

SECTION 32 9000 - PLANTING

PART 1 GENERAL

1.01 SUMMARY

A. SECTION INCLUDES:

1. SOIL AMENDMENTS
2. TREES
3. SHRUBS
4. PLANT MAINTENANCE
5. SHRUB AND TREE TRANSPLANTING

B. RELATED SECTIONS:

1. SECTION 32 9400 - PLANTING IRRIGATION

1.02 REFERENCES

- A. ANSI Z601 , AMERICAN STANDARD FOR NURSERY STOCK.
- B. ANSI Z133.1 , AMERICAN NATIONAL STANDARD FOR TREE CARE OPERATIONS'
- C. NAA (NATIONAL ARBORIST ASSOCIATION , PRUNING STANDARDS FOR SHADE TREES ,
- D. AMERICAN SOD PRODUCERS ASSOCIATION (ASPA) GSS , (1986) GUIDELINE SPECIFICATIONS FOR SODDING,

1.03 DEFINITIONS

- A. WEEDS: ANY PLANT LIFE NOT SPECIFIED WITHIN SPECIFICATIONS OR ON DRAWINGS.
- B. PLANTS: LIVING TREES, PLANTS, AND GROUND COVER AS INDICATED WITHIN SPECIFICATIONS OR ON DRAWINGS.

1.04 SUBMITTALS

- A. SUBMIT IN ACCORDANCE WITH SECTION 01 3300 AND THE FOLLOWING SUPPORTING INFORMATION:
 1. CERTIFICATES OF INSPECTION AS REQUIRED BY GOVERNMENTAL AUTHORITIES.
 2. LABEL DATA SUBSTANTIATING THAT PLANTS, TREES, SHRUBS, AND PLANTING MATERIALS COMPLY WITH SPECIFIED REQUIREMENTS.
 3. PRODUCT DATA FOR THE FOLLOWING:
 - a. ALUMINUM SULFATE
 - b. FERTILIZERS
 - c. EDGING
 4. CERTIFICATION BY PRODUCT MANUFACTURER THAT THE FOLLOWING PRODUCTS SUPPLIED COMPLY WITH REQUIREMENTS:
 - a. FERTILIZERS
 5. QUALIFICATION DATA FOR FIRMS AND PERSONS SPECIFIED IN THE "QUALITY ASSURANCE" ARTICLE TO DEMONSTRATE THEIR CAPABILITIES AND EXPERIENCE. INCLUDE LISTS OF COMPLETED PROJECTS WITH PROJECT NAMES AND ADDRESSES, NAMES AND ADDRESSES OF ARCHITECTS AND OWNERS, AND OTHER INFORMATION SPECIFIED.
 6. MATERIAL TEST REPORTS FROM QUALIFIED INDEPENDENT TESTING AGENCY INDICATING AND INTERPRETING TEST RESULTS RELATIVE TO COMPLIANCE OF THE FOLLOWING MATERIALS WITH REQUIREMENTS INDICATED.
 - a. ANALYSIS OF EXISTING SURFACE SOIL
 - b. ANALYSIS OF IMPORTED TOPSOIL
 7. PLANTING SCHEDULE INDICATING ANTICIPATED DATES AND LOCATIONS FOR EACH TYPE OF PLANTING.
 8. MAINTENANCE INSTRUCTIONS RECOMMENDING PROCEDURES TO BE ESTABLISHED BY OWNER FOR MAINTENANCE OF LANDSCAPING DURING AN ENTIRE YEAR. SUBMIT BEFORE EXPIRATION OF REQUIRED MAINTENANCE PERIODS.

B. SAMPLES:

1. SUBMIT ONE (1) QUART OF SPECIFIED MULCH FOR APPROVAL BY ARCHITECT PRIOR TO PLACEMENT

1.05 QUALITY ASSURANCE

- A. INSTALLER QUALIFICATIONS: ENGAGE AN EXPERIENCED INSTALLER WHO HAS COMPLETED LANDSCAPING WORK SIMILAR IN MATERIAL, DESIGN, AND EXTENT TO THAT INDICATED FOR THIS PROJECT.
- B. NURSERY QUALIFICATIONS: COMPANY SPECIALIZING IN GROWING AND CULTIVATING THE PLANTS WITH 3 YEARS DOCUMENTED EXPERIENCE.
- C. TREE PRUNER QUALIFICATIONS: COMPANY SPECIALIZING IN PRUNING TREES WITH PROOF OF ARBORIST CERTIFICATION.

D. REGULATORY REQUIREMENTS:

1. COMPLY WITH REGULATORY AGENCIES FOR FERTILIZER AND HERBICIDE COMPOSITION.
2. PERFORM WORK IN ACCORDANCE WITH APPLICABLE LAWS, CODES, AND REGULATIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION OVER SUCH WORK AND PROVIDE FOR INSPECTIONS AND PERMITS REQUIRED BY FEDERAL, STATE, AND LOCAL AUTHORITIES IN FURNISHING, TRANSPORTING AND INSTALLING MATERIALS.

E. SOURCE QUALITY CONTROL

1. GENERAL: SHIP LANDSCAPE MATERIALS WITH CERTIFICATES OF INSPECTION REQUIRED BY GOVERNING AUTHORITIES. COMPLY WITH REGULATIONS APPLICABLE TO LANDSCAPE MATERIALS.
 - a. INSPECTION BY FEDERAL OR STATE GOVERNMENTS AT PLACE OF GROWTH DOES NOT PRECLUDE REJECTION OF PLANTS AT PROJECT SITE
2. DO NOT MAKE SUBSTITUTIONS. IF SPECIFIED LANDSCAPE MATERIAL IS NOT OBTAINABLE, SUBMIT PROOF OF NON-AVAILABILITY TO ARCHITECT, TOGETHER WITH PROPOSAL FOR USE OF EQUIVALENT MATERIAL.

F. TOPSOIL ANALYSIS: FURNISH A SOIL ANALYSIS MADE BY A QUALIFIED INDEPENDENT AND CERTIFIED AGRONOMIC SOIL TESTING AGENCY STATING PERCENTAGES OF ORGANIC MATTER, INORGANIC MATTER (SILT, CLAY, AND SAND) , DELETERIOUS MATERIAL, PH, AND MINERAL AND PLANT-NUTRIENT CONTENT OF TOPSOIL.

