

PART 1 GENERAL

1.01 GENERAL

- A. The provisions of the WSDOT/APWA Standard Specifications for Road, Bridge, and Municipal Construction, most current edition apply except as modified herein.
- B. The landscaping shall be installed using the materials as shown on the Drawings and/or as specified in the Specifications. The landscaping shall be installed to grades and conform to areas and locations as shown on the Drawings.
- C. The term "Contractor" as used in this Specification section shall refer to the Landscape Contractor.

1.02 SCOPE OF WORK

- A. Furnish all materials, equipment, labor and related items necessary to complete the work shown on the Drawings and/or as specified in the Specifications, to include installation of compost, topsoil, soil amendments, contractor provided plants, fertilizing, staking and guying, and mulching of trees, protection and other work necessary. The work included in this Specification (whether mentioned or not) shall consist of all labor, tools, materials, tests, permits and other related items necessary for the installation of all plant-related materials in a first quality workmanlike manner. This specification also includes the seeding of areas disturbed by construction and installation operations related to the Work. Restoration seeding shall be incidental to this contract and shall not be measured for purposes of payment.

1.03 RELATED WORK DESCRIBED ELSEWHERE

- A. Related work in other sections of these Specifications includes but is not limited to:
 - 1. Grading, Embankment, and Backfill

1.04 QUALITY ASSURANCE

- A. Standard Specifications
 - 1. *American Standard for Nursery Stock, ANSI Z60.1-2004*. American Nursery and Landscape Association, 1250 Eye Street NW, Suite 500, Washington, D.C. 20005.
 - 2. *Hortus Third*, The Staff of the L. H. Bailey Hortorium. 1976. MacMillan Publishing Co., New York.
 - 3. All standards shall include the latest additions and amendments as of the date of advertisement for bids.
 - 4. All materials and workmanship for rough grading the site shall conform to the requirements of the most current edition *Standard Specifications for Road, Bridge, and Municipal Construction* by WSDOT and APWA with supplements by the City of Bellingham unless amended herein.

1.05 SUBMITTALS

- A. Plant Documentation:
 - 1. Within 30 days after award of Contract, submit documentation that all specified plant materials have been ordered. Should the Contractor neglect to provide this documentation within the allocated time, Contractor may forfeit any substitution benefits.
 - 2. List respective growing or storage locations with addresses.
 - 3. List suppliers' names, addresses, and phone number.
- B. Topsoil:
 - 1. 5 gallon sample.
 - 2. Sieve analysis.
 - 3. Soil Tests and Soil Supplier Certifications: See Section 2.01 and 2.02 of these Specifications.

4. Topsoil analysis showing nutrients, micronutrients and lab recommendations to bring the topsoil into compliance with the Specifications, to grown turf or ornamental plants.
5. Topsoil burnoff test report showing specified proportion of organic to inorganic proportions.
- C. Compost:
 1. Provide a 5-gallon sample for Owner approval three days prior to installation.
 2. Contractor certification that the compost complies with the specifications.
- D. Mulch:
 1. 5 gallon sample of ground wood mulch required for the project in a labeled plastic bag.
- E. Planting Schedule
- F. Soil Supplier Certifications: See Subgrade and Planting Soil Section
- G. Sod Sample: thirty (30) square inch sample of sod for approval by the Owner's Representative.
- H. Statement of Disease Free Certification for:
 1. Sod
 2. Plants
- I. Watering Schedule: the Contractor shall submit a written "watering schedule" to the Owner's Representative, coordinated with the Irrigation Contractor, to ensure adequate watering (summer, fall, winter & spring) of all plant materials during the Guarantee Period of this Contract.
- J. Complete analysis of the seed shall be include percent of pure seed, germination, other crop seed, inert and weeds, and the germination test data. All crop seed in excess of one (1) percent must be itemized. Contractor must submit original label to Owner.
- K. Commercial Fertilizer product information, including product label, fertilizer analysis, release rate, release mechanism, etc.
- L. Mulch for hydroseeding product information
- M. Seed: Certification of mixture with purity, proportion by weight, weed seed content, and germination percentage as specified in Part 2.10 of this section.
- N. Rootball: Meet WSDOT submittal requirements.

1.06 CHANGE ORDERS

- A. The Contractor shall do no work for extra compensation without prior written approval of the Owner's Representative in the form of a Change Order.
- B. The Contractor shall provide all plant materials of the, species, variety and quality noted and specified. If unavailable, the Contractor shall notify the Owner's Representative in writing immediately and provide the names and telephone numbers of five (5) suppliers that he has contacted. If substitution should be permitted, it can be made only with the prior written approval of the Owner's Representative. The nearest variety, and grade as approved by the Owner's Representative shall then be furnished.

1.07 CONDITIONS AT SITE

- A. Before proceeding with any work, the Contractor shall inspect the site, carefully check all grades and verify all dimensions and conditions affecting the work.
- B. Contractor shall report to the Owner all deviation and/or conflicts between Drawings, Specifications and Site Conditions. Extra work arising from failure to do so shall be done at the Contractor's expense.

1.08 QUALIFICATIONS OF INSTALLER

- A. Installer Qualifications: The Landscape Contractor shall be licensed in the State of Washington, shall have a minimum of 3 years experience and shall have completed landscaping work similar in material, design, and extent to that indicated for this Project and with a record of successful landscape establishment.
- B. Contractor must be familiar and comply with American Standard for Nursery Stock published by the American Association of Nurserymen.

1.09 UNDERGROUND UTILITIES AND OBSTRUCTIONS

- A. Existing known utilities have been shown on Architectural/Engineering and Survey Drawings and will be made available from the Owner's Representative or the Utility Companies. The Contractor shall be responsible for the protection of known utilities. Promptly notify the Owner of any conflict between

proposed work and obstruction(s). Failure to follow this procedure places upon the Contractor the responsibility and expense of making any and all repairs for damage from work therefrom.

- B. In the event that undisclosed rock, soils contaminated with toxic substances, hardpan, or underground construction work and/or obstructions are encountered in any plant excavation work to be done under this contract, alternate planting locations may be selected by the Owner. Where alternate planting locations are not approved, the obstruction shall be removed to a depth of not less than one (1) foot below the bottom of roots when planting is properly set at the required grade or other solutions to the planting problem will be reviewed with the Owner's Representative. The Contractor shall be paid for work required to solve the planting problem, such as, the removal of such rock, contaminated soils, hardpan or underground obstruction encountered at a unit price basis and agreed upon by a Change Order prior to commencement of work.

1.10 PROTECTION OF WORK, PROPERTY AND PERSONS

- A. Take all necessary precautions to protect work in progress, all property, persons, walks, curbs, pavement and buildings from any damage that might be incurred arising from this Contract. Do not mix planting soil directly on paved surfaces. Locate all underground utilities prior to commencement of work. The Contractor shall pay for any damage at Contractor's expense.

