

SPECIFICATIONS

for

TREE PLANTING

TECHNICAL SPECIFICATION
FOR
TREE PLANTING

1.0 GENERAL:

Drawings and general provisions of Contract apply to work of this Specification.

1.02 Description of work.

1.021 The extent of tree planting is indicated on drawings.

1.022 Types of work required include the following:

1.0221 Furnishing trees.

1.0222 Preparation of planting pits and planting area soil preparation including excavation, back filling and disposal of surplus and unsuitable excavated material.

1.0223 Planting of trees including mulching, trimming, and staking.

1.0224 Maintenance until final acceptance by Owner.

1.023 Related work specified in other specifications: Irrigation System and Turf Planting.

1.03 Quality assurance.

1.031 *General:* Comply with applicable federal, state, county, and local regulations governing landscape materials and work.

1.032 Employ only experienced personnel familiar with required work. Provide adequate supervision by qualified foremen.

1.033 *Substitutions:* Do not make plant material substitutions without Owners permission. If required landscape material is not obtainable, submit proof of non-availability to Owners Representative, together with proposal for use of equivalent material. At the time bids are submitted, the Contractor is assumed to have located the materials necessary to complete the job as specified. There will be no additional cost to the Owner for substitutions past bid opening.

1.034 Provide quantity, size, genus, species, and variety of trees indicated and scheduled for landscape work and complying with applicable requirements of ANSI Z60.1, "American Standard for Nursery Stock".

1.035 *Measurements:* Measure trees with branches and trunks or canes in their normal position. Do not prune to obtain required sizes. Take caliper measurements six inches above ground for trees up to and including 4" caliper size, and twelve inches above ground for larger sizes. Measure main body of all plant material of height and spread dimensions, do not measure from branch or root tip-to-tip.

1.036 *Inspection:* Owner's Representative may choose to inspect plants either at place of growth or at site before planting, for compliance with requirement for genus, species, variety, size, and quality. Owner's Representative retains right to further inspect plants for size and condition of balls and root systems, insects, injuries, and latent defects, and to reject unsatisfactory or defective materials at any time during progress of work. Remove rejected plant materials **immediately** from project site and replace with acceptable material at no additional cost to the Owner.

1. Notify owner's representative of sources of plant materials 30 days in advance of delivery to project site.

1.04 Submittals.

1.041 *Product Certification:* Submit certificates of inspection as may be required by governing authorities to accompany shipments. For standard products, submit manufacturer's certified analysis. For other materials, submit analysis by a recognized laboratory made in accordance with methods established by Association of Official Agricultural Chemists, wherever applicable.

1.042 *Planting Schedule:* Submit proposed planting schedule indicating anticipated dates and locations for each type planting.

1.043 *Maintenance Instructions:* Submit typewritten instructions recommending procedures to be established by Owner for maintenance of landscape work during entire year. Submit prior to expiration of required maintenance period.

1.044 *Material Sources:* Submit to Owner's Representative, a list of all plant materials and their source. This list shall be submitted no later than three days after Notice to Proceed.

1.05 Delivery, storage, handling.

1.051 *Delivery of Trees:* Do not prune prior to delivery, except as approved by Owner's Representative. Provide adequate protection of root systems and balls from drying winds and sun. Do not bend or bind-tie trees in such a manner as to damage

bark, break branches, or destroy natural shape. Provide protective covering during delivery. Do not drop balled and burlapped stock during delivery.

1.052 Deliver trees after preparations for planting have been completed and plant immediately. Storage of plant materials in medians or rights-of-way will not be allowed. If planting is delayed more than six hours after delivery, set plant materials and trees in shade, protect from weather and mechanical damage, and keep roots moist as follows:

1.0521 Set balled stock on ground and cover with soil, peat moss, saw dust, or other acceptable material.

1.0522 Do not remove container grown stock from containers before time of planting.

1.0523 Periodically water root system of trees stored on site using a fine mist spray. Water as often as necessary to maintain root systems in a moist condition.

1.06 Job conditions.

1.061 *Timing:* Plant trees during normal seasons for such work in location of project. Plant flowering trees during the spring planting season, except as otherwise acceptable to Owner's Representative.

1.062 *Coordination with Lawns:* Protect existing lawn areas to the greatest extent practical during construction. Seed or sod all areas disturbed during construction with approved seasonal grass.

1.063 *Coordination with Irrigation System:* If irrigation installation is to be installed by Contractor, the irrigation system must be fully operational prior to commencement of landscape and tree planting operations. Report potential conflicts with the irrigation system to the Owner's Representative.

1.07 Special project warranty.

Warranty all plant materials for a period of one year after date of final acceptance against defects including death and unsatisfactory growth, but excepting defects resulting from neglect by Owner, abuse or damage by others, or unusual phenomena or incidents which are beyond Contractor's control.