1. SOIL SAMPLING TO BE DONE ONLY AFTER FINE GRADING IS COMPLETE AND PRIOR TO WEED CONTROL, SOIL AMENDING AND TREE, SHRUB AND GROUND COVER PLANTING UNLESS ARCHITECT OTHERWISE SPECIFIES.
- a. PROVIDE SOIL TESTING AT THREE (3) LOCATIONS, IN LOCATIONS AS APPROVED BY ARCHITECT.

2. SOIL TEST RECOMMENDATIONS WILL TAKE PRECEDENCE OVER AMENDMENT AND FERTILIZER APPLICATION RATES SPECIFIED IN THIS SECTION

3. TAKE SAMPLES OF SITE SOIL AT FOLLOWING DEPTHS:

- a. SHRUBS, GROUND COVERS AND VINES: 12-INCHES.

- b. TREES: 1/2 THE DEPTH OF TREE PIT.

4. PROVIDE THE FOLLOWING AT EACH SOIL TEST LOCATION:

- a. CHEMICAL ANALYSIS REPORT OF EACH SAMPLE LOCATION TO INCLUDE THE FOLLOWING:
 - 1) PERCENTAGE OF ORGANIC MATTER
 - 2) SALINITY,
 - 3) PH,
 - 4) MINERAL NUTRIENTS, INCLUDING CONCENTRATIONS OF NITROGEN, PHOSPHORUS, POTASSIUM, CALCIUM, AND MAGNESIUM.
 - 5) POTENTIAL HAZARDS OF IMPEDIMENTS TO PLANT GROWTH FROM SALINITY, SODIUM, BORON, IMPAIRED SOIL STRUCTURE OR DRAINAGE.

5. REPORT SUITABILITY OF TOPSOIL FOR LAWN AND PLANT GROWTH. STATE RECOMMENDED QUANTITIES OF NITROGEN, PHOSPHORUS, AND POTASH NUTRIENTS AND ANY LIMESTONE, ALUMINUM SULFATE, OR OTHER SOIL AMENDMENTS TO BE ADDED TO PRODUCE A SATISFACTORY TOPSOIL.

6. TOPSOIL FOR BOTH GENERAL PLANTING AND FUTURE EXPANSION AREAS, FERTILIZER AND CHEMICAL CONDITIONERS, TREE AND SHRUB BACKFILL MIX, AND DELIVERY/SPRAY APPLICATION RATES

7. BEFORE DELIVERY OF TOPSOIL, FURNISH ARCHITECT WITH WRITTEN STATEMENT GIVING LOCATION OF PROPERTIES FROM WHICH TOPSOIL IS TO BE OBTAINED, NAMES AND ADDRESSES OF OWNERS, DEPTH TO BE STRIPPED, AND CROPS GROWN DURING PAST TWO YEARS.

G. TREES AND SHRUBS: PROVIDE TREES AND SHRUBS OF QUANTITY, SIZE, GENUS, SPECIES, AND VARIETY SHOWN AND SCHEDULED FOR LANDSCAPE WORK AND COMPLY WITH RECOMMENDATIONS AND REQUIREMENTS OF ANSI Z601 "AMERICAN NATIONAL STANDARD FOR NURSERY STOCK." PROVIDE HEALTHY, VIGOROUS STOCK, GROWN IN RECOGNIZED NURSERY IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICE AND FREE OF DISEASE, INSECTS, EGGS, LARVAE, AND DEFECTS SUCH AS KNOTS, SUN-SCALD, INJURIES, ABRASIONS, OR DISFIGUREMENT.

H. LABEL EACH TREE AND SHRUB WITH SECURELY-ATTACHED WATERPROOF TAG BEARING LEGIBLE DESIGNATION OF BOTANICAL AND COMMON NAME.

1. WHERE FORMAL ARRANGEMENTS OR CONSECUTIVE ORDER OF TREES OR SHRUBS ARE SHOWN, SELECT STOCK FOR UNIFORM HEIGHT AND SPREAD, AND LABEL WITH NUMBER TO ASSURE SYMMETRY IN PLANTING.

I. INSPECTION: THE ARCHITECT MAY INSPECT TREES, PLANTS, AND SHRUBS EITHER AT PLACE OF GROWTH OR AT SITE BEFORE PLANTING FOR COMPLIANCE WITH REQUIREMENTS FOR GENUS, SPECIES, VARIETY, SIZE, AND QUALITY. THE ARCHITECT RETAINS THE RIGHT TO FURTHER INSPECT TREES AND SHRUBS FOR SIZE, CONDITION OF ROOTS AND ROOT SYSTEMS, INSECTS, INJURIES AND LATENT DEFECTS, AND TO REJECT UNSATISFACTORY OR DEFECTIVE MATERIAL AT ANY TIME DURING PROGRESS OF WORK. REMOVE REJECTED TREES OR SHRUBS IMMEDIATELY FROM PROJECT SITE.

J. PRE_INSTALLATION MEETING:

1. HOLD AT TIME AND PLACE DESIGNATED BY OWNER AND ATTENDED BY ARCHITECT, CONTRACTOR, LANDSCAPING TRADES AND OTHER TRADES WHOSE WORK AFFECTS LANDSCAPING BEFORE STARTING WORK.

2. DISCUSS AND FINALIZE THE FOLLOWING:

- a. REVIEW PROJECT DRAWINGS AND SPECIFICATIONS, INCLUDING REVISIONS, APPROVED SHOP DRAWINGS AND DOCUMENTED LOCAL LANDSCAPING PRACTICE, RESOLVE CONFLICTS, DEVIATIONS OR DIFFERENCES IN LOCAL PRACTICE AND PROJECT DOCUMENTS.

- b. REVIEW DRAWINGS FOR CORRECT DRAINAGE, APPROPRIATE PLANTS FOR LOCATIONS SHOWN, LOCATION AND PURITY OF WATER AND VERIFICATION OF SOIL TEST RESULTS.

- c. TIME SCHEDULE AND SEQUENCE OF EVENTS PROPOSED FOR INSTALLATION.

