# GENERAL

## RELATED DOCUMENTS

### Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### See Section 007300 “Supplementary Conditions”, if included, for requirements relating to interpretation of the drawings and specifications.

#### See Section 012100 “Allowances”, if included, for use of allowances and what may and may not be included in them.

## SUMMARY OF WORK

### Work shall include all labor, materials, and equipment necessary to completely furnish and install the Plant Materials as indicated on the plans and as herein specified.

### The section includes the following:

### Plant Materials as indicated on drawings

### Related Sections: The following Sections contain requirements that relate to this Section:

#### Division 31 Section “Earthwork” for excavation, filling, and grading.

#### Division 31 Section “Erosion and Sediment Control Systems” for erosion control materials

#### Division 31 Section “Site Clearing” for topsoil stripping and stockpiling

#### Division 31 Section “Finish Grading” for finish grade requirements

#### Division 32 Section “Underground Irrigation System”

#### Division 32 Section “Turf and Grasses”.

### Nomenclature used conforms to the standard nomenclature as published in Hortus III, 1976. Names of varieties not listed conform generally with names accepted by the nursery trade.

## SUBMITTALS

### Product Data: For each type of product indicated

### Plant Materials: Include quantities, sizes, quality, and sources for plant material

### List of Sources: Submit a written list of the nurseries where the plant material was grown. Plant materials from unapproved sources will be rejected.

### Pesticides and Herbicides: Include product label and manufacturer’s application instruction specific to the Project

### Samples for Verification: For each of the following

### Trees and Shrubs: Samples of each variety and size delivered to the site for review

### Mulch: 1-pint volume of each organic mulch required; in sealed plastic bags labeled with composition of materials by percentage of weight and source of mulch. Sample shall be typical of the lot of material to be delivered and installed on the site; provide an accurate indication of color, texture and organic makeup.

### Qualification Data: For qualified landscape installer. Included list of similar projects completed by Installer demonstrating Installer’s capabilities and experience. Include project names, address, and year completed, and include name and addresses of owners’ contact persons.

### Provide copy of Professional Landcare Network or the American Nursery and Landscape Association membership.

### Certificate of Inspection: Submit certificates of inspection as required by governmental authorities.

### Maintenance Instructions: Recommended procedures to be established by Owner for maintenance of plants during a calendar year. Submit before start of required maintenance periods.

### Maintenance Inspection Reports: Provide dates and location of plant material replaced during the special project warranty.

## QUALITY ASSURANCE

## Installer Qualifications: A qualified landscape Installer whose work has resulted in successful establishment of plants

## Professional Membership: Installer shall be a member in good standing of either the Professional Landcare Network or the American Nursery and Landscape Association

## Experience: 5 years’ minimum experience in landscape installation.

## Installer’s Field Supervision: Require Installer to maintain an experienced full-term supervisor on Project site when work is in progress

## Pesticide Applicator: State licensed, commercial

## Plant Material Observation: UNL Campus Landscape Architect may observe plant material either at place of growth or at site before planting for compliance with requirements for genus, species, variety, cultivar, size, and quality. UNL Campus Landscape Architect retains right to observe trees and shrubs further for size and condition of balls and root systems, pests, disease symptoms, injuries, and latent defects and to reject unsatisfactory or defective material at any time during progress of work. Remove rejected trees or shrubs immediately from project site

## Notify UNL Campus Landscape Architect of sources of planting materials 7 days in advance of delivery to site

## Provide quality, size, genus, species, and variety of plants indicated, complying with applicable requirements in ANSI Z60.1.

## Measurements: Measure according to ANSI Z60.1. Do not prune to obtain required sizes.

## Deciduous 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 trees.

## Evergreen Trees: Height measurement shall not be taken at the tip of the leader, but should be taken at the midpoint between the uppermost whorl(s) and the tip of the leader.

