

SECTION 02950

TREES SHRUBS AND GROUND COVERS

PART 1 - GENERAL

1.1 SUBMITTAL: Per Section 01300 of these Specifications.

1.1.1 MAINTENANCE DATA:

1.2 CONTRACT CLOSEOUT SUBMITTALS: Per Section 01700 of these specifications.

1.2.1 RECORD DOCUMENTS: Indicate any revisions to the work

1.2.2 PLANT GUARANTEE AND REPLACEMENT:

1.2.2.1 Guarantee: The Contractor shall guarantee all plant material to be in vigorous, healthy condition for a period of sixty (60) days from date of acceptance or replacement, and shall guarantee to replace any plant material which proves not to be true to name

1.2.2.2 Replacement: At any time during the construction, during the maintenance period, or at the end of the guarantee period, any plant which is dead or otherwise not acceptable or in a satisfactory growing condition in the opinion of the Landscape Architect, shall be removed from the site and replaced with a suitable plant as specified, within seven (7) days

1.3 QUALITY ASSURANCE:

1.3.1 CERTIFICATIONS: All shipments or orders of plant material shall be inspected at the nursery or at the growing site by the federal and state authorities. All necessary inspection certificates shall accompany the invoice for each shipment or order of stock, as may be required by law for transportation of plant material. Such certificates shall be filed with the Contractor prior to acceptance of the materials

PART 2 - PRODUCTS

2.1 MANUFACTURERS: Performance Specification.

2.2 PLANT MATERIALS:

2.2.1 Upon delivery to the project site, all plant material shall be planted as soon as possible. Until planting the nursery stock shall not be exposed to excessive sun or drying winds. Plant material which is not satisfactory in the opinion of the Landscape Architect shall be immediately removed from the site and replaced with acceptable stock at the Landscape Contractors expense.

2.2.2 Unless otherwise indicated, all plant materials furnished shall be nursery grown, well branched, and well proportioned. All plants are subject to inspection and approval by the Landscape Architect before installation. All plants found unacceptable in growth habit or condition, or which are not true to name, shall be removed and replaced with acceptable plants at the Landscape Contractors expense

2.2.3 Quality and Size: All plants shall have a normal growth habit and shall be sound, healthy, vigorous and free of disease and insect infestations. Trees shall have a straight trunk throughout their height unless specified otherwise on plans, such as multi-trunk specimens. The minimum acceptable size of all plants measured before pruning, with branches in normal position, shall conform to the measurements specified within the plant list.

2.2.4 Container Grown Plants: Shall have been grown in pots, cans, or boxes for a minimum of three months and a maximum of one year. They shall have sufficient roots to hold earth intact after removal from containers, but shall not be root bound. Plants shall be removed from containers so as to prevent cracking or breaking of the root ball during the planting process

2.2.5 Inspection of plant material at sources will generally be confined to large box material or specimen trees.

2.3 OTHER MATERIALS:

2.3.1 Humus: Shall be forest humus or peat moss, or other approved organic material free from stones, sticks, roots or other matter uncharacteristic of those normally found in such humus

2.3.2 Tree Stakes: Wood stakes shall be 2" dia. x 8' lodge pole pine, pointed at one end and free of knots

2.3.3 Prepared Backfill: Shall be composed of three (3) parts native soil to one (1) part organic humus/mulch by volume, thoroughly mixed to ensure uniformity. Native soil shall not be excessively acid or alkaline, nor contain toxic substances harmful to plant growth. It shall be reasonably free of noxious weeds, clods, stones, roots, clay clumps and debris of any kind. Native soil shall be amended as indicated on plans as to fertilizer requirements

2.3.4 Water: Used in planting shall be kept free from oils, acids, alkali, salt and other harmful substances.

PART 3 - EXECUTION

3.1 EXAMINATION: Prior to commencement of the work, the entire related area shall be inspected by the Landscape Contractor to determine its readiness and any deficiencies reported to the General Contractor.

3.2 INSTALLATION:

3.3.1 Upon delivery to the project site, all plant material shall be planted as soon as possible. Until planting, nursery stock shall not be exposed to excessive sun or drying winds. Plant material which is not satisfactory in the opinion of the Landscape Architect shall be immediately removed from the site and replaced with acceptable stock at the Landscape Contractors expense.

