



**CITY OF DANBURY**  
155 DEER HILL AVENUE  
DANBURY, CONNECTICUT 06810

CHARLES J. VOLPE, JR  
PURCHASING AGENT

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March 18, 2015

**ADDENDUM #4**

**To**

**Bid #01-14-15-05 "Westside Middle School Academy Multipurpose Field Project"**

This addendum shall be part of the Purchasing documents for the above captioned Bid. This addendum is to be acknowledged by the bidder by signing as provided below and returning with the bidder's proposal.

**SEE ATTACHED:** ADDENDUM NO 4, DATED MARCH 18, 2015, 16-PAGES

**BID DUE DATE:** Has been changed to – Monday, March 23, 2015, 10:00 AM

Receipt of the addendum is hereby acknowledged.

Bidder \_\_\_\_\_  
Signature \_\_\_\_\_  
Title \_\_\_\_\_  
Date \_\_\_\_\_

Charles J. Volpe, Jr.  
Purchasing Agent  
City of Danbury

March 18, 2015

TO: Prospective Bidders

FROM: JJA Sports

Danbury Westside Middle School Academy  
Multipurpose Field  
Bid No. 01-14-15-05  
Project No. 14-28  
City of Danbury  
Public Works Department

This Addendum forms part and modifies request for Request for Proposal Documents dated February 15, 2015 including this Addendum No. 4 dated March 18, 2015. Acknowledge receipt of this Addendum by indicating receipt on the Bid Form under the Addendum Section.

Where any original item called for in the Project Manual or indicated on the Drawings is supplemented hereby, the supplemental requirements shall be considered as added thereto.

Where any original item is amended, voided, or superseded hereby, the other provisions of such items not specifically amended, voided or superseded shall remain in full effect.

### **Invitation for Bids**

1. Invitation to Bid: The Bid date is extended as follows:

Sealed Bids for Bid No. 01-14-15-05, Project No. 14-28,  
"WESTSIDE MIDDLE SCHOOL ACADEMY MULTIPURPOSE FIELD PROJECT",  
Danbury, CT, will be received at Danbury City Hall, Purchasing Agent's office, 155 Deer Hill  
Ave., Danbury, CT 06810 until **10:00 A.M., on March 23, 2015.**

2. The Bid date is extended as follows:

**RECEIPT AND OPENING OF BIDS.** The City of Danbury, Connecticut, herein called the "City", invites bids on the forms attached hereto. All blanks on these forms must be appropriately filled in as required. Bids will be received at the office of the Purchasing Agent, 155 Deer Hill Avenue, Danbury, Connecticut, until 10:00 A.M. on **March 23, 2015** at which time they will be publicly opened and read aloud.

### **Bid Conditions Division 01**

1. Information for Bidders: The Bid date is extended as follows:

**RECEIPT AND OPENING OF BIDS.** The City of Danbury, Connecticut, herein called the "City", invites bids on the forms attached hereto. All blanks on these forms must be appropriately filled in as required. Bids will be received at the office of the Purchasing Agent, 155 Deer Hill Avenue, Danbury, Connecticut, until 10:00 A.M. on **March 23, 2015** at which time they will be publicly opened and read aloud.

2. Section 01 11 00 Summary of Work:

Section 01 11 00 Summary of Work, 1.09 is revised to add subpart B as follows:

“B. The Contractor shall include in the Contract Sum the following Allowance:

1. Allowance No 1: Naming Sign. The Contractor shall include the amount of \$2,000 for providing all materials, labor and installation for the Naming Sign. The sign shall be 24” by 48” painted 1” thick MDO plywood attached to 4x4 pressure treated posts. The posts shall be set in 48” deep by 12” diameter concrete footings with at least 3’ of embedment. The posts shall be primed and painted with two coats of finish paint. The sign board shall be primed and painted with two coats of finish paint plus the painted text using a font to be determined. The top of the sign shall be 96” above grade.” Final Design shall be determined by the Owner.

### **Technical**

1. Section 32 94 00 Planting is added and attached to this document.

### **Drawings**

1. Planting Plan P-1 is amended to include the following Planting Table:

Botanical Name	Common Name	Size	Remarks	Mature Size
Fraxinus pennsylvanica 'Cimmzam	Cimmaron Red Ash	3 – 3 ½” Cal	B&B	(60’ H x 40’W)

**PART I - GENERAL****1.01 RELATED DOCUMENTS**

- A. All of the Contract Documents, including the Contract Form, General Provisions, General Conditions, Supplemental Conditions, and all Attachments to the General Provisions, and Division 1 - General Requirements, apply to the work of this Section.
- B. Examine all Contract Documents and all other Sections of the Specifications for requirements therein affecting the work of this trade.