2.0 PRODUCTS:

2.01 Plant material.

2.011 *General:* Provide plant material grown in a recognized nursery in accordance with good horticultural practice, with healthy root systems developed by transplanting or root pruning. Provide only healthy stock free of disease, insects, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, or disfigurement. Trunks will be centered in root ball. Fresh pruning cuts larger than 1/2" can be cause for rejection of plant material.

2.012 *Size:* Provide plant material of the sizes indicated in planting list and in accordance with dimensional relationship requirements of ANSI Z60.1 for kind and type of plant material required. Plant material of larger size than specified may be used if acceptable to Owner's Representative; in which case, increase size of root balls proportionately and at no additional cost to Owner. It is the Contractor's responsibility to verify plant quantities

2.013 Where formal arrangements of consecutive order of trees are shown, select stock for uniform height and spread.

2.02 Deciduous trees.

2.021 Provide trees of height and caliper indicated.

2.022 Where shade trees are required, provide single stem trees with straight trunk and intact leader.

2.023 Where small trees of upright or spreading type are required, provide trees with single stem, branched or pruned naturally according to species and type, and with relationship of caliper and branching recommended by ANSI Z60.1, unless otherwise indicated.

2.03 Requirements for B&B stock.

2.031 *General:* Where indicated to be balled and burlapped, provide trees dug with firm, natural ball of earth in which they are grown. Provide freshly dug trees to the greatest extent possible.

2.032 Provide ball size of not less than diameter and depth recommended by ANSI Z60.1 for type and size of tree required. Increase ball size or modify ratio of depth to diameter as required to encompass fibrous and feeding root system necessary for full recovery of trees subject to unusual or non-typical conditions of growth, soil conditions or horticultural practice.

2.033 Wrap and tie earth ball as recommended by ANSI Z60.1 for size of balls required. Drum-lace balls with a diameter of 30" or greater.

2.04 Requirements for container grown stock.

2.041 *General:* Provide healthy, vigorous, well-rooted plant materials established in container in which they are sold. Provide balled and burlapped stock, when required trees exceed maximum size recommended by ANSI Z60.1 for container grown stock.

2.042 Established container stock is defined as a tree grown in or transplanted into a container and grown in the container for a length of time sufficient to develop new fibrous roots, so that root mass will retain its shape and hold together when removed from container.

2.043 *Containers:* Use rigid containers that will hold ball shape and protect root mass during shipping. Provide trees established in containers of not less than minimum sizes recommended by ANSI X60.1 for kind, type, and size of trees required.

2.05 Miscellaneous materials.

2.051 *Mulch:* Provide shredded cypress bark mulch or hardwood bark mulch to a depth of at least 3" in the planting basin to cover root ball. Do not place mulch directly against the trunk of the tree.

2.052 *Stakes and Guys:* Unless specified otherwise by Owner's Representative, stake trees as shown on planting detail sheets (City of Plano detail). Provide 2" x 2" untreated wood stakes to secure tree root ball.

2.053 All other materials not specifically described but required for a complete and proper installation may be selected by the Contractor subject to the approval of the Owner's Representative.

2.054 *Post Emergent Herbicide:* "Round Up" or approved equal may be utilized in the planting basin to control weeds until final acceptance of the project. All chemicals must be applied by a Licensed Chemical Applicator.

2.06 Planting mixture - tree planting

2.061 Soil for use in back-filling tree pits shall be the excavated soil from the planting pit unless otherwise specified by Owner's Representative.

2.062 Existing topsoil shall be free of all rocks and rock chips over 3/4 in diameter, as well as all trash, vegetation, and other debris.

3.0 EXECUTION:

3.01 Tree planting.

3.011 Cooperate with other contractors and trades working in and adjacent to landscape work areas. Examine drawings that show development of entire site and become familiar with scope of other work required.

3.012 Layout individual tree locations and areas for multiple plantings. Stake locations and outline areas and secure Owner Representative's acceptance before start of planting work. Make minor adjustments as may be requested by Owner's Representative.

3.013 *Excavation:*

3.0131 Excavate pits, beds, and trenches according to drawings with vertical but "rough" sides. Leave soil in bottom of pit undisturbed. Avoid creating smooth or "glazed" sides of pit. Do not excavate tree pits until preliminary approval has been obtained from the Owner's Representative.

3.0132 Immediately dispose of unsuitable subsoil removed from landscape excavations. Do not mix with planting soil or use as back-fill.

3.0133 *Utilities:* Have existing utilities field located prior to excavating. Notify Owner's Representative of potential conflicts.

3.0134 *Obstructions:* If rock, underground construction, or other obstructions are encountered in excavation for planting of trees, notify Owner's Representative. New locations may be selected by Owner's Representative, or change order may be issued to direct removal of obstructions to depth of not less than 6" below required planting depth.

3.0135 *Drainage:* Test all planting pits for adequate percolation. If subsoil conditions indicate retention of water in planting areas, or if seepage or other evidence indicating presence of underground water exists, notify Owner's Representative before back-filling. A change order may be issued to direct installation of drain tile or other measures beyond drainage requirement indicated.