3.3.2 PLANTING SEASON: The planting of trees shall be performed during favorable weather conditions, during the season or seasons which are normal for such work, as determined by acceptable local practice

3.3.3 OBSTRUCTIONS BELOW GROUND: Any rock or other underground obstructions shall be removed, if possible, to the depth necessary to permit proper planting, according to plans and specifications. If underground construction, obstructions, or rock are encountered in the excavation of planting areas, other locations for the planting may be selected by the Landscape Contractor with approval from the Landscape Architect. Prior to any work, the Landscape Contractor must be knowledgeable of the location of all existing underground installations or utilities, and their protection is his responsibility. All damage will be corrected at the expense of the Landscape Contractor to the satisfaction of the Owner

3.3.4 PLANTING OPERATIONS: The Landscape Contractor will receive all planting areas at a grade of 0' 1" plus or minus. The Landscape Contractor is responsible for fine grading, and minor grading at headers, sidewalks, or other planting areas

3.3.4.2 Plant Locations: Prior to planting, trees and shrubs in containers will be located in accordance with the planting plan. The Landscape Architect will approve such locations at his discretion. Trees, shrubs and ground covers not properly located in the opinion of the Landscape Architect shall be transplanted or replaced with new stock to the proper position as directed by the Landscape Architect. Removal and/or replacement shall be at the Landscape Contractors expense. The Landscape Contractor shall stake the plant locations as required to coordinate the planting scope of work with the irrigation work

3.3.4.3 Excavation for Planting: This shall include the excavation and stockpiling of native soil. Planting pits shall be excavated to a volume twice the size of the root ball of the plant, as indicated in the plant details.

3.3.4.4 First Backfill: Planting pits shall be backfilled with prepared backfill and water settled. The backfill shall be sufficient enough to support the plant at the grade level at which they were grown

3.3.4.5 Setting Plants: Plants shall be set plumb and faced to give the best appearance and relationship to adjacent plants or structures as directed by the Landscape Architect.

3.3.4.6 Final Backfill and Fine grading: Backfilling operations of planting pits shall be completed with prepared backfill. The soil shall be thoroughly tamped and water settled to eliminate all voids in the backfill. The wells shall be graded and planting area shall be fine graded

3.3.4.7 Staking of Trees: Staking shall be as described on the drawings (tree planting detail)

3.3.4.8 Fertilization: All plant material shall receive plant tablets or granular type fertilizer. Fertilizer tablets or granules shall consist approximately of the following elements: 20% nitrogen, 10% available Phosphoric acid, 5% potash, 2% combined calcium, 1.5% sulfur, .36% iron, .42% zinc and .18% manganese.

3.4 FIELD QUALITY CONTROL:

3.4.1 OBSERVATIONS: Notify the Landscape Architect prior to installation to witness the installation of

3.5 CLEANING: Any soil, humus, or other material dropped onto paved areas by hauling operations or otherwise, shall be removed promptly, keeping areas clean at all times

3.6 PROTECTION: Protect work during and after installation, until acceptance by the Owner or his agent.

3.7 MAINTENANCE: The Landscape Contractor shall maintain all trees, shrubs and ground covers until acceptance of the completed project is made by the Owner. This maintenance shall include labor, equipment and material required for watering, weeding and general care to ensure the healthy growth of all plant materials.

SECTION 02955 DECOMPOSED GRANITE

PART 1 -GENERAL

1.1 SUBMITTAL: Per Section 01300 of these Specifications.

1.1.1 MAINTENANCE DATA: Recommended material and application schedule for pre-emergent weed control

PART 2 - PRODUCTS

2.1 MANUFACTURERS: Performance Specification.

2.2 MATERIALS:

2.2.1 Decomposed granite shall be native, local desert decomposed granite stone of size 1/4" dia. to 3/4" dia. as indicated on the plans. Fines below this range shall be kept to a maximum of 30% of the total volume. Granite shall be free of organic matter and other debris. Unless otherwise specified on the drawings, the color shall be a 'Desert Beige'

2.2.2 Chemical herbicide shall be Dacthol pre-emergent or Surflan pre-emergent

PART 3 - EXECUTION

3.1 EXAMINATION: Prior to the commencement of the work, the entire related area shall be inspected by the Landscape Contractor to determine site readiness and any deficiencies reported to the General Contractor

3.2 INSTALLATION:

3.3.1 All areas of decomposed granite shall be raked and graded smooth. All deleterious material and rocks larger than 1" in dia. shall be removed and disposed of before placing decomposed granite

3.3.2 A pre-emergent weed control shall be applied to the decomposed granite area according to manufacturers recommendations, before placing decomposed granite

3.3.3 The decomposed granite shall be evenly distributed in the designated areas to a depth of 2" unless otherwise indicated on the drawings. Granite finish grade shall be 1" below top of curb or walk.