**1.02 REQUIREMENTS INCLUDED**

- A. The work of this Section consists of providing all labor, equipment, materials, incidental work, and construction methods necessary to perform all planting work and related items as indicated on the Drawings and as specified.
- B. The work shall include, but is not limited to, the following:
  - 1. Planting trees and shrubs.
  - 2. Staking, guying, mulching, and anchoring trees.
  - 3. Planting maintenance.
  - 4. One year guarantee period for all plants.
  - 5. Providing and placing backfill mix.

**1.03 RELATED WORK UNDER OTHER SECTIONS**

- A. The following items of related work are specified and included in other Sections of the Specifications:
  - 1. Section 02200, SITE PREPARATION.
  - 2. Section 02300, EARTHWORK.
  - 3. Section 32 91 10, PLANTING SOILS.
  - 4. Section 32 91 20, SEEDED LAWNS.

**1.04 REFERENCES**

- A. The following standards shall apply to the work of this Section.
  - 1. Hortus III, 1976, L. H. Bailey Hortorium.
  - 2. Tree and Shrub Transplanting Manual, E.B. Himelick, 1991, International Society of Arboriculture.
  - 3. American National Standards Institute (ANSI):
    - Z60.1 American Standard for Nursery Stock,, latest edition, published by American Association of Nurserymen, (AAN).

**1.05 SUBMITTALS**

- A. At least 90 days prior to the first day of the planting season described in this Section 32

94 00 - Planting, submit to the Owner's Representative proof of certification of Foreman or Crew Leader as Connecticut Certified Landscape Professional or Connecticut Certified Horticulturist in accordance with Quality Assurance paragraph of this Section.

- B. Submit proof of landscape contractor's experience to the Owner's Representative in accordance with Quality Assurance paragraph of this Section 32 94 00 - Planting.
- C. At least 30 days prior to ordering materials, the Contractor shall submit to the Owner's Representative representative samples, certifications, manufacturer's product data and certified test results for materials as specified below. No materials shall be ordered or delivered until the required submittals have been reviewed and approved by the Owner's Representative. Delivered materials shall closely match the approved samples. Approval shall not constitute final acceptance. The Owner's Representative reserves the right to reject, on or after delivery, any material which does not meet these Specifications.
- D. Material Sampling and Testing:
  - 1. Material Sampling and Testing of Loam Borrow from Off-Site Sources shall be as specified in Section 32 91 10 - Planting Soils, of this Specification. Testing of the off-site loam borrow shall occur in place after the loam has been spread and represents a second testing of the off-site loam borrow. The first sampling and testing shall have occurred prior to delivery of the loam as specified in Section 32 91 10 - Planting Soils, of this Specification. Additional sampling and testing of delivered and stockpiled loam or delivered and spread loam to verify that it meets the test results submitted for approval under the Section 32 91 10 - Planting Soils, shall not be supersede by the language of this Section 32 94 00 - Planting.
  - 2. Planting Mulch: Submit a one cubic foot sample.
  - 3. Antidesiccant: Submit manufacturer's product data.
  - 4. Peat: Submit a one cubic foot sample and manufacturer's certification of contents.
  - 5. Mycorrhizal Fungal Inoculant:
    - a. Submit manufacturer's product data certifying that inoculant being supplied conforms to these Specifications.
    - b. Submit the purchasing receipt showing the total quantity purchased for the Project prior to installation.
    - c. Submit empty packets of fungal spore inoculant to the Owner's Representative for verification of use.
  - 6. Tree Staking System: Submit manufacturer's product data of system.
  - 7. Soil Additives: Submit manufacturer's product data for all soil additives needed to amend a specific soil in order to meet the requirements of this Section 32 94 00 - Planting.

**1.06 EXAMINATION OF CONDITIONS**

- A. All areas to be planted shall be inspected by the Contractor before starting work and any defects such as incorrect grading or inadequate drainage shall be reported to the Owner's Representative prior to beginning this work.
- B. The Contractor shall be solely responsible for judging the full extent of work requirements involved, including but not limited to the potential need for storing and maintaining plants temporarily and/or rehandling plants prior to final installation.
- C. All plants are the full responsibility of the Contractor between the time of digging at the nursery and final acceptance.

