SECTION 02930

REPLACEMENT OF TREES, PLANTS, AND GROUND COVER

PART 1. GENERAL

1.01 REFERENCES

A. The following is a list of standards which may be referenced in this section:


1.02 DEFINITIONS

A. Measurement:

1. In size grading Balled and Burlapped (B & B), caliper takes precedence over height.
2. Take trunk caliper 6 inches above the ground level (up to and including 4-inch caliper size) and 12 inches above the ground level for larger trees.
3. Measure size of container-grown stock by height and width of plant.
4. Measure herbaceous perennials pot size, not top growth.

1.03 SUBMITTALS

A. Action Submittals: Product data on manufactured products specified.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Cover plants during shipment with a tarpaulin or other suitable covering to minimize drying.

B. Balled and Burlapped Plants: Wrap each ball firmly with burlap and securely bind with twine, cord, or wire for shipment and handling. Drum-lace balls with a diameter of 30 inches or more.

PART 2 PRODUCTS

2.01 PLANT MATERIALS
A. Replacement Shrubs and Trees: Same species, size, and quality as specified for plant
being replaced, except existing trees larger than 6-inch caliper may be replaced with
6-inch caliper trees.

B. Replacement Plants and Ground Covers: Same species, size, and quality as original
existing materials.

C. Quality and Size:
   1. Nursery-grown, habit of growth normal for species.
   2. Sound, healthy, vigorous, and free from insects, diseases, and injuries.
   3. Equal to or exceeding measurements of existing plants.
   4. Root System of Container-Grown Plants: Well developed and well distributed
      throughout the container, such that the roots visibly extend to the inside face of
      the growing container.
   5. Perform necessary pruning at time of planting.
   6. Sizes: Dimensional relationship requirements of AAN Z60.1 for kind and type of
      plants required.
   7. Balled and Burlapped Plants: Firm, intact ball of earth encompassing enough of
      the fibrous and feeding root system to enable full plant recovery.
      a. Ball Size: AAN Z60.1.
   8. Container-Grown Plants: Self-established root systems, sufficient to hold earth
      together after removal from container, without being root bound.
      a. Stock: Grown in delivery containers for at least 6 months but not over
         2 years.
   9. Label each tree and shrub of each variety with securely attached waterproof tag
      bearing legible designation of botanical and common name.

2.02 ANTIDESICANT

A. Provide transpiration retarding material to be used where any plant material is moved
during the growing season.

B. Products:
   1. Foliguard.
   2. Wiltpruf.

2.03 GUYING, STAKING, AND WRAPPING MATERIALS

A. Ground Anchors: Screw type.
B. Eyebolt Masonry Anchors: Galvanized steel, with 1/2-inch eye and 6 inches long provided with lead shield for setting into masonry joint or concrete, or Phillips flush shells.

C. Wood Stake: 2 inches by 2 inches by 8 feet.

D. Tree Ties: No. 4 chainlock tree ties as manufactured by Green Brothers, Ltd.

E. Guy Wires: Galvanized, 12-gauge, ductile steel.

F. Flags:
   1. Wood: 1/2 inch by 3 inches by 12 inches, with 3/8-inch hole centered 1-1/2 inches from each end, painted white.
   2. Sheet Metal: 1-1/2 inch with clipped corners, and both ends punched and painted white.

G. Hose: Two-ply, reinforced rubber garden hose, not less than 1/2-inch diameter, new or used.

H. Turnbuckles: Zinc-coated, with 6-1/2-inch lengthwise opening, and at each end 3/8-inch diameter threaded openings fitted with screw eyes.

I. Wrapping Material: Heavy crepe paper.
   1. Burlap: Of first quality, minimum 8 ounces in weight, not less than 6 inches nor more than 10 inches in width.

J. Deadmen: 6 inches by 6 inches by 3 feet long pressure treated timbers.

2.04 MULCH

A. Free from noxious weed seed and foreign material harmful to plant growth.

B. Barkdust: Medium grind, fir, pine, or hemlock; maximum 3/4-inch particle size.

C. Stone Mulch:
   1. Round river rock, washed, with no fines.
   2. Stone Size: Minimum 1 inch; maximum 3 inches.

2.05 PEAT MOSS

A. Sphagnum peat moss, fibrous type with neutral pH.
2.06 HERBICIDE
   A. Selective, pre-emergent, surface-applied.
   B. Manufacturers and Products:
      1. Eli Lilly and Co.; Surflan.
      2. Thompson-Hayward Chemical Co.; Casoron.

2.07 PLANTING SOIL MIX
   A. Top Soil: Amend to meet requirements of soil analysis.

2.08 FERTILIZER
   A. Commercial, complete, of neutral character; in granular, packet, or pellet form,
      35 percent to 80 percent of nitrogen slow release.
      1. Minimum: 10 percent available nitrogen, 3 percent to 5 percent phosphoric acid,
         and 3 percent to 5 percent soluble potash.

PART 3 EXECUTION

3.01 TRANSPLANTING
   A. Remove existing plantings identified for transplant prior to beginning Work in area in
      accordance with standard nursery practices and as specified herein.
   B. Nondormant Plants: Prior to digging, spray foliage with antidesiccant, as recommended
      by manufacturer.
   C. Cover balls and containers of plants that cannot be planted immediately with moist soil or
      mulch.
   D. Water plants as often as necessary to prevent drying until planted.
   E. Do not remove container-grown stock from containers before time of planting.
   F. Bare-Root Plants:
1. Dig up with least possible injury to fibrous root system.