- d. REVIEW LIMITATIONS IMPOSED BY WEATHER AND SPECIAL REQUIREMENTS OF CONTRACTOR.

- e. ESTABLISH STORAGE AND WORKING AREAS OF SITE AVAILABLE FOR USE.

- f. CLARIFY SPECIFICATIONS, DETAILS, APPLICATIONS/INSTALLATION REQUIREMENTS, WHAT WORK SHOULD BE COMPLETED BEFORE START OF LANDSCAPING, AND OTHER ITEMS AFFECTING INSTALLATION AND QUALITY APPLICATION OF LANDSCAPING.

1.06 DELIVERY, STORAGE AND HANDLING

A. PACKAGED MATERIALS: DELIVER PACKAGED MATERIALS IN CONTAINERS SHOWING WEIGHT, ANALYSIS, AND NAME OF MANUFACTURER. PROTECT MATERIALS FROM DETERIORATION DURING DELIVERY, AND WHILE STORED AT SITE.

1. DELIVER FERTILIZER TO THE SITE IN ORIGINAL, UNOPENED CONTAINERS BEARING MANUFACTURER'S GUARANTEED CHEMICAL ANALYSIS, NAME, TRADE NAME, TRADEMARK AND CONFORMANCE TO STATE LAW.

2. INFLUX OF CONTAINERS, AND PROVIDED THAT IT IS TO BE APPLIED AT TIME OF DELIVERY, FERTILIZER MAY BE FURNISHED IN BULK, AND A CERTIFICATE INDICATING THE ABOVE INFORMATION SHALL ACCOMPANY EACH DELIVERY.

3. DELIVER PESTICIDE AND HERBICIDE MATERIALS TO SITE IN ORIGINAL, UNOPENED CONTAINERS, CONTAINERS THAT DO NOT HAVE A LEGIBLE LABEL THAT IDENTIFIES THE ENVIRONMENTAL PROTECTION AGENCY REGISTRATION NUMBER AND THE MANUFACTURER'S REGISTERED USES WILL BE REJECTED. LIST CHEMICALS ON AN INVENTORY SHEET OR DELIVERY RECORD AND SUBMIT A COPY TO ARCHITECT.

B. BEFORE TRANSPORTING PLANTS TO SITE, THOROUGHLY SPRAY WITH A SOLUTION OF ANTI-DESICCANT , TWO WEEKS AFTER PLANTING, OR AS RECOMMENDED BY PRODUCT MANUFACTURER, SPRAY AGAIN WITH ANTI-DESICCANT , APPLY ANTI-DESICCANT USING POWER SPRAYING TO PROVIDE AN ADEQUATE FILM OVER TRUNKS, STEMS, TWIGS AND FOLIAGE.

1. WHEN TRANSPORTING PLANT MATERIAL TO SITE, PROTECT PLANTS FROM WIND DAMAGE BY AVOIDING HIGH SPEED HIGHWAYS, TRANSPORTING IN ENCLOSED OR PARTIALLY ENCLOSED VEHICLES, OR COVERING PLANT MATERIAL WITH BURLAP OR OTHER SUITABLE MATERIAL. THE ARCHITECT MAY REJECT WIND-DAMAGED PLANT MATERIAL.

C. TREES, SHRUBS AND GROUND COVERS: PROVIDE FRESHLY-DUG TREES AND SHRUBS. DO NOT PRUNE PRIOR TO DELIVERY UNLESS OTHERWISE APPROVED BY THE ARCHITECT. DO NOT BEND OR BIND-TIE TREES OR SHRUBS IN SUCH MANNER AS TO DAMAGE BARK, BREAK BRANCHES, OR DESTROY NATURAL SHAPE. PROVIDE PROTECTIVE COVERING DURING DELIVERY. DO NOT DROP BALLED AND BURLAPPED STOCK DURING DELIVERY, DO NOT DROP OR PICK UP PLANTS BY THEIR STEMS OR TRUNK.

1. PROTECT TREES MOVED BY WINCH OR CRANE FROM CHAIN MARKS, GIRDLING, OR OTHER BARK SLIPPAGE BY MEANS OF BURLAP, WOOD BATTENS OR OTHER ACCEPTABLE METHOD. DAMAGED PLANT MATERIAL WILL BE REJECTED.

D. DELIVER TREES, SHRUBS AND GROUND COVERS AFTER PREPARATION FOR PLANTING HAVE BEEN COMPLETED AND PLANT IMMEDIATELY, IF PLANTING IS DELAYED MORE THAN SIX HOURS AFTER DELIVERY, SET TREES AND SHRUBS IN SHADE IN ONE (1) LOCATION AS DESIGNATED BY ARCHITECT, PROTECT FROM WEATHER AND MECHANICAL DAMAGE, AND KEEP ROOTS MOIST BY COVERING WITH MULCH, BURLAP, OR OTHER ACCEPTABLE MEANS OF RETAINING MOISTURE.

- E. DO NOT REMOVE CONTAINER-GROWN STOCK FROM CONTAINERS UNTIL PLANTING TIME.

1.07 PROJECT CONDITIONS

- A. UTILITIES: DETERMINE LOCATION OF UNDERGROUND UTILITIES AND PERFORM WORK IN A MANNER WHICH WILL AVOID POSSIBLE DAMAGE. HAND EXCAVATE, AS REQUIRED, MAINTAIN GRADE STAKES SET BY OTHERS UNTIL REMOVAL IS MUTUALLY AGREED UPON BY PARTIES CONCERNED.

B. EXCAVATION: WHEN CONDITIONS DETRIMENTAL TO PLANT GROWTH ARE ENCOUNTERED, SUCH AS RUBBLE FILL, ADVERSE DRAINAGE CONDITIONS, OR OBSTRUCTIONS, NOTIFY ARCHITECT BEFORE PLANTING.

C. WORK NOTIFICATION: NOTIFY THE ARCHITECT AT LEAST SEVEN (7) DAYS PRIOR TO START OF PLANTING OPERATIONS.

D. PROTECT EXISTING UTILITIES, PAVING, AND OTHER FACILITIES FROM DAMAGE CAUSED BY LANDSCAPE WORK.

1. DO NOT OVERLOAD PAVING AND CURBS. USE PLANKING, PLYWOOD, OR OTHER MATERIAL APPROVED BY ARCHITECT AS REQUIRED FOR PROTECTION OF PAVING AND CURBS.