**1.07 QUALITY ASSURANCE**

- A. Qualification of landscape Contractor: The work of this Section 32 94 00 - Planting, shall be performed by a landscape contracting firm which has successfully installed work of a similar quality, schedule requirement, and construction detailing with a minimum of five years experience. Proof of this experience shall be submitted per Submittals paragraph of this Section 32 94 00 - Planting.
- B. Qualification of Foreman or Crew Leader: All work of unloading, stockpiling, storing, transporting on-site - Planting, staking and guying, fertilizing, and maintenance of trees, shrubs, vines, groundcover, and perennials shall be supervised by a foreman or crew leader who is a certified landscape professional or a certified horticulturist.
  - 1. Landscape professional shall be a Connecticut Certified Landscape Professional certified by the Associated Landscape Contractors of Connecticut.
  - 2. Horticulturist shall be a Connecticut Certified Horticulturist as certified by the Connecticut Nursery and Landscape Association.
  - 3. Certification shall be current. Proof of certification shall be submitted per Submittals paragraph of this Section 32 94 00 - Planting.
- C. The ratio of laborers to certified landscape professionals or certified horticulturist shall not exceed twelve to one. Certified Landscape Professional or Certified Horticulturist shall be on the project site throughout the day to day performance of the work described in this Section 32 94 00 - Planting.
- D. Qualification of Arborist: All work of pruning shall be performed by an arborist certified by the Connecticut Arborist Association or the International Society of Arboriculture.
- E. The Contractor shall include a 90-day Monitoring Period. In addition the Contractor shall include a monthly inspection each month after the 90-day Monitoring Period.
- F. The plantings shall include a one-year warranty period.

**PART 2 - PRODUCTS****2.01 LOAM BORROW**

- A. Loam borrow for planting shall be as specified in Section 32 91 10 - Planting Soils, of this Specification.

**2.02 SOIL ADDITIVES**

- A. Soil additives shall be as specified in Section 32 91 10 - Planting Soils, of this Specification.

**2.03 GRADES AND STANDARDS OF PLANTS**

- A. The Contractor shall furnish all plants shown on the Contract Documents, as specified, and in quantities listed on the Plant List. No substitutions will be permitted, without written approval by the Owner's Representative. All plants shall be nursery grown unless specifically authorized to be collected as noted on the Plant List.
- B. All plants shall be typical of their species or variety and shall have a normal habit of growth and be legibly tagged with the proper name. Only plant stock grown within Hardiness Zones 1 through 6b, as established by the USDA Plant Hardiness Zone Map, latest edition, will be accepted.
- C. Plants shall be in accordance with ANSI Standards of the American Association of Nurserymen except as noted in this Section - Planting. Botanical plant names shall be in accordance with plant designations included in Hortus III.
- D. If, at any time during the performance of the Contract, any plant shows signs of graft incompatibility, as determined by the Owner's Representative, then the tree and all other similarly grafted plants of the same Genus/Species/Variety shall be rejected and removed from the site. Visual symptoms of graft incompatibility as cause for rejection include:
  - 1. Development of over-growths by rootstock or scion resulting in the development of shoulders or inverted shoulders.
  - 2. Suckering of the rootstock combined with poor growth or dieback of scion.
  - 3. Any mechanical weakness between scion and rootstock.
  - 4. Any marked difference in bark pattern and structure between scion and rootstock.
- E. All deciduous trees shall meet the following standards:
  - 1. Trees shall have a single, straight trunk, well formed, and sturdy. No part of the trunk shall be conspicuously crooked as compared with normal trees of the same variety.
  - 2. Trees with multiple leaders shall conform to all standards noted in this Section 32 94 00 - Planting for single leader trees and shall be accepted only as noted on the