2. Immediately upon removal from ground, cover roots with thick coating of mud or wrap in wet straw, moss, or other suitable packing material for protection from drying until planted.

3. Plant or heel-in immediately upon relocation to temporary storage. Open and separate bundles of bare-root plants, and eliminate air pockets among roots as they are covered.

G. Replant each temporarily removed tree, shrub, or other plant only after construction activities are completed and applicable grading and topsoil replacement is completed in its vicinity. Replant trees, shrubs, and other plants in their original positions unless otherwise shown or approved. Plant as specified for new plants.

H. Maintain transplanted materials in same manner as new trees and shrubs.

3.02 LOCATION OF PLANTS

A. Locate new planting or stake positions as shown unless obstructions are encountered, in which case notify OWNER.

B. Locate no planting, except ground cover, closer than 18 inches to pavements, pedestrian pathways, and structures.

C. Request OWNER inspect locations and adjust as necessary before planting begins.

3.03 PREPARATION

A. Planting Soil: Delay mixing of amendments and fertilizer if planting will not follow preparation of planting soil within 2 days. For pit and trench type backfill, mix planting soil prior to backfilling and stockpile at Site.

B. Plants: Place on undisturbed existing soil or well-compacted backfill.

C. Trees and Shrubs:
   2. B & B Trees and Shrubs: Make excavations at least twice as wide as root ball.
   4. Bare-Root Trees: Excavate pits to a width to just accommodate roots fully extended and depth to allow uppermost roots to be below original grade.
   5. Fill excavations with water and allow to percolate out prior to planting.

D. Ground Cover Beds:
   1. Mix amendments and fertilizer with top soil prior to placing or apply on surface of top soil and mix thoroughly before planting.
   2. Scarify top soil to a depth of 4 inches to 6 inches.
3. Establish finish grading of soil. Rake areas to smooth and create uniform texture and fill depressions.
4. Moisten.

3.04 PLANTING

A. Plant trees before planting surrounding smaller shrubs and ground covers. Adjust plants with most desirable side facing toward the prominent view (sidewalk, building, street).

B. B & B Plants: Place in pit by lifting and carrying by its ball (do not lift by branches or trunk). Lower into pit. Set straight and in pit center with tip of rootball 1 inch to 2 inches above adjacent finish grade.

C. Bare-Root Plants: Spread roots and set stock on cushion of planting soil mixture. Set straight in the pit center so that roots, when fully extended, will not touch walls of the planting pit and the uppermost root is just below finish grade. Cover roots of bare-root plants to the crown.

D. Container-Grown Plants: Remove containers, slash edges of rootballs from top to bottom at least 1-inch deep. Plant as for B & B plants.

E. Ground Covers: Dig planting holes through mulch with one of the following: hand trowel, shovel, bulb planter, or hoe. Split biodegradable pots or remove nonbiodegradable pots. Root systems of all potted plants shall be split or crumbled. Plant so roots are surrounded by soil below the mulch. Set potted plants so pot top is even with existing grade.

3.05 BACKFILLING

A. Backfill with planting soil, except where existing soil is suitable according to top soil analysis.

B. B & B Plants:
   1. Partially backfill pit to support plant. Remove burlap and binding from sides and tops of B & B plants, do not pull burlap from under balls.
   2. When excavation is approximately 2/3 full, water thoroughly before placing remainder of backfill to eliminate air pockets even if it is raining. Finish backfilling pit sides.
   3. Never cover top of rootball with soil. Form a saucer above existing grade, completely around the outer rim of the plant pit.

C. Bare-Root Plants:
   1. Plumb before backfilling and maintain plumb while working backfill around roots and placing layers above roots.
2. Set original soil line of plant 1 inch to 2 inches above adjacent finish landscape grades. Spread out roots without tangling or turning up to surface. Cut injured roots cleanly; do not break.
3. Carefully work backfill around roots by hand; puddle with water until backfill layers are completely saturated.

3.06 GUYING, STAKING, AND WRAPPING
   A. Support trees immediately after planting to maintain plumb position.
   B. Guying: Support deciduous trees over 4 inches in caliper and all coniferous trees with four guys equally.
   C. Staking: Support deciduous trees 4 inches in caliper or less with stakes spaced equally about each tree.

3.07 FERTILIZER
   A. Add as top dressing depending on plant size and manufacturer’s recommendation.
   B. Commercial:
      2. Shrubs: 1/4 pound of 10:6:4 fertilizer per foot of height or spread per plant, or 3 pounds to 5 pounds of 10:6:4 fertilizer per 100 square feet of bed area.
      3. Ground Cover: 3 pounds of 10:6:4 fertilizer per 100 square feet of bed area.

3.08 MULCHING
   A. Cover planting beds and area of saucer around each plant with 2-inch thick layer of mulch within 2 days after planting. Saturate planting area with water.

3.09 PRUNING AND REPAIR
   A. Prune only after planting and in accordance with standard horticultural practice to preserve natural character of the plant. Perform in presence of OWNER. Remove all dead wood, suckers, and broken or badly bruised branches. Use only clean, sharp tools. Do not cut lead shoot.

3.10 WEED CONTROL
   A. Maintain a weed-free condition within planting areas. Apply pre-emergent selective herbicide to mulched beds at manufacturer’s recommended rate of application.
3.11 PROTECTION OF INSTALLED WORK
   A. Protect planting areas and plants against damage for duration of maintenance period.

END OF SECTION