

Section 910

Landscaping

911.0 DESCRIPTION

This section covers the furnishing of all labor, material, equipment, and performance of all work and services necessary or incidental to plant removal and installation as shown on the plans or as specified herein.

MnDOT Specification Section 2571, and the Inspection and Contract Administration Manual for MnDOT Landscape Projects, 2017 Edition, shall apply to plant installation, except as modified herein. Unless noted otherwise, the provisions in this section are in addition to the referenced specification.

912.0 MATERIALS

All materials used in this work shall be new and conform to the requirements for class, kind, size and materials as specified below. All materials permanently incorporated in the work shall be made in the United States of America. The Contractor shall submit in writing a list of materials showing the manufacturer's designation of all materials. This list must be approved by the Engineer.

912.1 DELIVERY, STORAGE, AND HANDLING

The Contractor shall deliver, store, and handle plants to prevent damage. All damaged material must be replaced. Do not expose roots or balls to hot sun or drying winds. Balled and burlapped plants that cannot be planted immediately upon delivery shall be set on the ground and protected with moist soil or mulch and watered as needed. Bare-rooted plants shall be planted or heeled in immediately upon delivery. Balled and burlapped plants must be removed and replaced if the ball is broken or cracked before or during planting.

Commercial fertilizer shall be delivered in original unopened containers with labels indicating the manufacturer, brand name, and chemical analysis intact.

912.2 SUBMITTALS

Contractor should also submit a list of plant materials to be furnished, including the source of stock.

912.3 NURSERY STOCK

- a) Plant materials shall conform to the requirements of the Inspection and Contract Administration Manual for MnDOT Landscape Projects, 2017 Edition.
- b) No substitutions will be accepted without written approval from the Owner or Engineer.

912.4 LANDSCAPE EDGER

The edger shall be professional-grade metal edging and must include the following properties:

- a) Length – the minimum length of each section shall be 16'. Minimize the number of joints for multiple sections.
- b) Height – minimum of 4".
- c) Color – black.
- d) Thickness of edging shall be 1/4".
- e) Corner joints must be used if ends meet at a corner.
- f) All stake pockets must be utilized with metal stakes.
- g) The product must include a lifetime warranty.

912.5 MODULAR BLOCK RETAINING WALL

- a) The pre-cast wall shall be segmented block walls similar to those manufactured by the following companies, or an approved equal: Keystone Retaining Walls, Rockwood Wall Systems, Genesis Wall Systems, Anchor Wall Systems, Versa-Loc, Allan Block or Interlock Concrete Products. The retaining wall block must be on the MnDOT approved product list.
- b) The wall system shall be tan in color with a 3-plane rock face textured surfacing and a 1" +/- setback. The minimum block size shall be 6" x 18" x 12". The minimum unit weight per block shall be 72 pounds.
- c) The Contractor must submit the product information to the Engineer for approval. The Contractor shall supply the City with a minimum of 5 choices of tan-colored blocks to verify the color and texture prior to ordering.

912.6 OTHER MATERIALS

- a) Weed control landscape fabric shall be non-biodegradable, non-woven, chemically inert and resistant to fertilizers and soil chemicals. Fabric shall be a rot-proof synthetic material and shall contain inhibitors to make the fabric resistant to heat and ultraviolet exposure. It shall be dimensionally stable so that fibers maintain their positions with respect to each other. It shall be water permeable and shall be free from any chemical treatment or coating that might significantly affect its physical properties. Suitable fabrics include Mirascape, Weed-check or Supac 5NP. Areas with biodegradable mulch (i.e., shredded wood mulch, wood chips, etc.) shall not receive weed control landscape fabric underlayment.
- b) Mulch shall be Type 6 mulch, as described in MnDOT Specification 3882. Double-shredded hardwood mulch shall be provided free of dirt, ashes, sawdust, rocks, leaves, roots, black bark mold or any other debris.