## Plant List.

3. All pruning wounds shall show vigorous bark on all edges at the time of harvest. Trees shall be free from all signs of pest and disease damage. The trunk shall be free from sun scald, frost cracks, and wounds resulting from abrasions, fire, animal damage, or other causes.
4. Pruning scars within the crown of any tree shall be clean cut and shall leave no protrusion beyond the branch collar.
5. All trees shall have healthy, vigorous leaves or needles of normal size, color, shape, and texture for the particular species and variety.
6. Deciduous shade trees and deciduous flowering trees shall have fall color typical for their species and variety.
7. Unless otherwise indicated on the Plant List, the height and spread of deciduous shade trees shall be the minimum requirements.
8. Take caliper measurements for deciduous trees 6 inches above ground level up to and including 4 inches caliper size and 12 inches above ground for larger sizes.
9. No deciduous tree shall be pruned after the Owner's Representative has tagged the plant in the nursery except as directed by the Owner's Representative.
10. Unless otherwise noted on the Plant List, shade trees for use in paved areas shall have no branches lower than 6.5 feet from finish grade and no higher than 7.5 feet from finish grade.
11. Branching of all deciduous trees shall be best quality representatives of the species, cultivar or variety with lateral branching around the entire trunk to form a symmetrical tree for 80 percent to 100 percent of the tree's outer perimeter. All branches on deciduous trees shall meet the trunk at angles no less than 30 degrees and no greater than 90 degrees from the vertical.

## 2.04 ROOT SYSTEMS FOR ALL PLANTS

- A. Each plant shall have an extensive, symmetrically balanced fibrous root system. Any root ball which shows signs of asymmetry, girdling, injury, or damage to the root system shall be rejected.
- B. Curling or spiraling of the roots along the walls of rigid containers will not be accepted. Curling, spiraling or girdling roots within balled and burlapped material will not be accepted.
- C. All parts of the fibrous root system of all plants shall be moist and fresh with a white color when washed of soil. When the plant is removed from the container, the visible root mass shall be healthy with white root tips. The root systems of all plants shall be free of disease, insect pests, eggs, or larvae.

- D. All trees and all shrubs which are not grown in containers must be moved with the root systems as solid units with balls of earth firmly wrapped with untreated 8 ounce natural, biodegradable fabric burlap, firmly laced with stout, natural biodegradable cord or twine. The base of the tree trunks shall be wrapped with a protective burlap layer, surrounded by a cardboard trunk protector, and loosely tied with twine.
- E. The diameter and depth of the balls of earth must encompass the fibrous and root feeding system necessary for the healthy recovery of the plant. Minimum root ball diameters and depths shall be in accordance with ANSI standards.
- F. No plants shall be loose in the container.
- G. Container grown plants which have roots growing out of the container will be rejected.

## 2.05 MYCORRHIZAL FUNGAL INOCULANT

- A. Mycorrhizal fungal inoculant shall be live spores packaged in plastic packets. At minimum each packet of inoculant shall contain the following:
  - 1. Live spores of VA Endomycorrhizal fungi: Vesicular-Arbuscular mycorrhizae fungi, minimum of 8 species.
  - 2. Live spores of Ectomycorrhizal fungi: including *Pisolithus tinctorius*.
- B. Mycorrhizal fungal inoculant shall be manufactured by Plant Health Care Incorporated, 440 William Pitt Way, Pittsburgh, PA 15238, telephone, (800) 421-9051; Horticultural Alliance, 2946 Louise Street, Sarasota, FL 34237, (800) 628-6373; BioPlex Organics, 2213 Huber Drive, Manheim, PA 17545 (800) 441-3573, or approved equal.

## 2.06 PLANTING SOIL MIX

- A. Planting soil mix shall be an approved loam borrow as specified in Section 32 91 10 - Planting Soils, of this Specification and that has been pH adjusted according to particular planting applications and improved through the addition of organic matter as directed below. Planting loam shall conform to the following pH levels:
  - 1. Planting soil mix for general planting of non-acid loving plants shall have a true pH 6.0 to 6.5. Planting soil mix shall be amended by the Contractor at his own expense to the proper pH range by mixing with dolomitic limestone as specified in Section 32 91 10 - Planting Soils, of this Specification.
  - 2. The amount of either sulfur or limestone required to adjust the planting soil mix to the proper pH range shall be approved by the Owners Representative on the basis of soil tests as specified in Section 32 91 10 - Planting Soils, of this Specification.
  - 3. In those areas indicated on the Contract Documents, augment the planting soil mix with 10 percent gypsum. Thoroughly premix gypsum into planting soil mix prior to commencing the planting operations. Gypsum shall be as specified in Section 32 91 10 - Planting Soils, of this Specification.