3.3.4 After placement and grading of decomposed granite, apply a second application of pre-emergent according to manufacturers recommendations.

3.4 FIELD QUALITY CONTROL:

3.4.1 OBSERVATIONS: Notify Landscape Architect prior to installation so he may witness the installation, only if required and requested by the Landscape Architect.

3.5 CLEANING: Landscape Contractor shall remove from site all debris and waste materials developed as a result of the work in this section. All paved surfaces shall be clean of dirt and grime with completion of work

3.6 MAINTENANCE: Granite areas shall be maintained free of weeds and other debris and true to grade until final accept and/or completion of minimum (60) sixty day maintenance period.

SECTION 02810

IRRIGATION PART 1 - GENERAL

1.1 SUMMARY: Sprinkler systems shall be constructed to the sizes, grades and locations shown on the plans. Sprinkler lines shown on the plans are essentially diagrammatic. Location of all sprinkler heads shall be established by the Landscape contractor at the time of construction. Typical spacings of the sprinkler heads are shown on the plans and shall not be exceeded

1.1.2 Unless otherwise specified, the construction of the sprinkler and emitter system shall include the furnishing, installing and testing of all necessary equipment, the removal and/or restoration of existing improvements, excavation and backfill, and all other work in accordance with the plans and specifications

1.1.3 It is here specified that the system shall be a complete, operative system giving 100% coverage to all plant and planted areas. The system should be properly adjusted and avoid over spray onto walks and building surfaces

1.2 SUBMITTALS: Per Section 01300 of these Specifications

1.2.1 PRODUCT DATA: Manufacturers latest printed literature

1.3 CONTRACT CLOSEOUT SUBMITTALS: Per Section 01700 of these Specifications

1.3.1 RECORD DOCUMENTS: Indicate any revisions to the work

1.3.2 WARRANTY: One year

PART 2 - PRODUCTS

2.1 MANUFACTURERS

2.1.1 Controller / Backflow Preventer / Control Valves / Sprinkler heads / Emitters

2.2 MATERIALS: General materials throughout the system shall be as shown on plans and in these specifications and shall be new and the best of their class and kind. No deviations from the plans and specifications will be allowed unless directed by the Landscape Architect. The Landscape Architect reserves the right to reject any materials and equipment in the system

2.2.1 PLASTIC PIPE AND FITTINGS

2.2.1.1 Pipe shall be as described on the drawings. It shall be PVC or Polyethylene extruded from virgin parent materials of the type specified on the plans. The pipe shall be homogeneous throughout and free from cracks, holes, foreign materials, wrinkles, and dents

2.2.1.2 All pipe shall be continuously and permanently marked with the following information: Manufacturers name or trademark, size, schedule, type and working pressure at 73 degrees F., and National Sanitation Foundation (N F S) approval

2.2.1.3 All PVC pipe fittings to be installed shall be molded fittings manufactured of the same material as the pipe and shall be suitable for either solvent weld or screwed connections. Fittings shall be PVC, schedule 40 polyvinyl chloride, standard weight

2.2.1.4 All PVC to copper pipe joints shall be made with PVC schedule 40 male adaptor or PVC schedule 80 nipples. Joint compound for such connections shall be Permatex Type II or Teflon tape. Primer and solvent for socket connections of PVC material shall be compatible with material to be welded as recommended by the manufacturer

2.2.1.5 All polyethylene pipe fittings to be installed shall be molded fittings of plastic material. Fittings shall be compression type fittings designed for use with the specific brand of pipe used in construction.