1.08 SEQUENCING AND SCHEDULING

A. PLANTING TIME: PROCEED WITH AND COMPLETE LANDSCAPE WORK AS RAPIDLY AS PORTIONS OF SITE BECOME AVAILABLE, WORKING WITHIN SEASONAL LIMITATIONS FOR EACH KIND OF LANDSCAPE WORK REQUIRED.

1. SEEDING FROM APRIL TO JUNE FOR SPRING PLANTING AND FROM SEPTEMBER TO MID OCTOBER FOR FALL PLANTING.
2. DECIDUOUS MATERIAL FROM APRIL TO JUNE FOR SPRING PLANTING AND FROM SEPTEMBER TO MID OCTOBER FOR FALL PLANTING.
3. EVERGREEN MATERIAL FROM MARCH TO JUNE FOR SPRING PLANTING AND FROM SEPTEMBER TO EARLY NOVEMBER FOR FALL PLANTING.
4. IF MATERIALS ARE REQUIRED TO BE PLANTED AT OTHER TIMES, THEY SHALL BE SPRAYED WITH AN ANTI-DESICCANT PRIOR TO PLANTING OPERATIONS. PLANTING TIMES OTHER THAN INDICATED ARE TO BE APPROVED BY THE ARCHITECT.
5. ANNUALS (SEASONAL COLOR) SHOULD BE SELECTED ACCORDING TO THE SEASON OF INSTALLATION. SELECTIONS SHOULD BE APPROVED BY THE ARCHITECT IN CONJUNCTION WITH THE LANDSCAPE ARCHITECT.

B. RESTRICTION: DO NOT PLANT WHEN GROUND IS FROZEN, SNOW COVERED, OR MUDDY.

1. DO NOT INSTALL PLANTS WHEN TEMPERATURES DROP BELOW 35 DEGREES F OR RISE ABOVE 95 DEGREES F.
2. DO NOT INSTALL PLANTS WHEN WINDS EXCEED 30 MPH.

C. COORDINATION WITH LAWNS: PLANT TREES AND SHRUBS AFTER FINAL GRADES ARE ESTABLISHED AND PRIOR TO PLANTING OF LAWNS, UNLESS OTHERWISE ACCEPTABLE TO ARCHITECT. IF PLANTING OF TREES AND SHRUBS OCCURS AFTER LAWN WORK, PROTECT LAWN AREAS AND PROMPTLY REPAIR DAMAGE TO LAWNS RESULTING FROM PLANTING OPERATIONS.

D. CORRELATE PLANTING WITH SPECIFIED MAINTENANCE PERIODS TO PROVIDE MAINTENANCE FROM DATE OF SUBSTANTIAL COMPLETION.

E. WEATHER LIMITATIONS: PROCEED WITH PLANTING ONLY WHEN EXISTING AND FORECAST WEATHER CONDITIONS ARE SUITABLE FOR WORK.

F. INSPECT AND APPROVE ALL IRRIGATION SPRINKLER WORK PRIOR TO START OF SHRUB AND GROUND COVER PLANTING. TREES WILL BE PLANTED IN ADVANCE OF IRRIGATION SYSTEM INSTALLATION, PROVIDE INTERIM WATERING, AS REQUIRED.

1.09 SPECIAL PROJECT WARRANTY

- A. WARRANTY LAWNS THROUGH SPECIFIED LAWN MAINTENANCE PERIOD, AND UNTIL FINAL ACCEPTANCE.
- B. WARRANTY TREES AND SHRUBS FOR A PERIOD OF ONE YEAR AFTER DATE OF SUBSTANTIAL COMPLETION INCLUDING DEFECTS INCLUDING DEATH AND UNSATISFACTORY GROWTH, EXCEPT FOR DEFECTS RESULTING FROM NEGLIGENCE BY OWNER, ABUSE OR DAMAGE BY OTHERS, OR UNSUAL PHENOMENA OR INCIDENTS WHICH ARE BEYOND LANDSCAPE INSTALLER'S CONTROL.

C. REMOVE AND REPLACE TREES, SHRUBS, OR OTHER PLANTS FOUND TO BE DEAD OR IN UNHEALTHY CONDITION DURING WARRANTY PERIOD. MAKE REPLACEMENTS DURING GROWING SEASON FOLLOWING END OF WARRANTY PERIOD. REPLACE TREES AND SHRUBS WHICH ARE IN DOUBTFUL CONDITION AT END OF WARRANTY PERIOD, UNLESS, IN OPINION OF ARCHITECT, IT IS ADVISABLE TO EXTEND WARRANTY PERIOD FOR A FULL GROWING SEASON. PLANTS ARE TO BE FREE OF DEAD OR DYING BRANCHES AND BRANCH TIPS, AND BEAR FOLIAGE OF NORMAL DENSITY, SIZE AND COLOR.

2. ANOTHER WARRANTY INSPECTION WILL BE CONDUCTED AT THE END OF EXTENDED WARRANTY PERIOD, IF ANY, TO DETERMINE ACCEPTANCE OR REJECTION. ONLY ONE REPLACEMENT (PER TREE OR SHRUB) WILL BE REQUIRED AT END OF WARRANTY PERIOD, EXCEPT FOR LOSSES OR REPLACEMENTS DUE TO FAILURE TO COMPLY WITH SPECIFIED REQUIREMENTS.

1.10 MAINTENANCE

A. MAINTENANCE SERVICE

1. PROVIDE SEPARATE PROPOSAL TO OWNER TO MAINTAIN ALL ITEMS PLANTED FOR 12 MONTHS AFTER ESTABLISHMENT PERIOD AS DEFINED IN THESE SPECIFICATIONS ONLY BY COMPETENT AND TRAINED EMPLOYEES OF THE CONTRACTOR.
2. ENSURE THAT COMPETENT PERSONNEL HANDLE MAINTENANCE SERVICE. MAINTAIN LOCALLY AN ADEQUATE STOCK OF MATERIALS FOR REPLACEMENT PURPOSES AND HAVE QUALIFIED PERSONNEL AVAILABLE AT SUCH PLACES TO ENSURE THE FULFILLMENT OF THIS SERVICE WITHOUT UNREASONABLE LOSS OF TIME.