## Other Plants: Measure with stems, petioles, and foliage in their normal position.

* + 1. Pre-installation Conference: Before installing the plant materials, conduct conference atproject site with Landscape Architect, UNL Campus Landscape Architect, UNL Landscape Services and UNL Project Manager. Notify participants at least 2 working days in advance of meeting.
		2. Post-installation Conference: After installing the plant materials, conduct a conference at project site with Landscape Architect, UNL Campus Landscape Architect, UNL Landscape Services and UNL Project Manage for acceptance of work by the owner.

## DELIVERY, STORAGE AND HANDLING

### Packaged Materials: Deliver packaged materials in containers showing weight, analysis and name of manufacturer. Protect materials from deterioration during delivery and while stored at site. All plants shall be packed in such a manner as to assure proper protection against freezing, drying, breaking, overheating or other injury. Use accepted practices to insure arrival in good condition.

### Bulk Materials:

### Do not dump or store bulk materials near structures, utilities, walkways and pavements including pervious concrete unit pavement, or on existing turf areas or plants.

### Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge or soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.

### Accompany each delivery of bulk fertilizers and soil amendments with appropriate certificates.

### Do not prune trees and shrubs before delivery. Protect bark, branches, and root systems from sun scald, drying, wind burn, 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 plants during shipping and delivery. Do not drop plants during delivery and handling.

### Handle planting stock by root ball.

### Deliver trees and shrubs after preparations for planting have been completed. Plant immediately. If planting is delayed more than 6 hours after delivery, set trees and shrubs in shade, protect from damage, and keep roots moist by covering with mulch, burlap or other acceptable means of retaining moisture.

### Set balled stock on ground and cover ball with soil, peat moss or other acceptable material.

### Do not remove container-grown stock from container before time of planting.

### Water root systems of plants stored on-site deeply and thoroughly with a fine-mist spray. Water as often as necessary to maintain root systems in a moist, but not overly-wet condition.

## PROJECT CONDITIONS

### Proceed with and complete landscape work as rapidly as portions of site become available, working within seasonal limitations for each kind of landscape work required.

### Planting Restrictions: Plant materials only during normal planting seasons for each type of landscape work required, except when prior written permission is obtained from the UNL Campus Landscape Architect. Actual planting time shall be as determined by weather conditions and accepted local practice. The optimal planting seasons shall be:

#### Fall Planting Season: From August 15 to September 15 for all coniferous materials and from August 15 to November 15 for all deciduous materials; perennials shall be planted from September 1 to October 1.

#### Spring Planting Season: From March 15 to May 15 for all coniferous materials and from March 1 to June 15 for all deciduous materials; perennials shall be planted from April 15 to May 31.

### Coordination with Lawns and Irrigation Systems: Planting of plant materials shall be after establishment of final grades and prior to planting of lawns and installation of irrigation system, unless otherwise acceptable to UNL Campus Landscape Architect.

#### If planting of plant materials occurs after lawn work, protect lawn areas and irrigation system and promptly repair damage resulting from planting operations.

## SPECIAL PROJECT WARRANTY

### The Contractor shall provide replacement plants for all plant materials which die during the 1 year of establishment following the completion and acceptance of all plantings.

### Failures include, but are not limited to, the following:

### Death or unsatisfactory growth, except for defects resulting from abuse, or material damaged by vandalism or unusual phenomena or incidents beyond the Landscape Installer's control will not be replaced as part of this contract.

### Structural failures including plantings falling from blowing over

### Faulty performance of tree stabilization

### Include the following remedial actions as a minimum:

### Immediately remove dead plants and replace unless required to plant in the succeeding planting season.

### Immediately remove and replace or replant plants that have been improperly installed per Section 3.

### Replace plants that are more then 25 percent dead or in an unhealthy condition at end of warranty period

### Provide extended warranty for period equal to original warranty period, for replaced plant material.

### Establishment Period: will not begin until all of the following items of work have been performed. All plant material shall be in acceptable growing condition when the project enters the establishment period.

