - 3. Section 311300 Tree Protection and Root Pruning
  - 4. Section 329100 Planting Preparation
  - 5. Section 329200 Seeding and Sodding
- D. Applicable References
  - 1. ANSI A300 Tree Care Operations: Standard Practices for Tree, Shrub, and Other Woody Plant Maintenances
  - 2. American Standard for Nursery Stock (ANSI Z60.1) by the American Nursery & Landscape Association
- E. In addition to the specifications contained herein, Work shall be performed in accordance with the:
  - 1. Drawings and general provisions of the contract, including general and supplementary conditions
  - 2. Arlington County Department of Parks & Recreation Design Standards as shown on the plans and available online at: <http://parks.arlingtonva.us/design-standards/>

## 1.2 DEFINITIONS

- A. Finish Grade: Elevation of finished surface of planting soil.
- B. Existing Topsoil: Existing, native surface topsoil formed under natural conditions with the duff layer retained during excavation period and stockpiled.
- C. Imported Topsoil: Soil obtained off-site that meets the specifications herein for topsoil and is suitable for use in planting soil/backfill soil mixture when existing soil quantities are insufficient. Refer to Section 329100 Planting Preparation.
- D. Planting Soil Mix/Backfill Soil Mixture: Existing soil modified as specified to be suitable for planting. Refer to Section 329100 Planting Preparation.

- E. Subgrade: Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill, before placing planting soil.
- F. ISA: International Society of Arboriculture
- G. CBAY: Chesapeake Bay, typically referring to CBAY watershed.
- H. ANSI: American National Standards Institute
- I. Urban Forester/County Urban Forester: Refers to the Arlington County Urban Forester
- J. Landscape Architect: Refers to an Arlington County Landscape Architect or their designee.

### 1.3 SUBMITTALS

- A. All submittals specified in Section 329100 Planting Preparation shall be provided to Project Officer for approval as authorized by the Landscape Architect and the Urban Forester. All approvals shall be in writing.
- B. Product Certificates: Contractor shall submit for each type of manufactured product, to be approved by the Project Officer and complying with the following:
  - 1. Manufacturer's certified analysis for standard products
  - 2. Provide the provenance of the plant material. Provenance is the geographical origin of the seed or cutting used in propagation and can have a direct effect on plant vigor and survivability.
- C. Refer to Section 329100 Planting Preparation for soil test requirements.
- D. Contractor shall submit State Nursery inspection certificates to the Project Officer.
- E. Contractor shall submit to Project Officer for verification the Landscape Industry Certified Technician and Landscape Industry Certified Officer certificates for those responsible for plant installation.
- F. Planting Schedule: Contractor shall submit the planting schedule to the Project Officer for approval as authorized by the Landscape Architect and the Urban Forester. The plant schedule shall indicate anticipated planting dates for exterior plants. Contractor shall be responsible for furnishing and installing all plant material shown on the drawings and plant list, as submitted with the contract. Contractor shall have investigated the sources of supply and satisfied himself/herself that he/she can supply all of the plants specified on the drawings in the size, variety, quantity and quality noted before submitting the bid. Failure to take this precaution shall not relieve the successful bidder from the responsibility of furnishing and installing all the plant material in strict accordance with the contract documents.
- G. Substitutions:
  - 1. The Contractor shall submit a written request for a substitute plant a minimum of thirty (30) calendar days prior to planting date if specific plants shall not be available in time for the scheduled planting. Contractor shall submit the request to the Project Officer for approval as authorized by the Landscape Architect and the Urban Forester.

2. Contractor shall be responsible for documenting any plant suitability or availability problems.
3. If a substitute plant is offered to the County, it shall be of the same size, value and quality as the plant originally specified on the plan. Substitution shall be approved by the Project Officer as authorized by the Landscape Architect and the Urban Forester. If the County does not accept the substitute plant, the Contractor shall provide the type and size of plant material specified on the plans, or a substitute requested by the Project Officer as authorized by the Landscape Architect and the Urban Forester.

H. Plant Establishment Period Instructions: Contractor shall submit to the Project Officer recommended procedures for establishment of exterior plants during a calendar year. Submit before the beginning of the required establishment period.