## 2.07 STAKING, GUYING, AND ANCHORING MATERIALS

- A. Staking and guying materials shall be as indicated on the Drawings.

## 2.08 WEED BARRIER

- A. Weed harrier shall be Mirascape Landscape Fabric as manufactured by Mirafi Corporation, 365 South Holland Drive, Pendegrass, GA, 30567, 888-795-0808, or approved equal. Approved equal must match the characteristics of the specified weed barrier.

## 2.09 MULCH

- A. Bark Mulch: Mulch shall be high quality, double-ground, premium bark mulch of 70 percent hemlock bark with the balance spruce and pine bark. Mulch shall have been aged for a minimum of six months and not longer than two years. Bark mulch shall be shredded to a uniform size; free of dirt, debris and foreign matter; with pieces no thicker than 1/4 in. Mulch must be free of stringy material or chunks over 3 inches in size and shall not contain, in the judgment of the Owner's Representative, an excess of fine particles. Submit sample for the Owner's Representative's approval.

## 2.010 WATER

- A. Contractor shall provide all labor and water required to establish plants. During the maintenance period the Contractor shall water as required to insure that soil moisture is maintained to a depth of six inches or greater at all times.
  - 1. Watering shall be done in a manner that will provide uniform coverage, prevent erosion due to application of excessive quantities over small areas, and prevent damage to the finished surface by the watering equipment. The Contractor shall furnish sufficient watering equipment to maintain required water levels in the soil.

## PART 3- EXECUTION

### 3.01 PLANTING

- A. Furnishing and planting of plant material shall include, but shall not be limited to, the digging of planting pits and plant beds, amendment of loam as required to produce planting soil mix, provision of soil additives required to adjust for pH requirements of specific plants, furnishing the plants as specified as well as the labor of planting, fertilizing, and maintenance.
- B. Prior to spreading of loam, subgrades shall have been tested to determine if they are too compact to drain water as specified in Section 32 91 10 - Planting Soils, of this Specification.
- C. The Contractor shall locate plant material sources and ensure that plants are shipped in timely fashion for installation.

- D. Contractor shall locate all existing underground utilities that are within 10 feet of the proposed planting pits and notify the Owner's Representative of any conflicts prior to digging plant pits.
- E. Seasons for Planting:
1. Deciduous Plants - March 15 to May 15; October 10 to December 15
  2. Evergreen Plants - September 1 to November 15; March 15 to May 15
  3. Trees which are fall planting hazards shall be coordinated with the other work of the project to allow for spring planting of this portion of the planting at no extra cost to the Owner and within the proposed contract time
- F. Plant Material Inspection:
1. At least one month prior to the expected planting date, the Contractor shall request that the Owner's Representative provide a representative to select and tag stock to be planted under this Section 32 94 00 - Planting. The Contractor shall pay for the transportation, subsistence and overnight accommodations, if necessary, for the Owner's Representative's representative during the period of time required to select and tag the plant material.
  2. The Contractor shall be responsible to certify the availability of quality plants in specified sizes from his/her sources of supply prior to requesting that the Owner's Representative make plant source inspections. In the event that plants at the inspection location are found to be unavailable or of insufficient size, the Contractor shall be liable to reimburse the Owner for all costs of the Owner's Representative's hourly services which are incurred during unproductive inspection trips.
  3. Unless specifically designated otherwise, a representative of the Contractor shall accompany the Owner's Representative on all plant material selection field trips.
  4. All trees for the project shall be individually tagged for approval with the Owner's Representative's seals, and no trees shall be accepted for delivery to the site without such seals.
  5. Plants to be inspected shall be in locations and conditions that allow direct and unobscured inspection by the Owner's Representative. Container grown or balled and burlapped shrubs shall be pulled from holding blocks by the nurseryman for scrutiny by the Owner's Representative at no additional cost to the Owner. Harvested trees held in storage shall not have branches tied up. Harvested trees shall not have trunks obscured by burlap, cardboard trunk protection, or other devices that would otherwise obscure inspection. In the event that branches are tied up, trunks are obscured by burlap or cardboard trunk protection, or root flares hidden by burlap and twine and the Owner's Representative cannot inspect root flares, trunks or branching habit, the Contractor shall bear all responsibility and costs associated with tree rejection at a later date during the course of the Contract.
  6. Inspection and approval of plants at the source shall not impair the right of

subsequent inspection and rejection upon delivery to the site, or during the progress of the work if the Owner's Representative finds that plants do not meet the requirements of the Plant List or this Contract, have declined noticeably due to handling abuse, lack of maintenance, or other causes. Cost of replacements, as required, shall be borne by the Contractor.