2.2.2 COPPER PIPE AND FITTINGS

2.2.2.1 Copper pipe shall be as specified on plans

2.2.2.2 Fittings shall be of copper material. Solder joints with lead free solder and a rosin type flux. Connection with PVC pipe shall be made with a threaded female coupling

2.2.3 SPRINKLER HEADS/BUBBLERS/EMITTERS: Sprinkler heads shall be of the type and sizes as shown on the plans. Bubblers and Emitters shall be as specified on the plans

2.2.4 ENCLOSURES FOR EQUIPMENT: Equipment enclosures set at finish grade shall be plastic irrigation valve boxes, the type and size being determined by the volume of equipment to be enclosed. Enclosures shall be manufactured by Ametek or equal

2.2.5 CONTROL WIRE:

2.2.5.1 Control wire shall be solid copper wire, 14 gauge, 600V wire UL approved for direct burial underground

2.2.5.2 Common wires shall be white; control wires shall be of another color but not black. Connectors shall be waterproof type

2.2.6 EQUIPMENT: Controllers, valves, backflow preventors, pressure regulators and filters shall be as specified on plans

PART 3 - EXECUTION

3.1 EXAMINATION: Prior to the commencement of the work, the entire related area shall be inspected by the Subcontractor and/or General Contractor to determine site readiness to proceed with landscape install

3.2 INSTALLATION

3.3.1 TRENCHING: All main lines shall have a minimum cover of 18", and all lateral lines shall be installed with a minimum cover of 6" based on finish grades. All PVC lines installed beneath Asphaltic Concrete paving shall have a minimum cover of 24", and backfill shall conform to the minimum compaction test of paved

3.3.2 SLEEVING: Piping under paved areas shall be sleeved in PVC Schedule 40 pipe as shown on the plan

3.3.3 PIPE AND FITTINGS

3.3.3.1 Solvent weld PVC pipe and fittings, using solvents and methods recommended by the manufacturer except where screw connections are required. Pipe and fittings shall be clean of dirt and moisture before assembly. To allow for expansion and contraction the pipe shall be snaked from side to side at trench bottom. All pipe in rocky soils shall be thoroughly embedded in sand or approved soil

3.3.3.2 Pipe shall be cut with PVC pipe cutters or hand saw in a manner so as to ensure a square cut. Burrs at ends shall be removed prior to installation so that smooth unobstructed flow will be maintained

3.3.3.3 Polyethylene pipe shall be snaked in trenches to provide for expansion and contraction, and installed at the depth specified on the drawings. Pipe shall be cut in a manner so as to ensure a square cut.

3.3.4 COPPER PIPE: All tubing shall be cut accurately to measurements established by the Contractor and shall be worked into place without springing or forcing. Proper provision shall be made for expansion and contraction of all tube lines. All copper tubing shall be cut with square ends and all burrs and fins removed. End of tubing and inside of fittings shall be cleaned with a wire brush or abrasive. Flux shall be applied to the outside surface of tubing ends and on the recess inside fittings. Tubing shall be inserted to the full depth of the fitting, then soldered

3.3.5 EQUIPMENT:

3.3.5.1 Control valves shall be installed in valve boxes approximately where shown on plans. Place valves only in planter areas, not in lawn areas. Place no closer than 12" to walk edges, buildings and walls. Clearance between the highest part of the valve and the bottom of the valve box shall be 2"-4". Lid must not rest on any part of the valve or piping. Top of valve box shall be flush with finish grade. Backfill around valve box shall be to approximately 90% compaction

3.3.5.2 Installation of controller and backflow preventer shall be as shown on the drawings. Compact soil at backflow preventer to 95%

3.3.6 SPRINKLER HEADS: All irrigation heads shall be set perpendicular to finished grades unless otherwise designated on plans or slope conditions in lawn areas dictate modifying head angle. Thoroughly flush out heads. All part circle sprinkler heads shall be located 1'-1/2" to 2" from edge of and flush with top of adjacent walks, curbs, paved areas, and headers at time of installation. All pop-up rotor heads shall be installed 6" from walks, or structures

3.3.7 FLUSHING AND TESTING OF PIPE:

3.3.7.1 Main sprinkler lines shall be tested in place before backfilling for a period of not less than one hour, and shall show no loss of water through fittings. Pressure must be static line pressure. The backflow preventer must be tested by a certified tester prior to issuance of Certificate of Occupancy

3.3.7.2 After all new sprinkler piping and risers are in place and connected, all necessary division work has been completed and prior to installation of sprinkler heads, control valves shall be opened and a full head of water used to flush out the system. Heads shall be installed after system is thoroughly flushed.