1.11 PERMITS, CODES AND REGULATIONS

- A. The Contractor shall obtain and pay for all necessary permits and fees as required by Local Authority and prevailing ordinances and/or codes to fully complete the Work described herein.
- B. The Contractor shall keep fully informed and shall comply with all existing laws, codes, ordinances and regulations which in any way affect the conduct of the work.

1.12 SUBGRADE

- A. The subgrade is to be established per Section 3.02 of these Specifications.
- B. It shall be the Contractor's responsibility to verify the existence of a proper subgrade prior to beginning finish grading.

1.13 FINISH GRADING

- A. The Contractor shall be responsible for establishing a finished grade as indicated on the plans. The depths of planting soils will vary with existing conditions and as shown on the Drawings and/or as specified within these Specifications.

1.14 CONDUCT OF WORK

- A. The Contractor shall continuously maintain a competent superintendent or foreman during the progress of the work, with the authority to act for the Contractor in all matters pertaining to the work. The Contractor shall give personal attention to the fulfillment of the Contract and shall keep the work under control. Subcontractors shall not be recognized and all persons engaged in the work will be considered employees of the Contractor and their work shall be subject to the provisions of the Contract and Specifications.
- B. The Contractor shall confine operations to the working areas allotted by the Owner's Representative for operations, including material and equipment storage.
- C. The Contractor shall progressively clean the work site of debris and rubbish as the work proceeds.

1.15 Quality Assurance

A. Plant Material:

1. Provide quality, size, genus, species, and variety of trees and shrubs indicated, complying with applicable requirements of the current edition of ANSI Z 60.1 "American Standard for Nursery Stock."

2. All plants shall be shipped with certificates of inspection, as required by law.
3. Each tree and shrub shall bear a securely attached waterproof tag bearing legible designation of botanical and common name.
4. Plant names shall conform to the latest edition of *Standard Plant Names* as adopted by the American Joint Committee of Horticulture Nomenclature.
- B. Fertilizer: Conform to most current Washington State Department of Agriculture and Federal Specifications pertaining to commercial fertilizer.
- C. Finish Grades/Compaction of Planting Beds: Firm surfaces, no specific compaction is required other than mentioned in other sections of these Specifications.
- D. Measurements: Measure trees and shrubs according to the current edition of ANSI Z 60.1 with branches and trunks or canes in their normal position. Do not prune to obtain required sizes. Take caliper measurement 6 inches above ground for trees up to 4-inch caliper size, and 12 inches above ground for larger sizes. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip-to-tip.
- E. Field quality control and inspections:
 1. Notification: All plant material shall be inspected and approved by the Owner prior to planting. The Contractor shall give 48 hours notice to the Owner when an inspection is desired.
- F. Any plant material installed as part of this Contract not found to be in a healthy thriving condition shall be immediately replaced with healthy specified plants as specified and planted at no cost or expense to the Owner, and guaranteed until active healthy growth is evident.
- G. The Contractor shall maintain all plants through the construction period until final acceptance of the project.
- H. Contractor's Responsibility: The Contractor shall not be responsible for replacing plants destroyed by vehicles other than the Contractor's, or *Acts of God*, after final inspection/acceptance. Should replacement becomes necessary during a non-planting season, the Contractor may request the Owner's permission to defer planting until the proper season. However, the Contractor shall immediately remove and dispose dead/dying plants and their roots, backfill the planting pit flush with surrounding grade. Plants used for replacement shall be the same species/variety, size, quality as that originally specified in the Special Provisions and they shall be planted as specified.
- I. Upon completion of all planting and all other work required under this Contract, the Contractor shall request a pre-final inspection.
- J. The Contractor shall request a final inspection upon satisfactory completion of all punch list items and any other work required under this Contract. Final inspection and final acceptance of the work shall establish the beginning of the guarantee period.
- K. Take all necessary precautions to protect work in progress, all property, persons, walks, curbs.
- L. Delivery, Storage, and Handling
 1. Packaged Materials: Deliver packaged materials including, but not limited to fertilizers, pesticides, herbicides, and lime in containers showing weight, analysis, and name of manufacturer. Protect materials from deterioration during delivery and while stored at site.
 2. Store packaged materials in secure separate structure or vehicle.
 3. Grass Seed: Deliver in clean containers of uniform weight and label as required by law.
 4. Fertilizer. Packaged in new unopened water-proof 50 pound bags, clearly labeled as to weight, manufacturer, and ad content.
- M. Time of Seeding:
 1. Grass seed shall be installed after April 15th and before October 20th. The Owner may grant approval to the contractor's request to seed grass outside the stated time of seeding, weather conditions permitting and depending on method of seeding.
 2. Do not seed during windy weather or when the ground is excessively wet.

1.15 GUARANTEE / MAINTENANCE

- A. In accordance with Final acceptance will be certified in writing by the Owner's Representative.
- B. Contractor has the right to enter upon the property for inspection and curative treatment of any materials needing such which are still under warranty during the entire warranty period. Owner's Representative is to be notified in advance of any corrective or curative treatment measures so as to arrange for convenient access to the area.

- C. The above guarantee shall be applicable to any growing conditions through which sod and seed areas of like kind could be expected to survive, and any deformity or cause of death which could be attributed to, or affected by, the physiological condition of the plant shall be deemed replaceable cause; however, this would not apply to losses due to ABNORMAL WEATHER conditions such as floods, excessive wind damage, drought, severe freezing or abnormal rains, as determined by the National Weather Service.
- D. Replacements made by the Contractor shall be completed during the periods set out as planting periods and shall be subject to the same conditions and shall be made in the same manner as specified for the original planting area, and shall be done at no extra cost to the Owner.
- E. Replace all sod and seed areas when plants are no longer in a satisfactory growing condition as determined by the Owner's Representative for the duration of the guarantee period. Make replacements within seven (7) days of notification from the Owner's Representative. Remove dead sod and seed areas within two (2) days of notification and mark planting plan showing the exact location of replaced areas.
- F. It is expressly understood that the Contractor will be responsible, during the Guarantee Period, for normal landscape maintenance of the project. Maintenance of the landscape shall include, but not be limited to, watering, mowing, weeding, monitoring and treating any disease and/or pest-problems, cultivating and any other maintenance requirements (per standard trade practices) to keep the planting areas in a normal healthy growing condition.