#### 1.4 QUALITY ASSURANCE

A. References and standards to be used:

1. ASTM: American Society of Testing Materials
2. USDA United States Department of Agriculture.
3. ANSI Z60.1 American Standard for Nursery Stock 2004 or more recent.
4. ANSI A300 Standard Practices for Tree, Shrub and other Woody Plant Maintenance.
5. Pruning practices shall conform with recommendations in *An Illustrated Guide to Pruning*, Second Edition, Edward F Gilman, Delmar Publishing, Albany, NY, 2000.

~~B. Contractor is solely responsible for quality assurance of work.~~

C. Installer Qualifications: The installer shall be a firm with at least 5 years of successful experience in work similar in material, design and extent to that indicated for this Project and with a record of successful landscape establishment.

1. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
  - a. Contractor shall designate a project crew leader who possesses one or more of the following certifications:
    - i. Certified by the Professional Landcare Network (PLANET) as a "Landscape Industry Certified Technician"
    - ii. Certified by the Professional Landcare Network (PLANET) as a "Landscape Industry Certified Officer"
  - b. The Contractor shall identify to the Project Officer at least one full-time on-site supervisor who is the Contractor's competent, qualified, and authorized person on the worksite and who is, by training or experience, familiar with the policies, regulations and standards applicable to the work being performed, and capable of sufficiently communicating with the Project Officer.
  - c. Crew leader and supervisor may be the same individual.

- D. **Installer Qualifications for Reforestation/Conserved Open Space Projects:**
1. ISA Certified Arborist shall be on the worksite during planting of reforested areas.
  2. Demonstrate experience in Reforestation/Afforestation and Stream-Bank Stabilization projects through:
    - a. Project portfolio detailing a minimum of three (3) successfully completed reforestation/afforestation/streambank restoration projects in the CBAY watershed area over the past three years.
- E. The County will, throughout the contract term, have the right of reasonable rejection and approval of staff or subcontractors assigned to the project by the Contractor. If the County reasonably rejects staff or subcontractors, the Contractor shall provide replacement staff or subcontractors satisfactory to the County in a timely manner and at no additional cost to the County. The day-to-day supervision and control of the Contractor's employees, and any employees of any of its subcontractors, shall be solely the responsibility of the Contractor.
- F. **Measurements:** Measure according to ANSI Z60.1. Do not prune to obtain required sizes.
1. **Trees and Shrubs:** Measure with branches and trunks or canes in their normal position. Take height measurements from or near the top of the root flare for field-grown stock and container grown stock. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip to tip. Take caliper measurements 6 inches above the root flare for trees up to 4-inch caliper size, and 12 inches above the root flare for larger sizes. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip-to-tip.
  2. **Other Plants:** Measure with stems, petioles, and foliage in their normal position.
- G. The Contractor shall comply with all applicable requirements of the laws, codes, ordinances and regulations of federal, state and municipal authorities having jurisdiction.
- H. The contractor shall comply with all requirements for control of silt and sediment during plant installation work as indicated in the contract documents.
- I. **Preinstallation Conference:** Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination" with landscape architect, general contractor, all subcontractors, and owner's representative attending. This conference can occur simultaneously with the "Soil Preparation" conference.
- 1.5 **SELECTION, TAGGING, ORDERING AND ACCEPTANCE OF PLANT MATERIAL**
- A. Plants shall be subject to selection, tagging and/or inspection and approval by Landscape Architect at place of growth and upon delivery for conformity to specifications. Such approval shall not impair the right of inspection and rejection during progress of the work. Submit written request for inspection of plant material at place of growth to Landscape Architect. Written request shall state the place of growth and quantity of plants to be inspected. Landscape Architect reserves right to refuse inspection at this time if, in his judgment, a sufficient quantity of plants is not available for inspection.