913.0 CONSTRUCTION REQUIREMENTS

913.1 EMERALD ASH BORER COMPLIANCE

This Project is located, all or in part, in a county that the Minnesota Department of Agriculture has placed under an Emerald Ash Borer Quarantine. The Contractor shall

follow the latest revised requirements as identified in Section 1000. No direct compensation will be made for compliance with these requirements.

913.2 (2101) CLEARING AND GRUBBING

The Project may require the removal of trees as identified in the plans and specifications or to remove an obstruction associated with the proposed Project. All tree removal shall be performed by tree companies that are licensed to do work within the City of St. Louis Park, are insured, and must have a licensed arborist on staff with at least 3 years of experience and have passed a comprehensive exam.

A list of qualified companies can be found on the City's website at <https://www.stlouispark.org/government/departments-divisions/natural-resources/trees>

913.3 (2572) TREE PRUNING

The Project may require the trimming of some trees to remove the obstruction of streetlights, sight distance triangles, sidewalks, trails, or other proposed construction features. All tree pruning shall be performed by tree companies licensed by the City, are insured, and have an International Society of Arboriculture certified arborist on staff.

A list of companies licensed by the City can be found on the City's website at <https://www.stlouispark.org/government/departments-divisions/natural-resources/trees>

913.4 SEQUENCING AND SCHEDULING

- a) The Contractor shall perform landscape work only during seasonal conditions ideal for species being planted as described in the Inspection and Contract Administration Manual for MnDOT Landscape Projects, 2017 Edition.
- b) Planting operations shall not be started, nor shall any planting stock be delivered to the Project site, until all other work has been completed in the area of the proposed planting site as determined by the Engineer.
- c) The Contractor shall notify the Engineer orally or in writing, as designated by the Engineer, at least 48 hours prior to the start of any planting operations during this Contract, including layout staking, clearing, weed spraying, soil preparation, watering, mulching, plant protection, weeding and clean-up.
- d) Planting materials shall be protected from damage or deterioration before, during, and after planting. The Contractor must make necessary arrangements to insure an adequate supply of water to meet maintenance needs of all planting materials. This may include, but not limited to, furnishing hose and other sources of water to provide adequate irrigation and watering of landscape materials during the plant establishment period.
- e) All plants shall be watered immediately after planting.

913.5 PLANTING BED PREPARATION

- a) Planting shall be located as shown on the plans except where obstructions below ground or overhead are encountered or where changes have been made in construction. Necessary adjustments shall be made only after approval by the Engineer.
- b) A three (3) inch layer of Type 6 twice shredded hardwood mulch shall cover the entire planting bed. Plant material should be exposed and all root masses should be covered.
- c) The Contractor shall ultimately determine the optimum soil conditions required for good growth of the specified plants.
- d) Soil shall be cultivated to a depth of twelve (12) inches. MnDOT Grade 2 Compost in compliance with City specification 902.3.2 (3), peat moss, sand, and/or other soil additives shall be incorporated to assure proper drainage, aeration, acidity, and nutritional characteristics.
- e) Each tree planting site shall have at least 54 cubic feet of uncompacted topsoil with a minimum depth of 18 inches.
- f) Sand should be added to heavy or water-logged soils to avoid producing an artificial water table.
- g) Test soil after the addition of peat moss, manure, or sand has been incorporated. If soil is acid (pH below 6.0) add lime to raise pH to 6.5.

913.6 TREES

- a) Apply four (4) to six (6) inches of Type 6 twice shredded hardwood mulch to dripline of plant or as indicated on planting detail.
- b) Prune trees to remove damaged branches. No more than 15% of branches shall be removed.
- c) Conform to planting and staking details on plans.
- d) Unless staking and guying is required in the Drawings, the Contractor shall only stake and guy trees when necessary to maintain the trees in a plumb condition. Circumstances that may warrant staking and guying include excessive soil moisture, light-textured soil, steep slopes, exposure to excessive wind, and the likelihood of vandalism. Staking and guying shall be installed in accordance with the standard planting details in the Drawings.
- e) The Contractor shall remove all staking and guying within 1 year of initial installation. The cost for the removal is incidental.
- f) Trees should be planted with the root flare visible and the first true lateral root is within 1 inch of the soil surface of the surrounding landscape.
- g) For balled and burlapped trees, all twine must be removed, as well as the burlap and wire basket on the top one-third of the ball.