3.02 Preparation of tree planting soil.

3.021 Before backfilling, clean soil of roots, plants, sod, stones, clay lumps, and other extraneous materials harmful or toxic to plant growth, and dispose of off site. Use only existing soil from the site as back-fill.

3.022 *Setting and Back-filling:*

3.0221 Set balled and burlapped stock on undisturbed soil, plumb and in center of pit or trench with top of ball 1"-2" above finished landscape grades. Remove burlap from top of root-ball but do not remove from sides or under root-ball. Completely remove any nylon, plastic, or wire materials from the top half of the root-ball. Remove pallets, if any, before setting. Do not use stock if ball is cracked or broken before or during planting operation. When set, place back-fill (existing native soil) around base and sides of ball, and work each layer to settle back-fill and eliminate voids and air pockets. When excavation is approximately 2/3 full, water thoroughly before placing remainder of back-fill. Repeat watering until no more is absorbed. Water again after placing final layer or back-fill.

3.0222 Set container grown stock as specified for balled and burlapped stock, except remove container before setting. Carefully remove cover and sides of wooden boxes after partial back filling so as not to damage root-balls.

3.0223 Construct water retention basin as directed in plans, at least 4" high and twice the diameter of the root-ball.

3.0224 Mulch pits, trenches, and planted areas. Provide at least a 3 inch layer of mulch on top of the root-ball. Do not place mulch against trunk of tree.

3.0225 Unless otherwise directed by Owner's Representative, do not cut tree leaders, and remove only injured or dead branches. Any pruning shall be in accordance with standard horticultural practices. Stake trees immediately after planting. If after pruning, the plant has become misshapen or changed in appearance, the plant will be rejected.

3.0226 Stake trees of 2" or greater caliper. Stake trees of less than 2" caliper only as required to prevent wind "tip-out". Trees that require staking shall be staked in accordance with the tree planting and staking details show on the drawings. Use four 2" x 2" by four foot long untreated wood stakes, installed adjacent to root ball and extending below base of the root ball to a depth that firmly anchors the tree and root ball to unexcavated existing soil. Attach two 2" x 2" untreated wood cross members to the four stakes with 2 1/2" long dry wall screws as illustrated on the drawing details. These cross members shall be oriented parallel to the prevailing wind on the project site and shall be four feet long or extend a minimum of 8" beyond the excavation area of the tree into the undisturbed edge of the tree pit.

3.03 Maintenance.

3.031 Maintain all trees until final acceptance by Owner. Prune, water, cultivate, and weed as required for healthy growth. Restore planting saucers. Tighten and repair stake and guy supports and reset trees to proper grades or vertical position as required. Spray as required to keep trees free of insects and disease. Renew mulch as needed.

3.032 Plants shall be in good, healthy, and disease-free condition. All planted areas shall be free of weeds and debris before site is accepted by Owner.

3.04 Warranty period and replacement.

3.041 Warranty period for all plant material shall be for one year. Warranty period begins at the date of final acceptance of the project by the Owner.

3.042 Replace, without cost to Owner, and as soon as weather conditions permit, all dead plants and all plants not in vigorous, thriving condition, as determined by the Owner's Representative during and at the end of Warranty Period. Plants shall be free of dead or dying branches and branch tips, and shall bear foliage of a normal density, size, and color. Replacement shall closely match adjacent specimens of the same species and shall be subject to all requirements of this specification.

3.05 Protection.

3.051 No heavy equipment shall be moved over the planted turf areas unless the soil is again prepared, graded, leveled, and replanted by seed or sod with appropriate permanent grass species. It will be the responsibility of this Contractor to protect all paving surfaces, curbs, utilities, plant materials, and any other existing improvements from damage. Any property damage resulting from, arising out of, or caused by the operations of the Contractor shall be repaired or replaced by the Contractor at no cost to the Owner.

3.06 Performance.

3.061 In areas where turf must be replanted, establish dense areas of permanent grasses, free from lumps and depressions. Replant any part of the areas that fail to show uniform growth.

3.0611 The Contractor shall provide a uniform stand of grass that shall be defined as complete coverage of the specified type of grass with not less than 100 growing plants per square foot of seeded areas. Growing plants shall have at least two blades, 11/2 inches in height.

3.0612 Repair damage to seeded or sodded areas resulting from erosion. Scattered dead spots will not be allowed in excess of 3% of the turf area.

3.0613 Request final provisional acceptance of lawn when the above requirements have been met. Continue maintenance of all turf areas until final acceptance is given by the Owner's Representative. Continued maintenance shall include watering, fertilizing, and repair of eroded areas as required to keep grass in a healthy, thriving condition.

3.07 Cleanup.

During work, keep premises neat and orderly including organization of storage areas. Remove daily, trash and debris resulting from preparation and planting as work progresses. Keep walk and driveway areas clean by sweeping or hosing. Leave site in a broom-clean condition. Excess material or debris brought onto the site or unearthed during grassing operations shall be removed and disposed off site.