- G. Placement of loam for planting soil shall be as specified in Section 32 91 10 - Planting Soils, of this Specification. Obtain Owner's Representatives written approval of work of rough grading and finish grading prior to starting the work of planting.
- H. Planting:
1. Notify the Owner's Representative three working days prior to the proposed arrival of plant material on the site. If not planted within 24 hours of delivery to the site, all plants shall be maintained in an on-site nursery. All plants delivered to the site and not planted within 24 hours of delivery shall have their root balls covered with mulch and shall be watered on a daily basis such that root balls are kept moist throughout.
  2. Locations for all plants and outlines for planting areas shall be staked on the ground by the Contractor for approval by the Owner's Representative before any plant pits or plant beds are dug. Notify the Owner's Representative no less than 3 days prior to desired date of inspection of staking to schedule site visit.
  3. Circular plant pits shall not be required provided that the minimum dimension between the edge of the pit and the face of the rootball is not less than required by this Section 32 94 00 - Planting.
  4. All plant pits dug with a machine shall have the sides of the holes scraped with hand shovels to prevent glazing on compaction of the sides of the hole. Remove and stockpile excavated loam for reuse as backfill for plant pit. All subsoil excavated from the bottoms of planting pits shall be removed from the site.
  5. All plant pits shall be hand dug. Remove and stockpile excavated loam for reuse as backfill for plant pit. All subsoil excavated from the bottoms of planting pits shall be removed from the site.
  6. Plant pits shall be dug to the dimensions shown on the Contract Documents.
    - a. Plant pits for trees shall be a minimum three times greater in diameter than the diameter of the root ball. Place rootball directly on subgrade. Slope sides of tree pits at a 45 degree angle.
    - b. Remove all soil from around the root flare of the stem of the plant and from the top of the rootball to determine the true depth of the rootball. All plants that have been planted and have root flares that are buried will be rejected.
  7. All plant roots and earthballs must be damp and thoroughly protected from sun and wind from the beginning of the digging operation, during transportation, and

- at the site until the final planting.
8. Trees shall be placed in the center of plant pits, plumb, with the crown of their roots exposed and located above the surrounding finish grade.
  9. Prior to completion of planting installations, remove rope and cut wire baskets from the top 1/3 of the root balls. Pull burlap away from the trunk or stem of the plant and cut burlap from the top 1/3 of the root balls.
  10. Planting soil shall be backfilled with approved planting soil to the full depth of the planting pit. Eliminate air pockets and compact the soil by flooding the tree pit within 2 hours of planting installation. After water has drained from the planting pit and planting backfill has dried enough additional planting soil shall be spread in pit or bed to bring the finished surface of the planting pit or bed to grades shown on the Contract Documents. A saucer shall be formed around each plant at a depth of 3 inches for trees.
  11. Fertilizer shall be spread over the plant saucer or plant bed between the saucer and the edge of the rootball. Till the fertilizer into the soil to a depth of four inches prior to the placement of the planting mulch. Fertilizer shall be as specified in Section 32 91 10 - Planting Soils, of this Specification. Do not mulch until placement of the fertilizer has been verified by the Owner's Representative. Fertilizer application rates shall be as determined by soil testing, analysis, and testing laboratory recommendations as specified in Section 32 91 10 - Planting Soils, of this Specification.
  12. All plants shall be inoculated with mycorrhizal fungi. Inoculant shall be added after the plants have been placed in their holes. Open the required number of packets for each plant and thoroughly mix the inoculant powder into the upper 10 inches (250 mm) of backfill soil.
    - a. Mycorrhizal fungal inoculant shall be added to the plant pits according to plant size.
    - b. Submit the purchasing receipt showing the total quantity purchased for the project prior to installation. Submit empty packets of fungal spore inoculant to the Owner's Representative for verification of use. Owner's Representative will excavate tree pits to determine presence of mycorrhizal fungal inoculant.
    - c. The application rates for mycorrhizal fungal packets shall be in accordance with the manufacturers recommendations.
- I. All plants shall be watered immediately following planting as necessary to thoroughly moisten rootball and plant pit loam and thereafter shall be inspected frequently for watering needs and watered, as required, to provide adequate moisture in the planting pit. The Contractor shall inspect tree pits 24 hours after initial watering to confirm that they are draining properly. If surface water or excessively saturated plant pit soils exist the Contractor shall immediately notify the Owner's Representative. The Owner's Representative will recommend remedial measures based upon site conditions.