1. Notify Landscape Architect of sources of planting materials a minimum 30 days in advance of delivery to site. If digging of ball and burlap stock is required prior to 30 days before delivery to site notify Landscape Architect of plants sources to allow for sufficient time to plan and execute a tagging trip.
  - B. Before trees are dug and during tagging activities a Contractor or nursery representative shall apply a one inch diameter white dot of landscape marking paint on the North side of all trees 12 inches above the top structural root. Maintain North orientation when planted at Project site.
  - C. Substitutions of plant materials will not be permitted unless authorized in writing by Landscape Architect. If proof is submitted that any plant specified is not obtainable, a proposal will be considered for use of the nearest equivalent size or variety with corresponding adjustment of Contract price. These provisions shall not relieve Contractor of the responsibility of obtaining specified materials in advance if special growing conditions or other arrangements must be made in order to supply specified materials.
  - D. Plant Acceptance: Landscape Architect will inspect all work for substantial completion upon written request of the Contractor. The request shall be received at least ten days before the anticipated date of inspection. Acceptance of plant material shall be for general conformance to specified size, character and quality and not relieve the Contractor of responsibility for full conformance to the contract documents, including correct species.
    1. The Contractor is responsible for the condition and quality of work and materials during construction and until Acceptance. Contractor shall bear the cost of replacing any and all plant material until this time.
    2. Remove rejected trees, shrubs or perennials immediately from Project site.
- 1.6 DELIVERY, STORAGE, AND HANDLING
- A. Protect materials from damage or deterioration during delivery and while stored at the site. Adequately protect plants from drying out, whipping, exposure of roots to sun, wind, extremes of heat and cold temperatures or other handling or tying damage. Do not bend or bind trees or shrubs in such a manner that damages bark, breaks branches or destroys their natural shape.
  - B. When weather conditions are such that exposure to sun, wind and/or extremes of heat or cold temperatures during transit may adversely affect health of plants, transport plant material to site in controlled environment trailer. Use carrier experienced in handling live plants.
  - C. Provide protective covering over all vehicles during delivery of all plants.
  - D. Do not prune prior to delivery unless approved in advance by Landscape Architect.
  - E. If deciduous trees are moved when in full-leaf, spray with an approved anti-desiccant per manufacturer's recommendations at nursery no greater than 48 hours prior to digging, and again two weeks after transplanting. Spraying should take place in early morning hours with foliage at maximum turgidity. It is the responsibility of the contractor to decide if anti-desiccant shall be applied to the tree before delivery.
  - F. Deliver trees and plants after preparations for planting have been completed and plant immediately. If planting is delayed more than 6 hours after delivery:

1. Set trees and plants in shade, protect from weather and mechanical damage, and keep roots moist by covering with mulch, burlap or other acceptable means of retaining moisture.
  2. Mist plant tops regularly such that plant tops remain moist. Water root zones to maintain water levels in the root zone above wilt point but below soil saturation.
  3. The duration, method and location of storage of plant materials shall be subject to approval.
  4. Provide proper spacing for trees, such that the stockpiled plant material has full access to light and air. Take all precautions to prevent defoliation of stockpiled material.
  5. Do not deliver more plants to the site than there is space with adequate storage conditions to receive the plants. Provide a suitable remote staging area for plants and other supplies.
  6. Do not remove container-grown stock from containers until planting time. Prepare and plant container-grown stock immediately once removed from container.
- G. Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of conformance with state and federal laws if applicable.
- H. Bulk Materials:
1. Do not dump or store bulk materials on existing turf or plants.
  2. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.

#### 1.7 PROJECT CONDITIONS

- A. Utilities: Determine location of above grade and underground utilities and perform work in a manner which will avoid damage. Hand excavate, as required. Maintain grade stakes until removal is mutually agreed upon by parties concerned. Notification of Miss Utility, 1-800-257-7777 is required for all planting around utilities. The contractor is responsible for knowing the location and avoiding utilities that are not covered by Miss Utility.
- B. Excavation: When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions, or obstructions, notify Landscape Architect before planting. Do not proceed with work until unsatisfactory conditions have been corrected.
- C. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with maintenance periods to provide required maintenance from date of Substantial Completion.
1. Spring Planting: March 15 – June 15.
  2. Fall Planting: September 15 – December 15.
- D. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained.