### Notify Landscape Architect and UNL Campus Landscape Architect for inspection and acceptance.

### Planting

### Backfilling

### Watering

### Pruning

### Wrapping

### Staking

### Guying

### Mulching

### Completion of the Establishment Period: Landscape Architect and UNL Campus Landscape Architect will make an inspection of the plant material for acceptability. The Contractor will be notified in writing of the quantities of the plant material that shall be replaced in the next planting season.

#### Replacement plants shall be at the Contractor's expense. Plant material damaged by vandalism or unusual phenomena or incidents beyond the Landscape Installer's control will not be replaced as part of this contract.

### The Contractor's responsibility for all spring replacement plants shall extend for 60 days after such time as the last plant to be replaced is properly planted and accepted by the Landscape Architect and UNL Campus Landscape Architect. The Contractor's responsibility for all fall replacement plants shall extend until June 1 of the following year.

### MAINTENANCE SERVICE

### Initial Maintenance Service for Trees, Shrubs, Groundcovers and all other plants: Provide maintenance by skilled employees and landscape installer. Maintain as required in Part 3.

# PRODUCTS

## PLANT MATERIALS

### Provide trees, shrubs, and other plants of size, genus, species, and variety shown and scheduled. Comply with recommendations and requirements of ANSI Z60.1 "American Standard for Nursery Stock," latest edition.

### Provide plant materials grown under climatic conditions similar to conditions in Lincoln, Nebraska (USDA Zone 5, Arnold Arboretum Zone 4) for a minimum of two years.

### Dig balled and burlapped plants with firm, natural balls of earth of sufficient diameter and depth to encompass the fibrous and feeding root system. Provide ball sizes complying with the latest edition of ANSI Z60.1 "American Standard for Nursery Stock." Cracked or mushroomed balls are not acceptable.

### Furnish minimum size indicated. Larger stock must be approved by Campus Landscape Architect. Enlarge root ball in proportion to the size of the plant.

### No pruning wounds shall be present with a diameter of more than 1" and such wounds must show vigorous bark on all edges.

### Deciduous Trees: Provide balled and burlapped (B & B) trees of height and caliper as indicated with branching configuration recommended by ANSI Z60.1 for type and species required. Unless otherwise indicated, provide single stem trees.

### Deciduous Shrubs: Provide balled and burlapped or container grown shrubs of the height indicated and with not less than minimum number of canes required by ANSI Z60.1 for type and height of shrub required. Thin plants will not be accepted. Side branches shall be generous, well-twigged, and the plant as a whole well-bushed to the ground. Plants shall be in a moist, vigorous condition, free from dead wood, bruises, or other injuries.

### Coniferous Evergreens: Provide balled and burlapped (B & B) evergreens of sizes indicated. Dimensions indicate minimum spread and height. Provide normal quality evergreens with well-balanced form, branched to the ground. Shearing evergreens will be cause for rejection.

### Perennials: Provide container grown perennials which exhibit well-developed root systems and healthy, well-developed crowns.

## MISCELLANEOUS PLANTING MATERIALS

### Topsoil for Shrub Planting Areas: Fertile, friable, natural loam, dark in color (often black), free of subsoil, clay lumps, brush, weeds, roots, stumps, stones larger than 1-1/2" in any dimensions, debris, and other extraneous or toxic matter and harmful to plant growth. Topsoil shall be obtained from local sources and exhibit an acidity range (pH) of 7.0 to 8.0. Identify location of source.

### Mulch for Trees, Shrubs and Perennials: Organic mulch, free from wood chips, sawdust and deleterious materials, suitable for top dressing of trees. Mulch shall consist of six-month-old, well-rotted, shredded native hardwood bark mulch not larger than 4" in length and 1/2" in width.

### Anti-Desiccant: Emulsion type, film-forming agent designed to permit transpiration but retard excessive loss of moisture from plants. Deliver in manufacturer's fully identified containers and mix in accordance with manufacturer's instructions.