B. MAINTENANCE PROPOSAL:

1. PROPOSAL FOR MAINTENANCE OF PLANTING WORK FOR A PERIOD OF ONE YEAR AFTER ESTABLISHMENT PERIOD AS REQUIRED IN THE PRECEDING ARTICLE, AND PART 3 ARTICLE , ESTABLISHMENT, .
2. PROPOSAL SHALL INCLUDE STIPULATED SUM FOR ABOVE STATED TIME PERIOD WITH PREMIUMS DUE QUARTERLY.

PART 2 PRODUCTS

2.01 TOPSOIL

A. PROVIDE MINIMUM 6" DEPTH OF NEW TOPSOIL AT PLANTING BEDS AND A MINIMUM 3" DEPTH AT LAWN AREAS THAT IS FERTILE, FRIABLE, NATURAL LOAM, SURFACE SOIL, REASONABLY FREE OF SUBSOIL, CLAY LUMPS, BRUSH, WEEDS AND OTHER LITTER, AND FREE OF ROOTS, STUMPS, STONES LARGER THAN 1 INCH IN ANY DIMENSION, AND OTHER EXTRANEOUS OR TOXIC MATTER HARMFUL TO PLANT GROWTH.

1. OBTAIN TOPSOIL FROM LOCAL SOURCES OR FROM AREAS HAVING SIMILAR SOIL CHARACTERISTICS TO THAT FOUND AT PROJECT SITE. OBTAIN TOPSOIL ONLY FROM NATURALLY, WELL-DRAINED SITES WHERE TOPSOIL OCCURS IN A DEPTH OF NOT LESS THAN 4 INCHES. DO NOT OBTAIN FROM BOGS OR MARSHES.

2. CONFORM TO ASTM D5286, PH RANGE OF 5.5 TO 7, 4% ORGANIC MATERIAL MINIMUM.

2.02 SOIL AMENDMENTS

A. LIME: ASTM C602, CLASS 2, NATURAL DOLOMITIC LIMESTONE CONTAINING NOT LESS THAN 80 PERCENT OF TOTAL CARBONATES WITH A MINIMUM OF 30 PERCENT MAGNESIUM CARBONATES, GROUND SO THAT NOT LESS THAN 99 PERCENT PASSES A NO. 8 SIEVE AND NOT LESS THAN 75 PERCENT PASSES A NO. 60 SIEVE.

B. ALUMINUM SULFATE: FIRST QUALITY COMMERCIAL GRADE.

C. SOIL SULFUR: FIRST QUALITY COMMERCIAL GRADE.

D. FERROUS IRON SULFATE: FIRST QUALITY COMMERCIAL GRADE.

E. CALCIUM CARBONATE LIME: FIRST QUALITY COMMERCIAL GRADE.

F. AGRICULTURAL GYPSUM: FIRST QUALITY COMMERCIAL GRADE.

G. PLUMICE: FIRST QUALITY COMMERCIAL GRADE.

H. SULFATE OF POTASH: CONSISTING OF 0-0-50.

I. SUPERPHOSPHATE: CONSISTING OF 18-20% AVAILABLE PHOSPHORIC PENTOXIDE.

J. UREA FORMALDEHYDE: CONSISTING OF 46-0-0.

K. BONE MEAL: RAW, FINELY GROUND, COMMERCIAL GRADE, MINIMUM OF 3 PERCENT NITROGEN AND 20 PERCENT PHOSPHOROUS

L. PERLITE: HORTICULTURAL GRADE FOR PLANTERS.

M. COMPOSTED MANURE:

1. WELL ROTTED HORSE OR CATTLE MANURE CONTAINING MAXIMUM 25 PERCENT BY VOLUME OF STRAW SAWDUST, OR OTHER BEDDING MATERIALS; FREE OF STONES, STICKS AND SOIL.

N. COMPOSTED WOOD DERIVATIVES:

1. GROUND BARK, SAWDUST, OR OTHER WOOD WASTE MATERIAL FREE OF STONES, STICKS, AND SOIL STABILIZED WITH NITROGEN HAVING THE FOLLOWING PROPERTIES:
 - a. PARTICLE SIZE: MINIMUM PERCENT FLYWEIGHT PASSING: NO. 4 MESH SCREEN 95% AND NO. 8 MESH SCREEN 80%
 - b. NITROGEN CONTENT: MINIMUM PERCENT BASED ON DRY WEIGHT: REDWOOD SAWDUST 0.5 FIR SAWDUST 0.7 FIR OR PINE BARK 1.0

O. CALCINED CLAY:

1. GRANULAR PARTICLES PRODUCED FROM MONTMORILLONITE CLAY CALCINED TO MINIMUM TEMPERATURE OR 1200 DEGREES TO THE FOLLOWING GRADE/UN:
 - a. MINIMUM 90 PERCENT PASSING 80_MESH SCREEN.
 - b. 99 PERCENT RETAINED ON 40_MESH SCREEN.
 - c. MAXIMUM 2 PERCENT PASSING 100_MESH SCREEN.

2. BULK DENSITY: 40 POUNDS MAXIMUM PER CUBIC FOOT.

P. COMMERCIAL FERTILIZER: COMPLETE FERTILIZER OF NEUTRAL CHARACTER, WITH SOME ELEMENTS DERIVED FROM ORGANIC SOURCES AND CONTAINING FOLLOWING PERCENTAGES OF AVAILABLE PLANT NUTRIENTS:

1. COMMERCIAL GRADE FERTILIZER:

- a. F3 O_ F_ 241 TYPE I, CLASS 2, FREE FLOWING, UNIFORM IN COMPOSITION WITH NITROGEN/PHOSPHORUS_POTASH RATIO: 3-4 MONTH RELEASE OF WHICH 80 PERCENT OF NITROGEN IS UREA-FORMALDEHYDE FORM (OR AS SPECIFIED BY SOILS AGRONOMIST REPORT) AND CONFORM TO APPLICABLE STATE FERTILIZER LAWS.