#### 1.8 WARRANTY

- A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents. **Watering does not include reforestation and protected open space.**

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- B. Special Warranty: Installer agrees to repair or replace plantings and accessories that fail in materials, workmanship, or growth within specified warranty period:
1. Warranty Period for Trees and Shrubs: One year from date of ~~Substantial-Final~~ Completion.
  2. Warranty Period for ~~Vines and~~ Groundcovers, Grasses and Perennials: One year from date of ~~Substantial-Final~~ Completion.
- C. When the work is accepted in parts, the warranty periods shall extend from each of the partial acceptances to the terminal date of the last warranty period. Thus, all warranty periods for each class of warranty, shall terminate at one time. An agreement by the owner that the overall project is at substantial completion, does not begin the plant warranty period if all plants have not been accepted.
- D. Plants shall be healthy, free of pests and disease, and in flourishing condition at the end of the warranty period. Plants shall be free of dead and dying branches and branch tips, and shall bear foliage of normal density, size, and color for the species.
- E. Plants that are dead, diseased, insect infested, or not in a vigorous, thriving condition, as determined by the Landscape Architect during or at the end of the warranty period, shall be deemed defective. Plants that have had more than 25% of their branches die or removed shall be replaced. Plants that have had a major branch or side of the plant removed such that current or future aesthetic appeal or structural integrity of the plant, as determined by the Landscape Architect, is diminished shall be considered defective. Plant material determined to be defective shall be replaced without cost to the Owner.
1. Remove defective or dead plants immediately. Replace as soon as weather conditions permit and within one of the specified planting periods.
- F. The Contractor is exempt from replacing plants, after ~~Substantial-Final~~ and during the warranty period, that are removed by others, lost or damaged due to ~~occupancy inappropriate use~~ of project in any part, lost or damaged by a third party, vandalism, or any natural disaster.
- G. Replacements shall closely match adjacent specimens of the same species. Replacements shall be subject to all requirements stated in this specification. Make all necessary repairs due to plant replacements. Such repairs shall be done at no extra cost to the Owner.
- H. The warranty of all replacement plants shall extend for an additional one-year period from the date of their acceptance after replacement. In the event that a replacement plant is not acceptable during or at the end of the extended warranty period, the Owner may elect one more replacement item or credit for each item. ~~These replacement items are not protected under a warranty period.~~
- I. At the end of the warranty period, and no less than five days prior to ~~final completion, inspection, tree ties and guying shall be removed from the site. All,~~ all trees that have leaned shall be straightened
- 1.9 MAINTENANCE
- A. ~~General: During maintenance period,~~ Contractor shall be responsible for maintaining plantings by pruning, cultivating, watering, weeding, fertilizing, resetting plants to proper elevations or vertical position, and performing other operations as required to establish healthy, viable

plantings. Utilize an Integrated Pest Management (IPM) plan using organic methods to the greatest extent possible to keep plants free of harmful insects and disease. Begin maintenance immediately after plants are installed and continue until plantings are acceptably healthy and well established but for not less than the following maintenance period.

B. Trees and Shrubs:

1. Maintenance Period: 12 months from date of ~~Substantial-Final~~ Completion.
- ~~2. — Remove tree guys and stakes no later than 12 months from date of Substantial Completion.~~

C. Perennials:

1. Maintenance Period: 12 months from date of ~~Substantial-Final~~ Completion.

## PART 2 - PRODUCTS

### 2.1 EXTERIOR PLANTS

- A. Contractor shall select plants only from nurseries that have been inspected by state or federal agencies and shall have been grown in USDA Plant Hardiness Zones 4, 5, 6, or 7, and in one of the following states: Maryland, Virginia, Delaware, New Jersey, North Carolina or Pennsylvania.
- B. Tree and Shrub Material: Furnish nursery-grown trees and shrubs complying with ANSI Z60.1, with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock free of disease, insects, eggs, larvae, and defects such as knots, sunscald, injuries, abrasions, and disfigurement.
1. Provide Balled and Burlapped, bare root or container-grown trees and shrubs, as indicated on the Drawings.
  2. Balled and Burlapped plants shall be dug with firm root balls of earth and free of noxious weeds. There shall be no extra soil on top of the root ball or around the trunk. Balled and Burlapped trees shall be securely held in place by untreated burlap and stout rope. Nylon rope is NOT acceptable. Loose, broken or manufactured balls are unacceptable.
  3. Ball sizes shall be in accordance with current ANSI standards.
  4. In size-grading B&B single stem trees, caliper shall take precedence over height. For multiple-trunk trees, height measurement shall take precedence over caliper.
  5. Trees over 1” in caliper shall have a strong central leader (free and clear of branches or splits in the trunk) from the top of the root ball to a height of at least 6’-6”. Only minimal bends in the trunk shall be acceptable. Co-dominant stems and V-crotches shall be cause for rejection.
  6. The root system of container-grown plants shall be well developed and well distributed throughout the container.
  7. All container-grown trees and shrubs that have circling and matted roots shall be rejected.
  8. Perennials: Provide healthy, container grown plants with well-developed, fibrous root systems from a commercial nursery, of species, variety and size shown in the drawings. All container-grown plants shall be healthy, vigorous, well rooted and established in the container in which they are growing. A container-grown plant shall have a well-established root system reaching the sides of the container to maintain a firm root ball and shall not have excessive root growth outside the container.