PART 2 PRODUCTS

2.01 EXISTING SUBGRADE SOIL

- A. The contractor shall take samples of existing soil in two locations within each of the following trail segments:
 - 1. List Trail Segments Here
- B. Each soil sample listed above shall consist of an equal proportion of three individual samples thoroughly mixed together. The soil mixture shall be individually packaged and identified with the sample site, and submitted to a soil testing lab for analysis.
- C. Soil tests of the subgrade soil shall be made by the Contractor to determine MECHANICAL ANALYSIS (per USDA Particle Size and Organic Matter Test) and FERTILITY ANALYSIS (to determine magnesium, nitrogen, potassium, and phosphorus levels; soluble salts/conductivity and pH). Contractor shall send a minimum of three (3) representative samples of subgrade soil to an approved soil testing laboratory (state laboratory or recognized commercial laboratory). The cost for testing must be borne by the Contractor. The Contractor shall be paid for the soil additives at a unit price basis and agreed upon by a Change Order prior to commencement of work. TEST RESULTS AND LABORATORY RECOMMENDATIONS FOR ORNAMENTAL PLANT GROWTH must be submitted to the Owner for approval prior to incorporating soil additives into the subgrade and placing planting soil.
- D. The Contractor shall be responsible for all soil additives required for the performance of this Contract and for determining the quantity of additives required to fulfill Contract obligations.

2.02 PLANTING SOIL FOR TURF

- A. The Contractor shall be responsible for the supply of all natural soil and soil additives required for the performance of this Contract and for determining the volume of soil and additives required to fulfill Contract obligations. Soil shall be free of weeds, pests, toxic substances and other undesirable material harmful to ornamental plant growth.
- B. Planting soil mix shall be a mixture of compost and loamy sand.
 - 1. Loamy Sand shall meet the following chemical and mechanical analysis:

<u>Size</u>	<u>Percent Passing</u>
3"	100
1-1/2"	100
3/4"	100
3/8"	95-100
No. 4	95-100
No. 10	80-90
No. 20	65-70
No. 40	30-35
No. 60	13-18
No. 140	15-19
No. 200	8-10

PERMISSIBLE RANGE

- a. Salinity (millimhos per centimeter of Saturation extract @ 25°C) Nil – 3.0
- b. Boron (saturation extract Concentration) Nil – 1.0 ppm
- c. Sodium (sodium absorption ratio – SAR) Nil – 6.0
2. Grading Equipment: Appropriate size and flexibility to achieve the sculptural forms, profiles, straight slopes, and slope rounding indicated on the Grading Drawings.
- C. Planting soil shall be a biologically active, two-way mix soil consisting of 80% loamy sand and 20% recycled plant waste compost or composted dairy manure by volume thoroughly mixed together. Mixed soil shall have pH range of 5.2 to 6.5 with dolomite limestone added as necessary to attain this range.
- D. Contractor shall send minimum of one (1) representative sample of MIXED SOIL; to an approved soil testing laboratory (state or commercial laboratory) to determine FERTILITY ANALYSIS (to determine magnesium, nitrogen, potassium, phosphorus levels, calcium, minor elements, soluble salts/conductivity and pH).
- E. The results shall be submitted to the Owner (WITH LAB TEST RESULTS AND LABORATORY RECOMMENDATIONS FOR ORNAMENTAL PLANT GROWTH) for approval prior to use on the project site. The contractor shall be responsible for whatever soil additives may be required, as recommended by the testing laboratory. The cost for testing and soil additions must be borne by the Contractor.
- F. Special Planting Soil for *Arbutus menziesii* (Pacific Madrone).

1. Soil for planting a Pacific Madrone shall be loamy sand and shall meet the following sieve analysis:

<u>Size</u>	<u>Percent Passing</u>
3"	100
1-1/2"	100
3/4"	100
3/8"	91-94
No. 4	83-85
No. 10	72-75
No. 20	55-60
No. 40	37-41
No. 60	23-27
No. 100	18-22
No. 140	16-19
No. 200	15-17

2. pH: 6.2-6.4
3. Organic Matter: 2.3-2.5% by volume
4. NO3:
5. Nitrogen:
6. Phosphorus: 55 ppm

7. Potassium: 197 ppm
8. Sulfur: 3ppm

2.03 COMPOST

A. Applicability of State Law: Compost used in this project shall be obtained from a composting facility that complies with all state laws and regulations governing composting facilities, I.E. WAC173.350.220, RCW 90.64, etc. Compost shall be tested in accordance with WAC173.350.220. This code is available online at www.ecy.wa.gov/programs/swfa/facilities/350.html.

B. Compost shall meet the definition for "composted materials" in WAC 173-350 section 220. This code is available online at www.ecy.wa.gov/programs/swfa/facilities/350.html. Compost shall be a stable, mature compost derived from Aerobically well decomposed/naturally processed and mixed organic waste materials including yard debris, manures, bio-solids, wood wastes or other organic. B. Content:, un-leached cattle and/or horse manure mixed not more than 50 percent by volume of sawdust, wood shavings or other bedding materials. Compost comprised of mainly wood shavings will be rejected. Compost shall be free from matter or chemicals harmful to tender plant life (cedar products are unacceptable). The Owner's Representative shall judge the quality of compost on the basis of the criteria listed below:

- Odor: Earthy smell that is not sour, sweet or ammonia-like.
- Color: Brown to black in color.
- Texture: Crumbly ,mixed particle sizes.
- Temperature: Stable temperature. Does not get hot when re-wetted.
- Content:
 - o Texture: Friable with particle sizes: 1" minus diameter
 - o Aging: Composted material shall have been aged no less than one-half year at 130-140degrees Fahrenheit, and turned at regular intervals, prior to installation.
 - o
 - o Organic matter content between 35 and 65 percent as determined by loss of ignition test method (ASTM D 2974).
 - o pH between 5.5 and 7.0
 - o Carbon:nitrogen ratio between 20:1 and 35:1 (a CN ratio of 35:1 is preferred for native plantings).
 - o Maxinlum electrical conductivity of 3 ohmsfcm.
 - o Moisture content range between 35 and 50 percent .No viable weed seeds.
 - o Manufactured inert material (plastic, concrete, ceramics, etc.) should be less than 1 percent on a dry weight or volume basis.
 - o Metals shall not be in excess of limits in the following table:

Metal	Limit (mg/kg dry weight)
<i>Arsenic</i>	$\leq 20 \text{ ppm}$
<i>Cadmium</i>	$\leq 10 \text{ ppm}$
<i>Copper</i>	$\leq 750 \text{ ppm}$
<i>Lead</i>	$\leq 150 \text{ ppm}$
<i>Mercury</i>	$\leq 8 \text{ ppm}$
<i>Molybdenum</i>	$\leq 9 \text{ ppm}$
<i>Nickel</i>	$\leq 210 \text{ ppm}$
<i>Selenium I</i>	$\leq 18 \text{ ppm}$

- o The City shall reject compost showing any of the following qualities: large particles, lumps, clumps, pathogens, heavy metals, or a foul offensive odor.

- o Test for suitability: take a 4 x 6 ft. x4" high pile, separate from batch, take temp day 1, record, temp day 2, record, temp day 3 record. All should be within 20 degrees of ambient temperature.