3.3.7.3 Remove end caps from emitter system lines and thoroughly flush after installation of all fittings, risers, emitter adaptors and laterals. Replace caps and backfill trench. Install emitters to 1/4" tubing as shown on plans after flushing. Follow same procedure for bubbler system

3.3.8 BACKFILLING: Prior to backfilling the main line shall be pressure tested. Backfill all trenches with clean soil, free of rocks or debris. Backfill shall be water settled and compacted to a minimum density of 95% under paving, 90% under planted areas. Contractor shall provide rough grade to match the grade condition prior to the work as a part of this section

3.4 PROTECTION: Protect work during and after installation until acceptance by the Owner or his agent. MAINTENANCE: The Contractor shall maintain the system in proper working order until acceptance

LANDSCAPE INSTALLATION NOTES

ALL PLANT MATERIAL TO BE INSTALLED IN THIS PROJECT MUST MEET THE FOLLOWING MINIMUM STANDARD REQUIREMENTS FOR SIZE, GROWTH AND HEALTH.

PLANT MATERIAL OBTAINED FROM LOCAL NURSERIES SHALL HAVE BEEN GROWN IN ITS SIZED CONTAINER A MINIMUM OF THREE MONTHS (GROWING SEASON MONTHS).

ANY PLANT THAT APPEARS TO HAVE BEEN TRANSFERRED TO A LARGER CONTAINER AND NOT FULLY ROOTED OUT WILL BE REJECTED AND REPLACED WITH A LARGER PLANT.

ONE (1) GALLON SHRUBS AND GROUNDCOVERS TO BE A MINIMUM OF 8" DIAMETER WITH FULL BRANCHING.

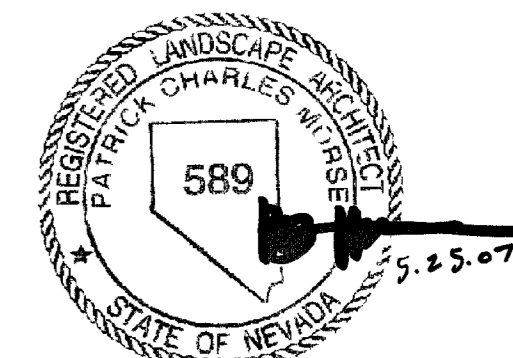
FIVE (5) GALLON SHRUBS TO BE A MINIMUM OF 12" DIAMETER WITH FULL BRANCHING.

FIFTEEN (15) GALLON AND BOXED TREES TO MEET HEIGHT, SPREAD AND CALIPER SIZES AS INDICATED ON PLANT LIST.

ANY PLANT MATERIAL NOT MEETING THESE REQUIREMENTS WILL BE REJECTED ON PROJECT SITE. ODD OR MISSHAPEN PLANT MATERIAL IN THE OPINION OF THE LANDSCAPE ARCHITECT WILL NOT BE ACCEPTED UNLESS SPECIFICALLY INDICATED ON PLANS.

CONTACT LANDSCAPE ARCHITECT FOR APPROVAL ON ALL PLANT SUBSTITUTIONS PRIOR TO INSTALLATION. ANY PLANT SUBSTITUTED WITHOUT LANDSCAPE ARCHITECTS APPROVAL IS SUBJECT TO REJECTION ON SITE. THE LANDSCAPE CONTRACTOR SHALL VISIT THE SITE AND REPORT ANY DISCREPANCIES BETWEEN CONSTRUCTION SITE AND LANDSCAPE DRAWINGS TO LANDSCAPE ARCHITECT BEFORE PROCEEDING WITH LANDSCAPE INSTALLATION.

THE LANDSCAPE CONTRACTOR SHALL BID THESE PLANS ACCORDING TO DETAILS AND SPECIFICATIONS WITHIN. CONTACT LANDSCAPE ARCHITECT FOR ANY QUESTIONS REGARDING INFORMATION CONTAINED IN LANDSCAPE PLANS. ANY ITEMS OMITTED FROM THE LANDSCAPE BID THAT IS CLEARLY INDICATED ON THE PLANS WILL BE INSTALLED AT THE LANDSCAPE CONTRACTORS EXPENSE. IT IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR TO CAREFULLY REVIEW THE PLANS AND RESEARCH ANY ITEMS THAT ARE UNFAMILIAR.



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LANDSCAPE ARCHITECTS

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Retail Building #1

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LANDSCAPE SPECIFICATIONS

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