- C. Bulbs: Provide top size bulbs as indicated on plan in accordance with most current version of ANSI Z60.1 specification.
- D. Field grown trees and shrubs shall be grown in soils of the Piedmont region, or west of that region in the above approved states and zones.
- E. All plant materials shall be labeled by grower to identify genus, species, and cultivar, if applicable, in accordance with Section 1.4 Quality Assurance above.
- F. Bare root plant materials: Bare root plants shall be dug with adequate fibrous roots. Do not root prune. Roots shall be protected during handling and planting to guard against drying out and damage.
- G. Deep plug plant materials: Deep plug plants shall not be dormant at the time of planting and shall display a healthy, vigorous root system and viable top growth, unless otherwise approved by the Project Officer, as authorized by the Landscape Architect and the Urban Forester. Deep plug plants shall have a minimum root volume of 10 in<sup>3</sup> and a minimum rooting depth of four (4) inches.
- H. Plant Materials for ecologically sensitive areas: Plant materials identified on planting plan as being located within an Arlington County Natural Resource Conservation Area (NCRA) shall be native species of local provenance.
- I. Plant stock shall originate from a location within 150 miles of Arlington County.

## 2.2 OTHER MATERIALS

- A. Refer to Section 329200 Seeding and Sodding for specifications for seeding, specialty seeding, sodding, and soil stabilization/erosion control fabric.
- B. Refer to Section 329100 Planting Preparation for specifications for soils, mulch, soil amendments and other items related to planting preparation.

## PART 3 - EXECUTION

### 3.1 EXTERIOR PLANTING

- A. Contractor shall install plant materials in accordance with the current Arlington County Standard Planting Details as published on the Arlington County website and as specified below.
- B. Refer to Section 329100 Planting Preparation for specifications on soil amendments.
- C. Bed Establishment:
  - 1. Planting beds shall be established in accordance with Specification 329100 Planting Preparation.
  - 2. Lawns, trees and shrubs shall be installed between 10/01 through 06/01. If a project completion is outside of this planting period, contact the Arlington County Urban Forester to obtain a deferral or approval for planting out of season.

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- D. Landscape Plantings (Trees, Shrubs, Ground Covers, **Bulbs, Grasses** and Perennials)
1. Contractor shall install plantings in accordance with Arlington County DPR standard details available at <https://parks.arlingtonva.us/design-standards/>. Refer to plans for appropriate planting details.
  2. Handling: Prepare pit and/or planting bed per Section 329100 Planting Preparation. Place plant in pit by carrying by the root ball (not by branches or trunk) and plant per ANSI Standards. Make sure the plant remains plumb during the backfilling procedure.
- E. Tree and Shrub Pruning: Contractor shall conform to the most current version of ANSI A-300 Tree Pruning Standards. Do not cut tree leaders; remove only injured or dead branches from trees and shrubs, or those that pose a hazard to pedestrians. Make all cuts back to a lateral branch or bud. Cuts should be perpendicular above branch collar. Final pruning shall be done after the tree is in place. Do not prune into old wood on evergreens.
- F. Plant Protection: Contractor shall protect exterior plants from damage due to landscape operations, operations by other contractors and trades, and others. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged exterior planting. Injured roots shall be pruned per most current ANSI 300 specifications.
1. Protect shrubs, groundcovers and perennials from hot sun and wind; remove protection if plants show evidence of recovery from transplanting shock.
  2. Contractor shall remove all tags, labels, strings and wire from the plants, unless otherwise directed.
  3. Contractor shall remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of them off Arlington County property.
  4. Refer to Section 3.4 Water Requirements.