913.7 SHRUBS

- a) Backfill topsoil around plants, eliminate voids and air pockets through compaction. Water thoroughly as layers are placed. Form grade slightly dished and bermed at edges of excavation.
- b) Apply 4 inches of Type 6 twice-shredded hardwood mulch to dripline of plant.

913.8 GROUND COVERS, PERENNIALS, AND ANNUALS

- a) Plants should be protected from drying conditions during the planting operation.
- b) The soil ball and root mass should not be disturbed as the pot is removed.
- c) Plants shall be planted at the same depth as they were in the pots.
- d) Plants shall be spaced in accordance with the dimensions indicated on the plans with spacing adjusted as necessary to evenly fill planting bed using the specific quantity of plants. Plant to within twelve (12) inches of the trunks of tree and shrubs within the planting bed.

913.9 TREE SPADE (MACHINE MOVED)

- a) Transplanted trees shall be moved by mechanical tree spade. The Contractor shall provide the spade, crew, and all other items necessary to make the transplant. All plants to be transplanted are identified on plans.
- b) Tree balls must be maintained in a firm rigid condition. Trees loosened in transplanting will be rejected.
- c) Protect trunk, limbs, and tree candles. Damaged trees will be rejected. Trees must be protected from transpiration loss during transit.
- d) Provide planting pit drainage in heavy clay or impervious soil.
- e) Scarify compacted tree pit bottom and sidewalls immediately prior to placing tree.
- f) Fill all voids with planting soil and water tree pit edges immediately after planting tree.
- g) Remove all weedy growth in the tree ball.
- h) Trees must be planted plumb with the same orientation as grown in the field.

913.10 LANDSCAPE EDGER

Landscape edger must be installed per the requirements of the manufacturer and as directed by the Engineer.

913.11 MODULAR BLOCK RETAINING WALL

- a) All pre-cast walls shall be constructed in the locations and configurations as shown on the plans. The Engineer reserves the right to alter this alignment, add, or eliminate sections to improve construction ability, drainage, or aesthetics.

913.12 CLEANUP AND RESTORATION WORK

- a) Soil, manure, or similar material brought into paved areas by work operations shall be removed promptly, keeping these areas clean at all times. Upon completion of seeding, sodding, and planting, excess soil shall be disposed of offsite.
- b) All ground areas disturbed as a result of landscape operation shall be restored to their original condition or to desired new appearance.

913.13 GUARANTEE AND REPLACEMENT

- a) The Plant Establishment Period will be for one year. The one-year period will commence on the date when final payment is approved by the Owner. Replacement of dead, defective or missing plants or incidental materials shall be required immediately or as soon as is practicable within an appropriate period as ordered by the Owner or Engineer.
- b) It is anticipated that no retainage will be held throughout the plant establishment period unless the Owner or Engineer determine that the materials or procedures warrant such a retainage.
- c) Contractor shall submit a written guarantee for replacement of any plant material, tree, or shrubs failing to survive and thrive for a period of one year from the date of final payment.
- d) Any plant material, tree, or shrub found dead or not in a healthy growing condition shall be replaced with material of same size and species, with a new one-year warranty commencing on date of replacement. Replacement of any plant material, tree or shrub shall be completed in the proper planting season. All replacement shrub and tree species shall be accomplished at no cost to the Owner.
- e) Removal and disposal of all replaced plant material shall be incidental to the Contract.
- f) Removal of all tree wrapping and/or guying to be done at the conclusion of the warranty period and shall be incidental to the Contract.
- g) Watering during the Plant Establishment Period shall consist of maintaining adequate (but not excessive) soil moisture at all times. It is recommended that after the initial thorough "watering in", every plant should receive a thorough watering, as necessary, at weekly intervals, on the average, throughout the growing season (approximately May 1 thru October 1). The Contractor shall avoid over watering all plants. General water guidelines for the average condition are as follows:

Plant Type	Average Amount of Water Per Application
Balled & Burlapped Trees	20 Gallons ±
Bare Root Trees	15 Gallons ±
Balled & Burlapped	Shrubs 10 Gallons ±
Bare Root or Container Shrubs	7 Gallons ±

- h) The Contractor is expected to carry insurance to cover responsibility for plants lost to acts of vandalism, theft and rodent damage. In the case of repeated and excessive vandalism, theft, and rodent damage, the Owner will make a determination as to whether the plants will be deleted or replaced again subsequent to initial replacement with additional compensation in accordance with the Contract prices.

914.0 TREE PROTECTION

The City of St. Louis Park places a high priority on the preservation and protection of existing trees. The neighborhoods and character of the community is often established by the quantity and size of the overstory tree population. All projects are designed to minimize the loss and impact to the trees in and around the construction limits.

No tree shall be cut or removed until the Engineer has specifically marked it for removal. The Contractor shall exercise proper care in working in the vicinity of trees to be saved.

914.1 GENERAL

The trees, which are scheduled to remain, per the plan documents, shall be treated with the utmost care by the Contractor and their subcontractors for the duration of the construction project. To this extent the City has established the zone of impact, trees to be removed and in selected areas specialized methods of tree protection.

The Contractor shall take special care to preserve existing trees and shrubs wherever possible. This may include careful grading operations, slight adjustments of slopes, and placing temporary construction fence at tree drip lines. Temporary construction fence has been provided in the Contract, among other reasons, to help preserve trees and shrubs.

914.2 TREE REMOVAL

The Contractor shall remove only those trees necessary to be removed to construct this Project. All other trees shall be protected from damage during construction.

The Contractor shall confirm proposed watermain and sanitary sewer service locations with residents prior to tree removal. If locations change from what is shown on the plan the tree shall be protected.

All trees shown to be removed shall be marked in the field by the Contractor with ribbon five (5) days prior to removal. Any trees that are determined to remain in place shall be protected. No removals shall occur without final approval by the Engineer.

914.3 TREE PROTECTION FENCE

The Contractor shall be required to install a 48-inch tall snow or plastic mesh fence in the locations shown on the plans, with steel posts spaced no further than 5 feet, prior to beginning any grading and/or removal operations within each Project. Once erected, the fence shall remain in place for the duration of the Project. If it becomes necessary to remove any portions of the fence, the Contractor shall not proceed without written consent of the Engineer. If the fence is removed by the Contractor without written authorization of Engineer, the Contractor will be fined \$500.00 per day plus the cost of reinstallation of the fence.

The Contractor shall place and maintain snow fence per tree protection detail around all marked trees and shrubbery to aid in preventing damage to them. The Contractor shall be responsible to replace any trees or shrubbery that are damaged or destroyed by construction operations, on an equivalent size and cross-sectional area basis, as determined by the Engineer.

914.4 STORAGE OF MATERIALS/ VEHICULAR TRAFFIC FOR PROTECTION OF SIGNIFICANT TREES

The parking or unnecessary driving of any vehicles or equipment within the canopy dripline of any mature tree will not be permitted.

At no time shall the storage of construction materials or stockpiles take place under the canopy (dripline) of the tree. The exception being where there are existing road and utility systems under the tree canopy and/ or the scheduled improvements are within the canopy. These areas will have to be rebuilt with extreme care to avoid any unnecessary damage to the tree.

914.5 PENALTY FOR DAMAGE TO EXISTING TREES

All existing trees designated on the plans to remain shall be protected and saved. Any damage that may cause the noticeable decline of the tree, as determined by city staff will result in a penalty of \$1,200.00 per tree paid to the City plus the replacement of the damaged tree at a ratio of 1:1 diameter inches measured at 4.5 feet above the ground. The size of the replacement trees shall be dependent upon the species and size of the tree damaged. Any diameter inches that cannot be replaced within the project area will require the Contractor to pay the City for replacement inches based on the current fee amount in the City's fee schedule. Damage is defined as major vertical gouges in excess of three (3) inch long and one-half (1/2) inch deep, horizontal gouges in excess of one (1) inch long and one-half (1/2) inch deep, breakage of major limbs causing splits in

trunk, damage to roots with a diameter of one and one half (1 1/2) inch or more, the tree noticeably listing, or any other damage observed by the Engineer.