Q. PESTICIDES AND HERBICIDES

1. HERBICIDE, INSECTICIDE AND FUNGICIDE; EPA REGISTERED AND APPROVED, FOR PRE-EMERGENCE AND BROADLEAF WEED CONTROL.

R. PH ADJUSTERS

1. FERROUS SULFATE: COMMERCIAL GRADE.

2.03 MULCHES

A. PROVIDE MULCH FREE FROM NOXIOUS WEEDS, MOLD, AND OTHER DELETERIOUS MATERIALS.

B. PLANTING BED & PLANT SAUCER MULCH:

1. ORGANIC MULCH MATERIALS: GROUND OR SHREDDED BARK RANGING IN SIZE FROM 1/2 TO 1 1/2 INCHES.

2.04 WATER

A. SUITABLE QUALITY FOR IRRIGATION.

2.05 PLANT MATERIALS

A. QUALITY: PROVIDE TREES, SHRUBS, AND OTHER PLANTS OF SIZE, GENUS, SPECIES, AND VARIETY SHOWN AND SCHEDULED FOR LANDSCAPE WORK AND COMPLYING WITH RECOMMENDATIONS AND REQUIREMENTS OF ANSI Z601 "AMERICAN NATIONAL STANDARD FOR NURSERY STOCK."

B. DECIDUOUS TREES: PROVIDE TREES OF HEIGHT AND CALIPER SCHEDULED OR SHOWN AND WITH BRANCHING CONFIGURATION RECOMMENDED BY ANSI Z601 FOR TYPE AND SPECIES REQUIRED. PROVIDE SINGLE STEM TREES EXCEPT WHERE SPECIAL FORMS ARE SHOWN OR LISTED.

1. PROVIDE BALLED AND BURLAPPED (B&B) DECIDUOUS TREES.

C. DECIDUOUS SHRUBS: PROVIDE SHRUBS OF THE HEIGHT SHOWN OR LISTED AND WITH NOT LESS THAN MINIMUM NUMBER OF CANES REQUIRED BY ANSI Z601 FOR TYPE AND HEIGHT OF SHRUB REQUIRED.

1. PROVIDE BALLED AND BURLAPPED OR CONTAINER GROWN SHRUBS, GROUND COVER.

2. CONIFEROUS AND BROADLEAFED EVERGREENS: PROVIDE EVERGREENS OF SIZES SHOWN OR LISTED. DIMENSIONS INDICATE MINIMUM SPREAD FOR SPREADING AND SEMI-SPREADING TYPE EVERGREENS AND HEIGHT FOR OTHER TYPES, SUCH AS GLOBE, DWARF, CONE, PYRAMIDAL, BROAD UPRIGHT, AND COLUMNAR. PROVIDE NORMAL QUALITY EVERGREENS WITH WELL BALANCED FORM COMPLYING WITH REQUIREMENTS FOR OTHER SIZE RELATIONSHIPS TO THE PRIMARY DIMENSION SHOWN.

- a. PROVIDE BALLED AND BURLAPPED (B&B) EVERGREENS.

2.06 MISCELLANEOUS LANDSCAPE MATERIALS

A. STAKES AND GUY'S: PROVIDE HARDWOOD STAKES, DEADEN TO BE OF SOUND SOFTWOOD , FREE OF KNOT HOLES AND OTHER DEFECTS, PROVIDE WIRE TIES AND GUY'S OF 2-STRAND, TWISTED, PLIABLE GALVANIZED IRON WIRE, NOT LIGHTER THAN 12 GA. WITH ZINC-COATED TURNBUCKLES. PROVIDE NOT LESS THAN 1/2 INCH DIAMETER RUBBER OR PLASTIC HOSE, CUT TO REQUIRED LENGTHS AND OF UNIFORM COLOR, MATERIAL, AND SIZE TO PROTECT TREE TRUNKS FROM DAMAGE BY WIRES.

B. ANTI-DESICCANT: EMULSION TYPE, FILM-FORMING AGENT DESIGNED TO PERMIT TRANSPARATION, BUT RETARD EXCESSIVE LOSS OF MOISTURE FROM PLANTS. DELIVER IN MANUFACTURER'S FULLY IDENTIFIED CONTAINERS AND MIX IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. MEET ASTM E98.

1. ANCHORING STRIKES: SAME MATERIAL AS WOOD EDGING, 1/2 INCH BY 2 INCHES, 12 INCHES LONG.

2.07 PLANTING SOIL MIXTURE

A. 70% TOPSOIL

B. 15% BIOCOMP (COURSE PARTICLE COMPOST MADE FROM BIOSOLIDS, BREWERS WASTE, AND VARIOUS BULKING AGENTS)

C. 15 % PREMIUM 3 (COMPOSTED DAIRY MANURE AND BEDDING MATERIAL, THE INDUSTRY STANDARD)

2.08 EXAMINATION

A. EXAMINE AREAS TO RECEIVE TREES, PLANTS, AND LAWNS FOR COMPLIANCE WITH REQUIREMENTS AND FOR CONDITIONS AFFECTING PERFORMANCE OF WORK OF THIS SECTION. DO NOT PROCEED WITH INSTALLATION UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

2.09 PREPARATION

A. PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, AND OTHER FACILITIES, TREES, SHRUBS, AND PLANTINGS FROM DAMAGE CAUSED BY PLANTING OPERATIONS.

B. PROVIDE EROSION-CONTROL MEASURES TO PREVENT EROSION OR DISPLACEMENT OF SOILS AND DISCHARGE OF SOIL-BEARING WATER RUNOFF OR AIRBORNE DUST TO ADJACENT PROPERTIES AND WALKWAYS.

C. PLANTING SOIL PREPARATION

1. LIMIT SUBGRADE PREPARATION TO AREAS THAT WILL BE PLANTED IN THE IMMEDIATE FUTURE.

2. LOOSEN SUBGRADE TO A MINIMUM DEPTH OF 6 INCHES. REMOVE STONES LARGER THAN 1-1/2 INCHES IN ANY DIMENSION AND STICKS, ROOTS, RUBBISH, AND OTHER EXTRANEOUS MATTER.