J. Keeping Trees Plumb:

1. Contractor shall keep trees plumb and upright at all times.
2. Guy and stake trees as indicated on the Drawings.
3. Rake out planting soil around and above rootball to ensure a smooth surface with intact saucer.

K. Weed barrier shall be placed over the entire saucer as indicated on the Drawings and according to manufacturer's recommendations.

L. Mulch material shall be placed over entire saucer areas of individual trees and shrubs and over the entire area of planting beds to a depth of 3 inches after settlement, not later than one week after planting. Do not apply mulch prior to the first watering of plant materials. Do not apply mulch prior to placement of surface applied fertilizer and verification of placement by the Owner's Representative.

M. Pruning:

1. As directed by the Owner's Representative, each plant shall be pruned in accordance with the workmanship requirements of "Pruning Standards" for Class I, fine pruning, to preserve the natural character of the plant.
2. Tree pruning, as required, shall be undertaken to the full height of affected trees.
3. All dead wood or suckers and all broken or badly bruised branches shall be removed. Never cut a leader.
4. If planting is done after lawn preparation or installation, proper protection of lawn areas shall be provided. Any damage resulting from planting operations shall be repaired immediately at no cost to the Owner. Repair work shall be as specified in Section 02945 - Seeded Lawn, of this Specification.

N. In the event that rock or underground construction work or obstructions are encountered in any plant pit or bed excavation work, alternate locations will be selected by the Owner's Representative. Relocation of plant pits or beds shall be provided at no additional cost to the Owner. Provide the Owner's Representative with no less than 48 hours notice of obstruction so that a site visit can be scheduled to establish new locations for plants.

O. Absolutely no debris may be left on the site. Repair any damage to site as directed by the Owner's Representative, at no additional cost.

### 3.02 MAINTENANCE

A. Maintenance shall begin immediately after each plant is planted and shall continue for a minimum 90-day Monitoring Period. During the Monitoring Period the Contractor is responsible for watering, fertilizing, and observing and noting to the Owner the condition of the planting. In addition the Contractor shall check the tree condition each month until the end of the one-year warranty period. Final Acceptance, if acceptable conditions exist,

shall take place at the end of the one-year warranty period.

- B. Maintenance shall consist of keeping the plants in a healthy growing condition and shall include but is not limited to watering, weeding, cultivating, pruning, re-mulching, tightening and repairing of guys, straightening of trees to a plumb position, removal of dead material, resetting plants to proper grades or upright position, and maintaining the planting saucer.

1. Plants shall be inspected for watering needs at least twice each week and watered to promote plant growth and vitality. The following watering rates assume that the soil is free draining. If the on site conditions do not ensure a free draining soil, then notify the Owner's Representative in writing of this condition. Watering rates for trees in free draining soils are presented here as guidelines to ensure that the top six inches of plant bed soil remains moist at all times. Actual watering rates may vary depending upon soil conditions. Guideline rates shall be as follows:

Type of Plant / Size	Weekly Watering Rate
Deciduous Trees	
2 - 2-1/2 inch caliper	61 gallons
2-1/2 - 3 inch caliper	70 gallons
Evergreen Trees	
8 - 10 foot height	55 gallons

- a. Water shall be applied by 1 inch diameter hose with an attached metering gauge.
2. For trees in lawn or mulched beds, apply water to the ground surface directly under the canopy. Water shall be applied at a sufficiently slow rate to prevent run off from the soil surface but great enough to equal 0.2 inches of water per square foot of canopy area per hour for 5 hours per week.
3. Stakes shall be kept plumb and neat in appearance. Guys, wires and anchoring cables shall be tightened and repaired weekly.
4. Planting beds and individual plant pits shall be kept free of weeds, and mulch shall be replaced as required to maintain the specified layer of mulch. Beds and individual pits shall be neat in appearance and maintained to the designed layout.
5. Plants that die during the maintenance period shall be removed and replaced by the Contractor within one week of notification and replaced during that growing season, unless directed otherwise by the Owner's Representative.
6. Spraying of insecticides or herbicides shall be done by State-licensed professionals. Spraying for insects, pests and diseases shall conform to the National Arborist Association Standards under the section entitled "Standards for Pesticide Application Operations", as currently adopted and as approved by the

Owner's Representative. All insecticides, pesticides, and herbicides shall be EPA-approved and shall conform to the requirements MCRG: Connecticut Control Recommendation Guide for Insect, Disease, and Weed Pests of Shade Trees and Woody Ornamentals, latest edition, University of Connecticut, Storrs, College of Food and Natural Resources.