C. Recommended Source:

Smit Compost, or approved equal
9039 Guide Meridian Road
Lynden, WA 98264
360.354.3583

2.04 FERTILIZER A

- A. Shall be complete commercial brand fertilizer with chemical analysis shown on unopened container when delivered.
- B. Commercial Fertilizer "A (install before seeding)" for sod and seed lawn areas during planting shall exhibit the following analysis:

Analysis:

Total Nitrogen (N) 10%		
4.6% Ammoniacal Nitrogen		
3.2% Urea Nitrogen		
3.3% Coated Slow Release Urea Nitrogen		
2.3% Slowly Available Water Soluble Nitrogen*		
1.6% Water Insoluble Nitrogen		
Available Phosphoric Acid (P ₂ O ₅)	Slow Release	20%
Soluble Potash (K ₂ O)	Slow Release	20%
Sulfur (S)		4%
Boron (B)		0.06%
Copper (Cu)		0.06%
Iron (Fe)		1%
Manganese (Mn)		0.15%
Zinc (Zn)		0.14%

Derived from Urea, Sulfur-Coated Urea, Methylene Ureas, Ammonium Phosphate, Sulfate of Potash, Muriate of Potash, Iron Sulfate, Calcium and Sodium Borate, Copper Oxide and Sulfate, Iron Oxide Sulfate and Frit, Manganese Oxide and Sulfate, Zinc Oxide and Sulfate.

* Slowly Available Water Soluble Nitrogen from Methylene Ureas.

Pre-planting Fertilizer "A" is a minimum requirement, additional fertilizer may be required per the planting soil test as described above.

Fertilizer shall be standard free flowing. Fertilizer shall be packaged in new, waterproof, non-overlaid bags clearly labeled as to weight, manufacturer and content.

Commercial Fertilizer for maintenance of sod and seed lawn areas during planting shall be the following proportions of N-P-K: 3N:1P:1K.

Application rate of nitrogen: 1 lb N₂/100 s.f.

2.05 SOIL ADDITIVES

- A. Soil additives for correction of pH and trace element deficiencies shall be factory labeled containers and approved prior to application.

2.06 LIME

- A. Lime shall be dolomitic limestone containing not less than eighty-five (85) percent of total carbonates. Limestone shall be ground to such fineness that one hundred (100) percent will pass a No. 20 sieve.

2.07 WATER

- A. Contractor shall make, at Contractor expense, whatever arrangements are necessary to ensure an adequate supply of water to maintain all plants in this Contract. Contractor shall also furnish necessary hose, equipment, attachments, and accessories for the adequate irrigation of planted areas as may be required to complete the work specified. All costs for water incurred during the contract period shall be borne by the Contractor unless other arrangements are made with the Owner's Representative.

2.08 PLANTS

- A. Quantities and Species/Varieties
1. Compliance with Types and Quantities: The Contractor shall plant the specified plant species, varieties, quantities as shown on the Plans, the plant list and as described herein.
 2. Plants shall be from stock well acclimated to prevailing conditions at the project and which have been consistently cultivated in these conditions. Cold storage plants shall be rejected. Grafted trees shall be grafted at or above ground level or as required in ANSI Z 60.1. Grafts showing acute angles exceeding more than 15 degrees formed between scion and root stock shall be rejected.
 3. Quality: Plants shall be First Quality, fresh, well foliated, in prime condition when in leaf, exhibiting normal habit of growth, having all buds intact, viable. Plants shall be free from disease, injury, insects, insect eggs, root and other types of weevils, larva, all seeds, weed roots, and defects such as knots, sun scald, injuries, abrasions, disfigurement and irregular growth arising from frost damage.
 4. Encircling Roots: The Contractor shall not deliver any tree with encircling roots to the job site. Shrubs with roots encircling the root mass more than once shall be rejected. Otherwise the contractor shall carefully pry the encircling roots away from the main root mass and extend the same into the planting mix.
 5. Container grown plants are required to have sufficient growth to hold the earth intact when removed from containers but shall not be root bound.
 6. Trees and Shrubs: Deliver freshly dug trees and shrubs. Do not prune or top the plant before delivery, except as approved by Owner. Protect bark, branches, and root systems from sun scald, drying, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy natural shape. Provide protective covering during delivery. Do not drop trees and shrubs during delivery.
 7. Root Crowns: Root crowns shall be above ground level. Plants delivered to the site with root crowns buried in root ball or nursery ground level shall be inspected by the owner to determine if removing the soil above the root crown is sufficient a measure to gain acceptance of the plant. If removing soil from the top of the root ball to expose the top of the root crown is insufficient measure to gain acceptance, then the Contractor shall remove the plant from the site and replace it with another acceptable plant.
 8. Handle ball and burlap stock by the root ball, never by the main stem. Trees found to be handled by the main stem shall be rejected by the Owner.
 9. Dry and/or broken root balls shall be rejected. Ball and burlap stock shall be dug with firm, natural balls of earth of sufficient diameter to encompass fibrous and feeding root systems necessary for the full recovery of the plant, in accordance with *American Standard for Nursery Stock*. Root ends shall have been cleanly cut flush with the sides of the root ball.
 10. Deliver trees, shrubs, ground covers, and plants after preparations for planting have been completed and install immediately.
 11. If planting is delayed more than 6 hours after delivery, set planting materials in a nursery area as approved by the Owner.
 12. Protect from weather and mechanical damage.
 13. Set balled stock on ground and heal-in in nursery area. Healing-in includes covering root ball with topsoil mix, coarse ground wood mulch or compost. Contractor shall maintain a moist condition in the healing mix. For the time plants are healed in.

14. Do not remove container-grown stock from containers before time of planting.
12. Water as often as necessary with a fine-mist spray to maintain root systems in a moist condition.
13. Abbreviations:
BR Bare Root
B&B Ball and Burlap
Cont. Container
Cal. Caliper
Ea. Each
Gal. Gallon
Ht. Height
L.S. Lump Sum
M.S.F. Thousand Square Feet
S.F. Square Feet
14. A list of specified plants, quantities, condition, and sizes can be found on the plans.
15. Substitutions: Substitutions are strongly discouraged. No substitutions shall be made without written approval by the Owner. Requests for substitutions must be accompanied by written proof, on supplier letterhead, from no less than five sources, I.E. major sources that supply the specified plant material, that any plant is not available.
16. The following is a list of suggested plant sources:
- a. Wayside Growers
6361 Hannegan Rd.
Lynden, WA 98264
Phone: 360.398.7158
 - b. Plants Unlimited
P.O. Box 26
Boring, OR 97009
Phone: 503.663.5267 or 800.541.8824
 - c. Fourth Corner Nurseries
3057 E. Bakerview Road
Bellingham, WA 98226
360.360.734.0079
 - d. Urban Forestry Services Inc/Consulting Arborist
15119 Mclean Rd
Mount Vernon, WA 98273-8734
(360) 428-5810

2.10 SEED LAWN

A. 2.01 SEEDING
A. Seed Mixes.

1. Seed Mix :

Seed Type	% by weight
Perennial Ryegrass	60
(1/3 Palmer or Manhattan, 1/3 Saturn or Competitor, 1/3 Charger or Dandy)	
Red Fescue	20
Chewings Fescue	20
Application Rate 8 lbs/1000 sq. ft.	