3. MIX SOIL AMENDMENTS AND FERTILIZERS WITH TOPSOIL AT RATES INDICATED. DELAY MIXING FERTILIZER IF PLANTING DOES NOT FOLLOW PLACING OF PLANTING SOIL WITHIN A FEW DAYS, EITHER MIX SOIL BEFORE SPREADING OR APPLY SOIL AMENDMENTS ON SURFACE OF SPREAD TOPSOIL AND MIX THOROUGHLY INTO TOP 6 INCHES OF TOPSOIL BEFORE PLANTING.

- a. MIX LIME WITH DRY SOIL PRIOR TO MIXING OF FERTILIZER.

- b. PREVENT LIME FROM CONTACTING ROOTS OF ACID-LOVING PLANTS.

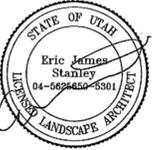
- c. APPLY PHOSPHORIC ACID FERTILIZER (OTHER THAN THAT CONSTITUTING A PORTION OF COMPLETE FERTILIZERS) DIRECTLY TO SUBGRADE BEFORE APPLYING PLANTING SOIL AND TILLING.

2.10 EXCAVATION FOR TREES AND SHRUBS

A. EXCAVATE PITS, BEDS, AND TRENCHES WITH VERTICAL SIDES AND WITH BOTTOM OF EXCAVATION SLIGHTLY RAISED AT CENTER TO PROVIDE PROPER DRAINAGE. LOOSEN HARD SUBSOIL IN BOTTOM OF EXCAVATION.

1. FOR BALLED AND BURLAPPED (B&B) TREES AND SHRUBS , MAKE EXCAVATIONS AT LEAST HALF AGAIN AS WIDE AS THE BALL DI

ALL TREE SPECIES, ARRANGEMENTS AND PLANTING METHODS SHOWN ON THESE PLANS ARE THE PROPERTY OF COLONY DESIGN COLLECTIVE. ANY REUSE OR MODIFICATION OF ANY PART OF THESE PLANS WITHOUT THE WRITTEN PERMISSION OF COLONY DESIGN COLLECTIVE IS PROHIBITED. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF ALL INFORMATION PROVIDED AND FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.



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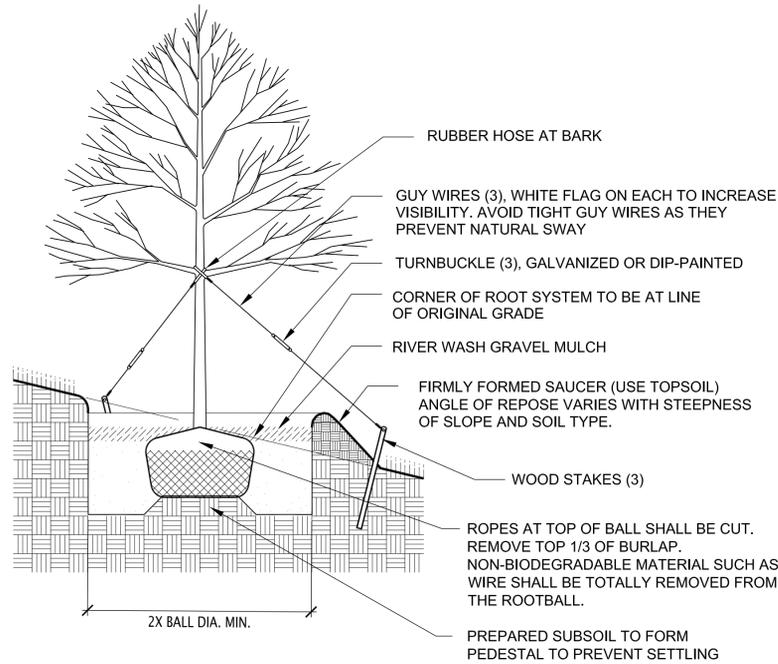
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Sunrise Summit Park

SHEET TITLE
PLANTING DETAILS

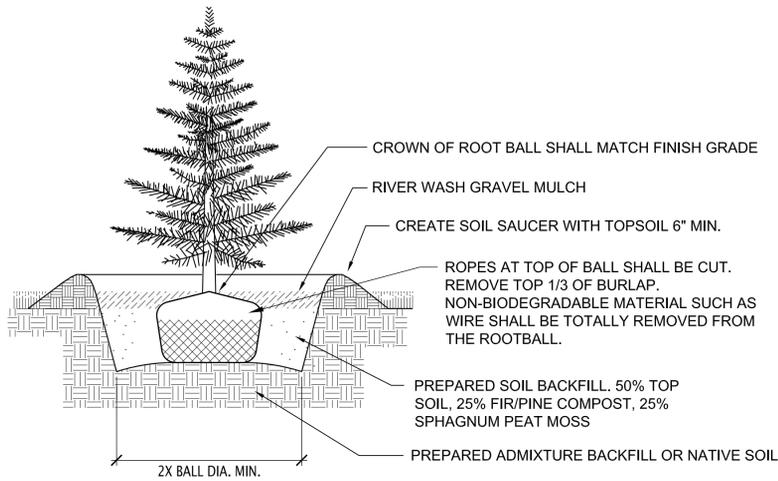
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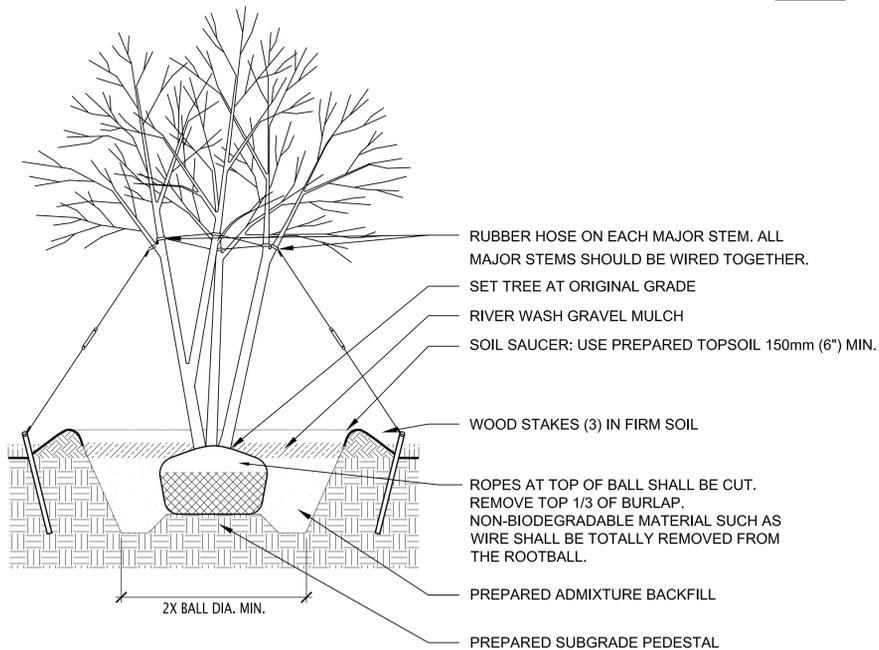
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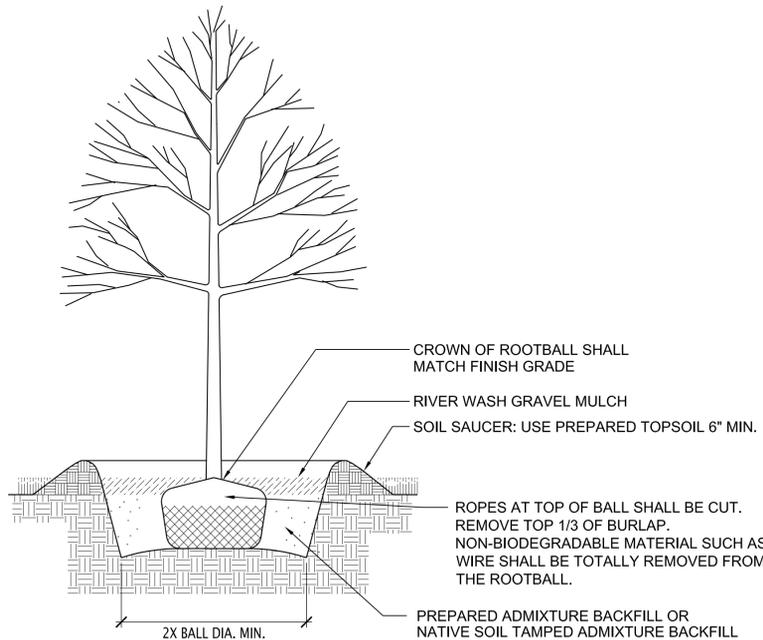
DECIDUOUS TREE PLANTING ON SLOPE 7
 N.T.S. L675