### ~~3.2 STAKING & GUYING TREES~~

- ~~A. Contractor shall stake and guy trees only if required by Urban Forester.~~
- ~~B. If staking and guying is required, the Contractor shall provide and install stakes and guying in accordance with DPR standard staking details for deciduous and evergreen trees.~~

### 3.3 WORKMANSHIP

- A. Protect bark, branches, and root systems from sunscald, drying, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of exterior plants during delivery. Do not drop exterior plants during delivery. Plants shall not be bound with wire or rope at any time so as to damage the bark or break branches. Plants shall be handled from the bottom of the root ball only.
- B. All plants in transit shall be tarped or covered and shall be kept from drying out. Desiccation damage shall be cause for rejection. Plants damaged in handling or transportation may be rejected by the Project Officer as authorized by the Landscape Architect and the Urban Forester. Any tree or shrub found to have wounds over 12.5% of the circumference of any limb or trunk, or over 1 inch in any direction, whichever is smaller, shall be rejected.

- C. Deliver exterior plants after preparations for planting have been completed and install immediately. If planting is delayed more than six hours after delivery, set exterior plants trees in shade, protect from weather and mechanical damage, and keep roots moist. Plants shall not remain unplanted for longer than a three-day period after delivery. Any plants not installed during this time period shall be rejected, unless Project Officer and contractor provide otherwise by written agreement. All plants kept on site for any period of time shall be secured, watered and cared for using ANSI A300 standards.
- D. Plants shall be installed immediately following excavation of the hole. No holes shall remain open overnight. The Contractor shall cover and barricade any open holes to effectively prevent any danger of injury to pedestrians.
- E. During delivery and installation, the landscape contractor shall perform in a professional manner, coordinating his/her activities so as not to interfere with the work of other trades, and leaving his/her work area(s) clean of litter and debris at the close of each workday.
- F. During planting, all areas shall be kept neat and clean, and precautions shall be taken to avoid damage to existing plants, trees, turf and structures. Where existing trees are to be preserved, additional precautions shall be taken to avoid unnecessary accumulation of excavated materials, soil compaction, or root damage. The Contractor shall cover sidewalks or pavers with plywood, and cover turf with plywood, burlap or tarp during excavation.
- G. Any damaged areas caused by the Contractor shall be restored to their original condition at no cost to the County. All debris and waste material, including small stones and clumps of clay or dirt exceeding 1” by 1” in any direction, resulting from planting operations shall be removed from the project, legally disposed, and the area cleaned up by the Contractor.
- H. Plants with soil covering the root flare, if not removed by Contractor, shall be rejected by Project Officer as authorized by the Landscape Architect and the Urban Forester.
- I. Contractor shall take full responsibility for any cost incurred due to damage of utilities by their operations.
- J. The Contractor shall not be held responsible for uncommon concealed conditions such as concrete/asphalt/stone spoils encountered in excavation work which are not apparent at the time of bidding. Rocks, tree roots and hard clay are common elements of “urban” soils and shall frequently be encountered in the execution of the contract.
- K. No plants shall be planted in locations where drainage may, in the opinion of the Contractor, be unacceptable. Such situations shall be brought to the attention of the Project Officer before work continues and, if approved by the Project Officer as authorized by the Landscape Architect and Urban Forester, the plants shall be relocated or the contract shall be modified to allow for drainage correction at a negotiated cost. Any such modification shall be in writing and signed by both parties.
- L. The Contractor shall layout plants according to the project landscape plan. The Project Officer shall approve the layout as authorized by the Landscape Architect and Urban Forester prior to plant installation. Plants installed without layout approval from the Project Officer as authorized by Landscape Architect and Urban Forester are subject to removal and replanting by the Contractor at no additional cost to Arlington County.