If damage occurs, the Contractor will receive written notification and the resulting penalty and replacement fees described herein will be applied.”

Any notification of tree damage shall result in the City retaining the monetary damage amount until the tree is replaced or the City gives a written release. Said retainage may be withheld during the one-year warranty period. Replacement will include complete removal of the damaged tree from the site, grinding out the stump and roots, replacement with a new tree comparable to trees used elsewhere in the Project (type and size to be selected by Engineer) as per planting specifications. If, at the time that damage occurs, it is apparent that the tree will not survive, in the opinion of the Engineer, the tree shall be replaced immediately, and the one-year warranty period will begin. Any tree planted under this Contract shall be subject to the plant warranty period as stipulated.

915.0 MEASUREMENT AND PAYMENT

All other work under this section is incidental to the Contract for this section unless specifically listed in the Special Conditions. Quantities for all landscaping items are subject to change by the Owner and shall not be subject to MnDOT Specification 1903 as shown in the Bid. The basis of measurement and payment shall be as follows:

915.1 (2101) CLEARING AND GRUBBING

Clearing and grubbing shall be paid for by the contract unit prices as identified in the plans and specifications and the basis of payment shall be in accordance with MnDOT Specification 2101.5

915.2 (2572) TREE PRUNING

Tree Pruning shall be paid for by the Hour at the Contract unit price and shall be compensation in full for all labor and materials required for a crew to perform the work, including hauling and disposing of the tree branches and debris. A crew shall be defined as having a minimum of two (2) staff on-site and a truck to haul away branches or roots. A bucket truck will also be required for Tree Pruning to saw and remove branches. Payment will be made to the nearest ½ hour by the time spent performing the work on-site. An incomplete 'crew' may be subject to deductions. The Contractor shall also reference the details in the plans and the Special Provisions. The quantity shown in the plan is an estimated quantity and payment shall be made based upon the actual work as measured in the field and shall be considered as compensation in full for work acceptably completed. No unit price adjustment will be made for increased quantities, decreased quantities, or elimination of work.

915.3 PLANT MATERIAL, TREE, AND SHRUB

Measurement shall be the unit. Payment shall be based on the contract unit prices and shall be compensation in full for all costs of furnishing the required materials and installing the plants in accordance with the plans and specifications. Measurement and payment shall include delivery, plants, planting soil, compost materials for blending, planting, fertilizer, mulch, specified maintenance, guarantee, clean up, and associated work complete and in place. Payment for the plant material, trees, and shrubs shall only be considered after the completion of the entire landscape plan, including all clean up and incidental work.

915.4 LANDSCAPE FABRIC

Measurement and Payment for weed inhibiting Landscape Fabric shall be based upon the square yard of material placed.

915.5 LANDSCAPE EDGER

The quantities listed as "Landscape edger" in the Bid are estimates and subject to change. Measurement shall be by the linear foot and shall include all materials and labor necessary to complete the installation.

915.6 MODULAR BLOCK RETAINING WALL

All labor, materials, and equipment needed to furnish and install the modular block retaining wall shall be paid per bid item 2411, "MODULAR BLOCK RETAINING WALL." The drainage pipe, aggregate base leveling pad, fine filter aggregate, caulking, expansion joint material, excavation, and backfill shall be considered incidental.

Measurement and Payment for Modular Block Retaining Wall shall be based upon the square foot of wall furnished and installed. The square footage is measured from the top of the aggregate base leveling pad to the top of the cap block.

915.7 TREE PROTECTION FENCE

Measurement and Payment for Tree Protection Fence shall be based upon the linear foot of fence placed. Measurement and payment shall include delivery, installation, maintenance, removal, clean up, and associated work complete and place.