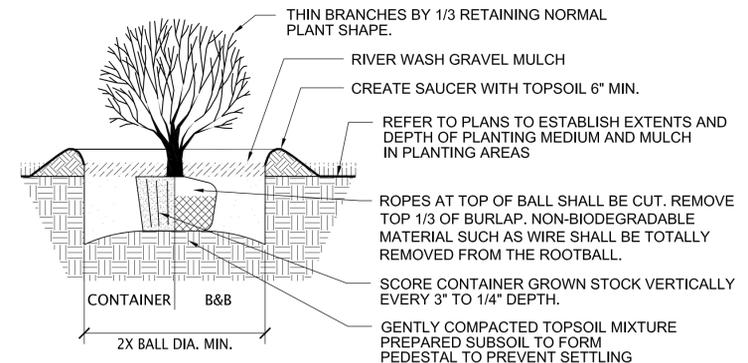
CONIFEROUS TREE PLANTING - MEDIUM DUTY 5
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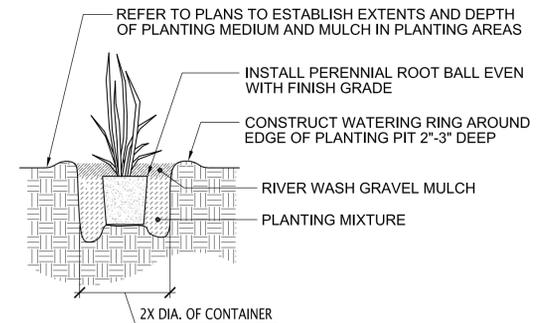
MUTIL STEM TREE PLANTING (WINDY SITES) 6
 N.T.S. L675



DECIDUOUS TREE PLANTING - LIGHT DUTY 4
 N.T.S. L675



SHRUB PLANTING - CONTAINER & BALL AND BURLAP. 3
 N.T.S. L675



PERENNIAL PLANTING. 2
 N.T.S. L675

- LANDSCAPE CONTRACTOR SHALL NOTIFY THE OWNERS REPRESENTATIVE A MINIMUM OF 24 HOURS BEFORE CONSTRUCTION COMMENCES. ANY DISCREPANCIES BETWEEN THE PLAN AND FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNERS REPRESENTATIVE IMMEDIATELY FOR DECISION.
- NO CHANGES SHALL BE MADE TO THE PLANT MATERIAL LIST WITHOUT WRITTEN APPROVAL OF THE OWNERS REPRESENTATIVE.
- THE LANDSCAPE CONTRACTOR SHALL LOCATE AND VERIFY THE EXISTENCE OF ALL UTILITIES PRIOR TO STARTING WORK.
- THE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIALS IN THE QUANTITIES AND SIZES SUFFICIENT TO COMPLETE THE PLANTING SHOWN ON ALL DRAWINGS.
- NO PLANT SHALL BE PUT INTO THE GROUND BEFORE ROUGH GRADING HAS BEEN COMPLETED.
- ALL TREES SHALL BE PLANTED 5' MIN. AWAY FROM WATER SERVICE LATERALS AND 10' MIN. AWAY FROM SEWER LATERALS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR FINE GRADING ALL PLANTED AREAS AND TO ENSURE POSITIVE DRAINAGE OF A MINIMUM 2.5% AWAY FROM BUILDINGS.
- WITH CONTAINER GROWN STOCK, THE CONTAINER SHALL BE REMOVED AND THE CONTAINER BALL SHALL BE CUT THROUGH THE SURFACE IN TWO VERTICAL LOCATIONS
- ALL PLANTS SHALL BE WATERED THOROUGHLY TWICE DURING THE FIRST 24 HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL THEN BE WATERED AS NECESSARY TO MAINTAIN HEALTHY ESTABLISHMENT.

PLANTING NOTES 1
 N.T.S. L675