### 3.4 WATER REQUIREMENTS

- A. Initial Waterings: The Contractor shall supply water for all plantings and shall water all plants at time of installation and 48 hours after installation, even if it is raining. Contractor shall then water plantings at least twice per week at amounts specified below until Final Acceptance of work unless specified otherwise in the contract documents.
- B. Each watering shall consist of:
  - 1. 20 gallons of water per individual tree, and
  - 2. 4 gallons of water per individual shrub or plant of 5 gal size, and
  - 3. 2 gallons per individual plant of 3 gallon size, and
  - 4. 2 gallons of water per square yard of perennial bed of smaller sized plants
  - 5. 1 gallon of water per 2 square yards of seed or sod

### 3.5 FINAL INSPECTION

- A. Contractor shall schedule the final inspection with the Project Officer as authorized by the Landscape Architect and the Urban Forester.
  - 1. Contractor shall provide Project Officer with a minimum of 72 hours notification. to arrange final inspection meeting with the Landscape Architect and Urban Forester.
  - 2. Contractor shall conduct the final inspection of the landscape materials no less than three months after the installation of the plants or substantial completion of construction work, whichever comes last, and in the presence of the Project Officer, the Landscape Architect and Urban Forester.
  - 3. The landscaping inspection shall review all landscape work under the contract.
  - 4. All plants shall be alive and in good health at the time of final inspection.
  - 5. Any plant material that is 25% dead or more shall be considered dead and shall be replaced at no charge to the County. A tree shall be considered dead when the main leader has died back, or 25% of the crown is dead.
  - 6. It shall be the Contractor's responsibility to provide in writing the results of the final inspection. The Project Officer shall provide agreement with the written results prior to acceptance.
  - 7. The Contractor shall make replacements during the next planting period unless the County specifies an earlier date.
  - 8. Contractor is responsible for maintenance and watering of replacement material per Section 3.4 after planting and until the replacement plantings are finally accepted by Project Officer.
  - 9. A replacement plant shall be of the same size as the original plant with no additional soil additives to be used.
  - 10. The Contractor shall not be responsible for plants that have been damaged by vandalism, fire, removal or other activities beyond the control of the Contractor.

### 3.6 MAINTENANCE

- A. Trees, Shrubs, Perennials, Bulbs & Groundcovers: Contractor shall maintain plantings at his/her own expense until final acceptance of the plantings per Section 1.7.
- B. Maintenance shall include pruning, mulching, cultivating, watering, weeding, tightening and repairing stakes and guy supports, and resetting to proper grades or vertical position, as required

to establish healthy, viable plantings. For natural areas, maintenance shall be limited to pruning, watering, resetting to proper grades or vertical position, and invasive plant control.

- C. Pruning: Remove all sucker growth, dead or broken branches at initial planting and as needed during the warranty period. Pruning shall conform to ANSI-300 Tree Pruning Standards.
- D. Fertilizing: No plants shall be fertilized without prior approval of Project Officer for approval as authorized by the Landscape Architect and the Urban Forester.
- E. Mulching: Contractor shall re-mulch areas to a depth of two to three inches prior to final acceptance if the time between planting and final acceptance extends beyond six months. Mulch shall be of the same quality as mulch provided at the time of planting. Keep mulch six inches away from trunks of trees and shrubs.
- F. Weeding: Contractor shall perform weeding until final acceptance to keep the planting area as free of weeds as possible. A minimum of one weeding per month from April through October is required if time between planting and final acceptance extends through any months of the growing season.
- G. Stakes and Guy Supports: If installed, Contractor shall monitor and adjust all stakes and guy supports until final acceptance.
- H. Invasive Plant Control: Contractor shall inspect the planting area monthly for invasive plants and control plants using manual methods as needed to maintain healthy and viable plantings. Use of chemical control methods may occur with the approval of the Project Officer for approval as authorized by the Landscape Architect and the Urban Forester.

#### PART 4 - MEASUREMENT

- 4.1 The measurement of TREE, SHRUB, GRASSES/PERENNIALS AND BULBS to be paid for under this item shall be the number of EACH type of furnished and installed plant in accordance with the approved plans and specifications shall include the cost of all labor, materials, and other expenses necessary to complete the work, including but not limited to required waterings (at time of planting and second watering for each plant 48 hours after installation), and maintenance and watering necessary to keep plants healthy until final acceptance as described herein, in accordance with the approved plans and specifications.
- 4.2 The measurement of MEADOW to be paid for under this item shall be the number of SQUARE YARDS type of furnished and installed plant in accordance with the approved plans and specifications shall include the cost of all labor, materials, and other expenses necessary to complete the work, including but not limited to required waterings (at time of planting and second watering for each plant 48 hours after installation), and maintenance and watering necessary to keep plants healthy until final acceptance as described herein, in accordance with the approved plans and specifications.

Does not include excavation.

END OF SECTION 329300