2. All seed shall be 98% pure with a minimum of 90% germination. Total weed seed shall not exceed 0.5%. Maximum percent inert and other crop shall be 1.50% of total seed mix

3. Seed Law. All seeds shall conform to the requirements of the Washington State Seed Laws, and where applicable, the Federal Seed Act.
4. Noxious Weed Seed. All seed shall be free of seeds of weeds listed as primary noxious by the Washington State Seed Law. Seeds shall not contain seeds of weeds listed as secondary noxious by the Washington State Seed Law, singly or collectively in excess of the labeling tolerance specified by the Washington State Seed Law.
5. Rejection. When seeds furnished under this specification fail to meet the requirements within tolerance, as provided by the Washington State Seed Law, the lot shall be rejected or subjected to fiscal adjustment.
6. Re-cleaning. Seeds shall be thoroughly re-cleaned and of uniformly good quality and appearance throughout each lot.
7. Preparation for Delivery. Seeds shall be packed in clean, sound containers of uniform weight. Seed shall be labeled as required by Law.
8. Reference Specifications. Chapter 15.49, Washington State Seed Law.

C. General:

1. All seeds shall conform to the requirements of the Washington State Seed Law and when applicable, the Federal Seed Act.
2. All seeds shall be free of weed seed listed as primary noxious by the Washington State Seed Law. Seeds shall not contain weed seeds listed as secondary noxious by Washington State Seed Law single or collective in excess of the labeling tolerance specified by the Washington State Seed Law.
3. Seeds shall be packed in clean, sound containers of uniform weight. Seeds shall be labeled as required by law.
4. Reference Specification; Chapter 15.49, Washington State Seed Act.
5. Mulch: The Contractor shall apply 200 pounds per acre of mulch from wood fiber.

2.11 STAKES AND GUYS

- A. Stakes: Round, rough-sawn, sound, new hardwood or pressure-preservative-treated softwood, free of knots, holes, cross grain, and other defects, 2" O.D. inches by length indicated, pointed at one end.
- B. Guying material: Arbortape -flat woven tape constructed from high tensile synthetic fiber, 3/4" wide, with a break strength of 900 lbs. (white or green), by NEPTCO Inc. (800) 354-5445, or approved equal.

2.12 MULCH

A. Description

This item includes all materials, equipment, and labor that is necessary for the complete installation of wood chip mulch in planting areas shown on the plans.

B. Materials

1. Wood chip mulch shall be coarse ground waste by-product wood chips (approximately 1/2"-6" along the longest dimension) derived from the mechanical grinding or shredding of whole trees or portions of trees. Tree species shall be mixed hardwood and softwood species such as hemlock and alder. Mulch may contain ground or shredded wood, wood fiber, roots, root wads, branches, leaves, etc.
2. Wood mulch shall be free from weeds, weed seed, deleterious materials, and foreign materials, resin, or other compounds detrimental to plant life. Mulch containing any amount of cedar wood over 70% by volume is unacceptable. Submit sample for approval by Project Owner.
3. Suggested Source:
Northwest Chip and Grind
4243 Hannegan Road, Bellingham, WA 98226

P/N: 360.676.9569.

2.13 ROOT BARRIER

- A. Root Barrier shall be "Deep Root" polypropylene twenty-four (24) inch panels, twenty-four (24) inch depth or approved equal. Supplied by K-C Sales, Inc., Woodinville, WA; telephone: (425) 483-8317.

PART 3 EXECUTION

3.01 GENERAL

- A. All areas shall be finish graded and approved by the Owner before planting of seed, sod, and all other plants. Finished grades and elevations in all areas shall allow for planting soil and mulch added to individual planting areas as specified herein. All grades shall flow smoothly into one another and produce positive drainage. The Contractor is responsible for any adverse drainage conditions that may affect plant growth unless the Contractor contacts the Owner immediately, indicating any possible problem. Verify all grades with Owner before commencement of planting.

3.02 SUBGRADE

- A. All rough grading of the subgrade has been completed.
- B. Rototill or scarify compacted all subgrade soils to a minimum depth of 12 inches prior to placement of planting soil. If additional rototilling or scarifying, below six (6) inches, is required to eliminate surface water ponding, the Contractor shall notify Owner of problem areas. Additional work shall be paid at unit price basis and agreed upon by a Change Order prior to commencement of work.
- C. Remove debris and rocks over one (1) inch in size, establish proper grades and lightly compact.
- D. Placing of planting soil shall constitute acceptance of subgrade conditions by Contractor.

3.03 SOIL PREPARATION

- A. All areas to seed lawn planting shall be cleared of all debris, such as: rocks greater than 1" in the largest dimension, concrete lumps, spalls, wood debris, garbage, and other deleterious materials, before rototilling. Provide and install a two (2) inch depth, after compaction, of recycled plant waste compost, per Section 2.02 (B) (1), over all planting areas, and rototill to a depth of six (6) inches into the subgrade. Provide and install a four (4) inch depth, after compaction, of compacted planting soil over all planting areas and rototill to a depth of six (6) inches into the subgrade. Drag to even grade, remove debris and rocks larger than one (1) inch in diameter, and then compact to specified density prior to planting.
- B. Special planting soil for *Arbutus menziesii*
1. Remove existing native soil in locations planned for Arbutus planting, to a 3' depth x 6' diameter circle.
 2. In all cases storm water must be allowed to percolate out of the planting pit via a permeable vent, also backfilled with the special planting soil. The planting vent shall be oriented towards the down hill grade where the invert elevation of the low end of the vent is lower than the bottom of the planting pit. Dispose of this soil off site a contractor provided disposal area.
 3. Back fill this cavity with the special arbutus soil to the specified grades. And compact to 85% maximum density.
 4. Plant the Arbutus.
- C. Finish Grading
1. Finish grade is defined as the top surface of planting soil prior to the installation of seed lawn unless otherwise noted on the Drawings. The top surface of sod shall be finish grade. The top surface of soil before adding mulch shall be finish grade.

2. Finish grading shall consist of placing, grading and lightly specified compaction planting soil, providing for surface drainage, cutting all necessary drainage swales and generally conforming to finish grades shown on the Drawings and as directed by the Owner.
3. Compact finish grade to eighty-five (85) percent of maximum dry density as determined by ASTM: D 1557 unless otherwise defined in GRADING, EMBANKMENT, AND BACKFILL Section.
4. After settling, finish grades in seed lawn areas shall be one half (1/2) inch below all walks, curbs and/or other hard surfaces.
5. After settling, finish grades in sod lawn areas shall be one (1) inch below all walks, curbs and/or other hard surface edges.
6. The contractor shall finish grade all planting areas for inspection and acceptance by the Owner before the Contractor proceeds with planting. Inspection shall occur at time of staking and layout.
7. Notify Engineer of all subsurface drainage conditions detrimental to growth or survival of hydroseed.
8. Seeding: Notify Owner no less than 24 hours prior to seeding operations for approval of grade.