### Wrapping: Tree wrap shall be designed to prevent bore damage and winter freezing and shall consist of plastic guards.

### Twine: Two-ply jute material.

### Water: Free of substances harmful to plant growth. Hoses shall be furnished by Contractor.

### Stakes: Stakes shall be metal t-posts 5’ height.

### Guying Fabric: Utilized sturdy canvas fabric with metal grommets on each end.

### Guying Wire: 12 gauge galvanized double-twisted wire.

### Edging: If and where indicated on the drawings, provide 3/16” x 4” mil finish continuous aluminum edging equal to Permalock Clean Line Aluminum edging (800) 356-9660.

# EXECUTION

## PREPARATION

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

### Layout individual tree and shrub locations. **Stake locations and secure UNL Campus Landscape Architect’s acceptance before start of planting work.** Make minor adjustments as may be requested.

### Determine location of underground utilities and perform work in a manner which will avoid possible damage. Hand excavate, as required.

### Excavate pits, beds and trenches with vertical sides and with bottom slightly raised at center to provide proper drainage. Loosen hard subsoil in bottom of excavation and scarify sides.

#### For balled and burlapped trees and shrubs, scarify bottom of the excavations to a depth of 4". Make excavations equal to the depth of ball, and diameter at least 12" greater than ball for shrubs and 24" trees.

### When conditions detrimental to plant growth are encountered, such as rubble fill or adverse drainage conditions, notify UNL Campus Landscape Architect. Hand excavate near underground utilities. Maintain grade stakes set by others until removal is agreed upon by all parties concerned.

### Place new topsoil in all planting beds to a depth of 6 inches prior to planting.

## PLANTING TREES AND SHRUBS

### Planting shall be performed only by experienced persons familiar with planting procedures under the supervision of a qualified supervisor.

### Set balled and burlapped stock plumb and in center of pit or trench with top of ball at same elevation as adjacent finished landscape grades. Rotate plants to give the best appearance and relationship to each other or adjacent structures.

### For all plants, completely remove burlap from around rootball. Where wire basket used, cut and remove entire wire basket without disturbing plant roots. Completely remove containers for container grown stock.

### Place additional backfill around base and sides of ball, and work each layer to settle backfill and eliminate voids and air pockets. When excavation is approximately 2/3 full, water thoroughly before placing remainder of backfill. Repeat watering until no more is absorbed. Water again after placing final layer of backfill. .

### Mulch plant beds and around individual trees. Mulch to be 2-3” depth, 3” maximum. Mulch within 24 hours of planting. Thoroughly water mulched areas. After watering, rake mulch to provide a uniform finished surface.

### Root bound container plants, scarify roots on sides and bottom of extracted plant.

#### If deciduous trees or shrubs are moved during full-leaf period, spray with anti-desiccant at nursery prior to moving and again two weeks after planting.

### Unless otherwise directed by UNL Campus Landscape Architect, do not cut tree leaders and remove only injured or dead branches from flowering trees. Prune evergreens only to remove broken or damaged branches.

### Remove and replace excessively pruned or misformed stock resulting from improper pruning.

### Wrap tree trunks of 3/4" caliper and larger with plastic tree guard. Inspect tree trunks for injury, improper pruning and insect infestation and take corrective measures before wrapping. Start at ground and cover trunk to height of first branches and securely attach.

## MAINTENANCE

### Once initial planting has been accepted by UNL Campus Landscape Architect, maintenance of planted materials will be taken over by UNL Landscape Services. This includes weeding, watering, fertilizing and general plant care.

### Contractor is responsible for replacement as detailed in Section 1.7.

## CLEANUP AND PROTECTION

### During landscape work, keep pavements clean and work areas in an orderly condition.

### At completion of establishment period the Contractor shall remove all stakes, guy wires, and guy fabric. All materials to be disposed of off-site.

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