7. Work of pruning, fertilizing, spraying, and similar activities shall be undertaken only by Certified Arborists and licensed chemical applicators, as pertinent to the work being performed.
- C. During the maintenance period, any decline in the condition of plantings shall require the Contractor to take immediate action to identify potential problems and undertake corrective measures. If required, the Contractor shall engage professional arborists and/or horticulturalists to inspect plant materials and to identify problems and recommend corrective procedures. The Owner's Representative shall be immediately advised of such actions. Inspection and recommendation reports shall be submitted to the Owner's Representative.

### 3.03 ACCEPTANCE

- A. Upon completion of all planting work, the Contractor shall request in writing that the Owner's Representative formally inspect the planting work.
- B. If plant materials and workmanship are acceptable, the Owner's Representative will issue a written Certificate of Conditional Acceptance to the Contractor.
- C. Following the issuance of the Certificate of Conditional Acceptance to the Contractor, the Contractor shall maintain the plants for a minimum 90 day Monitoring Period. At the end of the Monitoring Period, the plant material will be inspected by the Owner's Representative to determine whether or not all planting work has been performed to the requirements of this Section 32 94 00 - Planting. In addition the Contractor shall inspect the condition of plantings for each month thereafter until the end of the one-year warranty period. Only after the completion of the one-year period shall the planting, if found to be in acceptable condition, be Accepted buy the Owner.
- D. Acceptance Standards at end of the Monitoring Period: If plant material is reviewed when it is in full leaf, leaves shall be plump with water with a shape indicative of the species and shall be free of insect, pest and disease damage. Twigs shall have living cambium for their full length. Twigs and branches shall have a full bud set for their full length, including terminal buds. Trunks and branches shall be free of frost cracks; sun scald; damage due to insects, pests, and disease; structural defects; and damage resulting from machinery or tools. Plant material inspected and reviewed when the plants are not in full leaf shall have twigs, branches and trunks meeting the above requirements. All plants regardless of the season of review shall have a minimum of 75 percent healthy, balanced branching structure with a healthy terminal leader(s) with viable terminal bud(s).
- E. If any number of plants do not meet these Acceptance Standards at the time of inspection, or if in the Owner's Representative's opinion, workmanship is unacceptable, written notice will be given by the Owner's Representative to the Contractor in the form of a

punch list which itemizes necessary planting replacements and/or other deficiencies to be remedied. The Contractor's responsibility for maintenance of all plants shall be extended until replacements are made or other deficiencies are corrected. All plants that do not meet these Acceptance Standards shall be removed from the project within seven days of receipt of the punch list. Replacements shall conform in all respects to the Specifications for new plants and shall be planted in the same manner.

- F. Following the correction of all Punch List deficiencies, the Contractor shall request in writing that the Owner's Representative formally inspect the planting work. If plant materials and workmanship are acceptable, the Owner's Representative will issue a written Certificate of Final Acceptance to the Contractor.

### 3.04 GUARANTEE

- A. The date of the Certificate of Final Acceptance shall establish the commencement of the required one-year guarantee and establishment period for planting work.
- B. At the end of the guarantee and establishment period, a final inspection will be held to determine whether any plant material replacements are required. Each plant shall be plumb, shall have a character that is natural for its species as determined by the Owners Representative, and shall conform to the Acceptance Standards described in this Section 32 94 00 - Planting. Plants found to be unacceptable shall be removed promptly from the site and replaced according to this Section 32 94 00 - Planting. A final inspection will be made after the replacement plants have lived through one year.
- C. All replacements shall be plants of the same kind and size specified in the Plant List. The cost shall be borne by the Contractor, except for possible replacements due to vandalism or neglect on the part of others.

END OF SECTION 32 94 00