3.04 TREE INSTALLATION

All plant material shall be inspected and approved by the Owner prior to installation. Plants shall be inspected after delivery to the job site. Plant inspections shall be scheduled for times when reasonable quantities of plant materials are on the job site.

A. Plant Locations

1. Lay out individual tree and shrub locations and areas for plant masses. Stake locations, outline areas, and secure Owner's acceptance before the start of planting work. Make minor adjustments as may be required

B. Planting Trees

1. Transport carefully. Prevent damage. Tie branches as necessary. Use burlap bags to protect bark from rope chafing. Do not drag plant material without proper root and branch protection.
2. Dig pits for trees as indicated in Planting Details herein and consistent with good horticultural practice. The inside surfaces of all planting pits are to be rough, not smooth. Backfill material for plantings is to be native local soil as specified. If the Contractor encounters clay soil or any unusual condition which may be detrimental to the new planting, the Contractor shall notify the Owner's Representative immediately. Unsuitable material, if encountered, shall be removed from the site and planting soil distributed to replace the unsuitable material as Extra Work in accordance with the Specification. Unsuitable material removal will be paid for as a Change Order in accordance with the Specifications.
3. Soak all balled and burlapped rootballs and container plants which have become dry prior to planting. Prune broken roots one-half (1/2) inch or more in diameter cleanly.
4. Plant at the time plant materials are available, and plant in spring or fall of the year in which dug and when weather conditions are consistent with good horticultural practice.
5. The Contractor will ensure that the sides of the planting pit are roughened and scarified to help in root penetration.
6. Contractor shall construct a planting shelf in the berm to contain irrigation water.
7. Trees shall be planted at sufficient depth that when planted the top of the root crown will be slightly above finish grade.
8. Place the tree in an upright and vertical position in the center of the hole.
9. Wire baskets, twine, burlap shall be removed completely. Should removing burlap risk damaging the rootball, then the Contractor may cut and remove 2/3's of burlap measured from the top of the rootball downward. Wire, chords, plastic rope shall be cut away from the root ball and main stem of the tree, and disposed.
10. The rootcrown shall not be buried in the originally dug rootball. If the root crown of a plant is found to be buried in the rootball, the Contractor shall remove soil from the top of the rootball to expose the top of the root crown. If this measure is insufficient to gain acceptance from the Owner, then the Contractor shall immediately replace the plant with another acceptable specimen.

11. Place backfill mix around ball in layers, tamping to settle backfill and eliminate voids and air pockets. When pit is approximately $\frac{1}{2}$ back filled, water thoroughly before placing remainder of backfill. Allow water to infiltrate into soil. Repeat watering until no more is absorbed. Water again after placing and tamping final layer of backfill.
12. Pull mulch around the plant, to the depth shown on the detail. Do not allow mulch to touch the main stem.
13. Weeds in the top of the rootballs must be removed prior to planting.
- C. Tree Pruning
 1. During maintenance, prune as needed, according to standard horticultural practice. Unless otherwise directed by Owner, do not cut tree leaders; remove only injured or dead branches. Prune shrubs to retain natural character. Shrub sizes indicated are size after pruning.
- D. Tree Staking and Guying
 1. Stake trees of 1-1/2-inch through 5-inch caliper. Stake trees of less than 1-1/2-inch caliper only as required to prevent wind tip-out. Use a minimum of 3 stakes of length required to penetrate at least 18 inches below bottom of backfilled excavation and to extend at least 72 inches above grade. Set vertical stakes and space to avoid penetrating balls or root masses. Do not penetrate the rootball with the tree stake. Cut off any broken or splintered stake ends.
 2. Support trees with Arbortape, or approved equal. Attach Arbortape to tree with "Arborknot", as specified by manufacturer. Tie tape to staking and systems. Contractor is responsible for acquiring installation information from manufacturer. Attach tree guy at 48" above the top of the root crown.
- E. Evergreen Staking and Guying
 1. Stake trees of 3-foot height and taller only as required to prevent wind tip-out. Use a minimum of 3 stakes of length required to penetrate at least 18 inches below bottom of backfilled excavation and set as shown on the drawings. Space stakes to avoid penetrating balls or root masses. Cut off any broken or splintered stake ends.
 2. Support trees with Arbortape, or approved equal. Attach Arbortape to tree with "Arborknot", as specified by manufacturer. Tie tape to staking and systems. Contractor is responsible for acquiring installation information from manufacturer. Attach tree guy as shown on the planting detail.
- F. Cleanup and Protection
 1. The Contractor shall not stockpile materials or equipment in any manner that may create a hazard and/or obstacle to pedestrians and/or park users. At the end of each day and as each planting bed is completed, it shall be dressed and all surrounding walkways shall be swept to the satisfaction of the Owner.
 2. Protect landscaping from damage due to landscape operations, operations by other contractors and trades, and trespassers. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged landscape work as directed.
 3. Disposal of Surplus and Waste Materials:
Remove surplus soil and waste material, including pots, wire cages, twine, grow bags, bulap, excess subsoil, unsuitable soil, trash, and debris, and legally dispose of it off the Owner's property.
- G. Maintenance for new and transplanted trees, shrubs, and ground covers.
 1. Maintenance shall be as specified as below, coincide with and be continuous with and during the planting operations and continue for a period of one calendar year after final acceptance.
 2. Watering: Maintain without over watering, constant moisture to a depth of 8 " at all planting areas.
 3. Keep areas free from weeds and grasses by the application of suitable herbicides per manufacturer's instructions, or hand pulling. Use anti-desiccant as approved the Owner and as required to prevent desiccation of plants.
 4. Plants: Maintain in a vigorous thriving condition by watering, correct pruning practices, cultivating, weeding, fertilizing and other necessary operations. Application of pesticides shall be done only as approved by the Owner by workers possessing a State Pesticide Certification. Consult with the owner before pruning trees and shrubs.
 5. All staking and guying, and saucers shall be kept intact and adjusted as required to provide firm support. Maintain fully formed watering saucers.

3.05 SEED LAWN INSTALLATION

A. General:

1. Seed for lawn between April 15 and October 20 when weather conditions are favorable for proper working of the soil and seed germination. Any seeding must be approved in writing by the Owner.
 2. Seed shall be spread by approved mechanical (hopper or culti-packer) or hydro-seed/mulch methods only. Hydro-seeding shall include first application with seed and 10% mulch fiber; second application with no seed and 90% mulch fiber.
 3. Seeding shall be done only after planting soil placement, finish grading and adjacent construction and plantings have been completed.
 4. Mulch shall be SILVA MULCH at forty-five (45) pounds per 1,000 square feet.
 5. Binder shall be J-TAC at two (2) pounds per 1,000 square feet.
- B. Any seeded areas that have become compacted prior to seeding must be scarified to a depth of six (6) inches by approved means, then finish graded as herein before described.
- C. Seeding
1. After finish grading of the seed lawn planting areas, the Contractor shall apply Fertilizer "A" at the minimum rate to comply with soil test laboratory recommendations. Add dolomitic limestone as required to have a pH range of 5.2 to 7.5. After mixing has been completed, remove any debris or rocks over one (1) inch in size. Rake to true grade and roll for firmness. If soil is dry, lightly sprinkle prior to specified compaction. Grades after compaction shall be approved by the Owner prior to seeding.
 2. The application rate for seed lawn areas shall be eight (8) pounds of seed per one thousand (1,000) square feet.
- C. Seed Area Establishment
1. General:
Before the Owner pays the Contractor in full for items related to establishing seed lawn areas, the Contractor shall:
 - a. Plant the lawn
 - b. Grow and maintain the lawn until it is in a full, healthy, and vigorous condition
 - c. Request the Owner inspect the lawn and begin the 60-day Seed Lawn Maintenance Period. The Owner may authorize a 25% payment of the lawn seed payment item.
 - d. The Contractor shall maintain the lawn during the 60-day Seed Lawn Establishment Period.
 - e. The Owner shall inspect and accept the seed lawn if it meets the performance specification. This shall constitute provisional acceptance of the lawn. The Contractor shall be paid 100% of the lawn seed payment item. If the Owner finds the lawn unacceptable, the Contractor shall immediately repair problem areas until the Owner accepts the Lawn.
 2. The Contractor shall be responsible for the watering, weeding, reseeding, mowing, fertilizing and other necessary operations of seed lawn areas until Final Acceptance of the project.
 3. First and second mowings shall be done when lawn areas are well established and grass lawn reaches an average height of three (3) inches at each mowing. Mowing shall be done by an approved "reel" type mower. A rotary style mower must be approved in advance by the owner, before used in this contract. Mower blade shall be set at one and one-half (2-1/2) inches high for first, second and subsequent mowings until final acceptance of the project. Catch and dispose of grass trimmings off site.
 4. Seed beds must show vigorous growth with a FULL stand of grass and be uniform in appearance, free of weeds and/or other undesirable plant species as approved by the Owner's Representative. A FULL stand of grass is defined as a uniform grass cover with no bare spots over four square inches in area.

5. To encourage deep rooting, each watering shall be thorough enough to provide soil moisture a minimum of six (6) inches below soil surface. Permit soil to dry sufficiently between watering, but not so dry as to damage the planting.
6. Check for barren areas [nine square inches] in seed bed approximately twenty-one (21) days after seeding and overseed as originally specified at the time or at such time as weather and season permit for seed germination or as approved by the Owner.
7. Seed Lawn Establishment Period follows inspection and approval of the lawn :
The lawn establishment period includes the time required to germinate grass seed to the point in time the Owner accepts the lawn showing characteristics described below. Landscape maintenance period to commence on the day the Owner accepts the seeding, and will continue for a sixty (60) calendar day period. Work on other bid items may continue during the Maintenance and Guarantee period. All maintenance requirements including, but not limited to, watering, fertilization, mowing, clean-up, etc., will be required and enforced. In the event the sixty (60) calendar day period extends beyond November 1st, a winter suspension of work will be issued, (effective November 1); and the maintenance and guarantee period will resume March 15 and continue until the end of the sixty (60) calendar day period.

During the germination period for turf and seeded areas, the seed bed shall be kept evenly moist at all times. To achieve this goal, it may be required to water seeded areas daily, depending upon weather conditions, during the germination period. Care shall be given to apply water at such a rate so as to not erode or wash away seed. Daily inspections will be conducted by the Owner during the germination period following application of seed to verify the application of adequate amounts of water. Should inspection reveal that an adequate amount of moisture is not being supplied or evenly distributed to all the seeded areas, the Owner will place the Contractor on notice that immediate applications of water be applied and failure to do so will result in immediate suspension of the 60 calendar day maintenance period. No additional compensation will be allowed the Contractor for these applications of water.

If the Contractor continues to fail to apply adequate moisture during the germination period for five (5) consecutive calendar days, the Owner may declare the seeding unacceptable. Within three (3) working days of notification, the Contractor will be required to reseed areas that have not been kept moist. Once adequate water is applied, the Owner shall reinstate the sixty (60) calendar day maintenance period for entire project beginning the day of proper application of moisture or reseeding.

One application of fertilizer shall be applied at the specified rate thirty (30) calendar days after application of seed and at thirty (30) calendar day intervals until final acceptance of the seeded areas. If the Contractor fails to fertilize within the thirty (30) calendar day intervals or it becomes apparent that the fertilizer has not been applied evenly or watered when needed, the Owner will place the Contractor on notice. If after a five (5) calendar days notice the Contractor fails to fertilize or water as directed, the Owner may declare the seeding unacceptable and immediate suspension of the sixty (60) calendar day maintenance period will ensue.

If, in the opinion of the Owner, there is not a full, healthy, uniform stand of grass at the conclusion of the sixty (60) calendar day maintenance period, maintenance shall continue until such time a healthy, uniform stand of grass is established. The Owner will be the sole judge of the adequacy of the grass. The Contractor has ten (10) calendar days from notice of deficiencies to correct work related to seeding. Owner may then arrange to have seeding done by others with full cost of this work to be paid by the Contractor. Any costs incurred by the Contractor for maintenance that occurs beyond the sixty (60) calendar day period shall be borne by the Contractor.

3.06 MULCH PLACEMENT

1. Prior to mulch installation, execute all surface grading as may be necessary or incidental to the planting operation.

2. The Contractor shall place wood chips on the planting bed and around plantings in turf areas in a uniform layer, at a thickness and area noted on the plans.
3. Rake smooth all ridges and depressions to achieve smooth grades and transitions between grades.

3.07 ROOT BARRIER

- A. Install per Manufacturer's written recommendations.

3.08 PROTECTION

- A. All planting areas shall be properly protected against harm from normal weather conditions and the public by the Contractor until Final Acceptance. Maintenance of all the planted areas until Final Acceptance, shall include, but not be limited to, watering, mowing, and weeding, as well as replacement of any seed or sod lawn areas that appear to be in distress. Although planting shall occur in spring or fall of year when weather conditions are favorable, special planting techniques may be required should unseasonable planting conditions occur. No work shall be performed in, over or adjacent to planting areas without approved protection and safeguards.
- B. Plant losses due to ABNORMAL WEATHER conditions such as, floods, excessive wind damage, drought, severe freezing or abnormal rains; as determined by the National Weather Service, Telephone Number (206) 526-6087; will not be the responsibility of the Contractor.

3.09 CLEAN-UP

- A. Areas to be kept clean during progress of work and until completion. Water, dirt and rubbish to be kept off of all paved areas. Remove surplus materials and rubbish from planting beds, rake beds neatly to an even, fine grade around all plants and wash clean all paved areas. Leave project in first quality condition.

3.10 FINAL ACCEPTANCE

- A. Final acceptance of all landscaping work described in this Specification section, with the exclusion of possible replacements of plant materials under the Guarantee, shall be made by the Owner's Representative to determine one hundred (100) percent completion of the Contract work. This review shall be made upon written request to the Owner no less than forty-eight (48) hours prior to the anticipated date of inspection. The Owner shall be the final judge for all work under this section. The contract maintenance period begins the day following Owner's Final Acceptance of the work described in this section.
- B. SHOULD ADDITIONAL FINAL ACCEPTANCE REVIEW(S) BE REQUIRED BY THE OWNER DUE TO THE FAILURE OF THE CONTRACTOR TO HAVE THE PROJECT LANDSCAPING READY FOR FINAL ACCEPTANCE, THE CONTRACTOR SHALL PAY TO THE OWNER THE SUM OF EIGHTY-FOUR DOLLARS (\$84.00) PER HOUR AND ACTUAL COST OF EXPENSES FOR EACH ADDITIONAL FINAL ACCEPTANCE REVIEW.

3.11 LANDSCAPE MAINTENANCE PERIOD (NON-LAWN)

- A. Extended Tree, Shrub, Ground Cover Maintenance Complete:
 1. This item shall consist of the Contractor's maintaining all planted areas, including owner provided nursery stock and transplanted shrubs, installed under the Contract for two additional calendar years from the date of project final acceptance.
 2. The Contractor shall post a two-year maintenance bond.
 3. Maintenance shall include weeding, adjusting stakes or watering as required, fertilizing, straightening trees by adjusting guys, and any other operations required to maintain the project in first class appearance.
 4. Remove and replace dead plants within 7 calendar days of the date written on the letter of notification from the Owner.
 5. The Contractor shall keep a diary of all site maintenance, and shall submit a monthly copy of the diary to the Owner.

6. The Contractor and Owner shall conduct a final inspection of the planting area(s) at the completion of the extended maintenance period.
7. Contractor is not held responsible for theft or damage to trees and shrubs due to vandalism or extreme weather conditions leading to deep freeze, flooding, extreme heat and other anomalous atmospheric conditions atypical of Bellingham weather.
8. The extended maintenance agreement shall be incidental to the cost of plant materials and shall not be measured for payment purposes.

B. Owner's recourse to lack of maintenance:

It is agreed that the City will suffer damage and be put to additional expense in the event that the Contractor does not perform maintenance duties as specified above, and as it may be difficult to accurately compute the amount of such damage, the Contractor hereby expressly covenants and agrees to the following maintenance performance measures:

1. Weeding: The Owner will issue the Contractor up to two written notices during the maintenance period to weed contract planting areas. Whereupon the Contractor shall have seven calendar days, per notice, to complete the weeding. If weeding is not performed after the second notice, the Owner shall terminate the contract with the Contractor and contact the Contractor's Bonding Company to perform the work for the rest of the maintenance period.
2. Replacing Dead or Dying Plants: The Owner will issue the Contractor up to two written notices during the maintenance period to replace dead or dying plants. Whereupon the Contractor shall have seven calendar days, per notice, to replace the dead or dying plants. If plant replacement is not performed after the second notice, the Owner shall terminate the contract with the Contractor and contact the Contractor's Bonding Company to perform the work for the rest of the maintenance period.
3. Regular watering: The Owner will issue the Contractor up to two written notices during the maintenance period to water the contract plants. Whereupon the Contractor shall have three calendar days, per notice, to water contract plants. If plant irrigation is not performed after the second notice, the Owner shall terminate the contract with the Contractor and contact the Contractor's Bonding Company to perform the work for the rest of the maintenance period.
4. Maintenance Period Restart: If the Owner reckons that 25% of the total combined number of trees, shrubs, and ground covers installed under this contract are, or have been in, either dead or in a dying state during the length of the maintenance period, the maintenance period for the entire planting portion of the project, sans lawn planting, shall restart from the planting completion date of plant replacement and run for a full two year period. If the maintenance period for the planting restarts, the warranty period for the planting portion of the project shall restart the same day the new maintenance period begins.

3.12 FINAL ACCEPTANCE

- A. Final acceptance of all landscaping work described in this Specification section, with the exclusion of possible replacements of plant materials under the Guarantee, shall be made by the Owner's Representative to determine one hundred (100) percent completion of the Contract work. This review shall be made upon written request to the Owner's Representative no less than forty-eight (48) hours prior to the anticipated date of inspection. The Owner shall be the final judge for all work under this section.

PART 4 MEASUREMENT & PAYMENT

- 4.01 All work in this section will be measured on a lump sum basis and shall include all labor, profit, materials, mobilization, supervision, compaction, equipment and all work necessary to fully construct the improvements in place.

Payment for all work in this section will be made under the following Base Bid Items.

"Landscaping", per L.S.

PART 4 – PAYMENT (OPTIONAL)

4.1 Method of Measurement

DATE: 8/21/07

02900 - 18

Plants:

Payment for plants shall be per each as listed on the Bid Form and on the plant list found on the Plans and shall be full compensation for furnishing all labor, equipment, fertilizer, and polymer pellets and other materials to complete the work as specified, in place.

It is the Contractors responsibility to make any required deposit for the plants, specified herein, which are held for a period of time prior to installation. The City shall nor make any partial payments for plants not on site and installed.

Compost:

Measurement shall be based on the furnishing, loading, transport, unloading, and installation of compost, in place, to the grades specified on the plans. Measurement shall be by the CUBIC YARD (C.Y.) Costs relating to testing compost shall be incidental to this item.

Hog Fuel Mulch

Measurement shall be based on the furnishing, loading, transport, unloading, and installation of wood chip mulch, in place, to the grades specified on the plans, in planting beds and on turf plantings. Measurement shall be by the cubic yard (C.Y.).

Medium Texture Wood Chip Mulch:

Measurement shall be based on the furnishing, loading, transport, unloading, and installation of wood chip mulch, in place, to the grades specified on the plans, in exisitng planting beds. Measurement shall be by the cubic yard (C.Y.).

4.2 Basis of Payment

Basis of payment for this item shall be in accordance with General Requirements of the most current edition of the Standard Specifications for Roads, Bridges, and Municipal Construction by WSDOT Section 1-09 and shall be full payment for the work described herein. Payment shall be made under:

<u>PAY ITEM</u>	<u>UNIT</u>
Compost	Cubic Yard (C.Y.)
Tree	Each (EA.)
Shrub	Each (EA.)
Medium Wood Chip Mulch – 4" depth	Cubic Yard (C.Y.)
Hog Fuel	Cubic Yard (C.Y.)

END OF SECTION