

**ENGINEERED TOPSOIL NOTES & SPECIFICATION**

1. Lawn areas shall have 4"-6" of Compost Manufactured Topsoil (CMT): A blend of 75% Topsoil and 25% Compost by volume, with each component meeting respective requirements as specified below.

- A. Topsoil: Natural, friable, sandy loam, obtained from well-drained areas, free from objects larger than 3/4" inch maximum dimension, and free of subsoil, roots, grass, other foreign matter, hazardous or toxic substances, deleterious material that may be harmful to plant growth or may hinder grading, planting, or maintenance.

- Gradation:
  - Sieve Designation      Percent Passing
    - 1" screen                      100
    - 1/4" screen                    97 - 100
    - No. 10 U.S.S. mesh sieve    95 - 100
    - No. 140 U.S.S.                60 - 90
  - Clay content determined by Bouyoucos Hydrometer Test shall range between 5 percent and 15 percent.
  - Organic Matter: Organic content shall not be less than 3 percent and not greater than 10 percent determined by loss through ignition.
  - pH: Range 6.5 to 7.5.
  - Nutrient data as follows:
 

Phosphorus	Min. 75 lb./Ac
Potassium	Min. 300 lb./Ac
Calcium	Min. 1,500 ppm
Magnesium	Min. 100 ppm
Cation Exchange Capacity	Min. 20 meq/100g
Soluble Salt	Max. 1,000 ppm
- Textural Amendments: Amend as necessary to conform to required composition by incorporating sand, peat, manure, or sawdust.

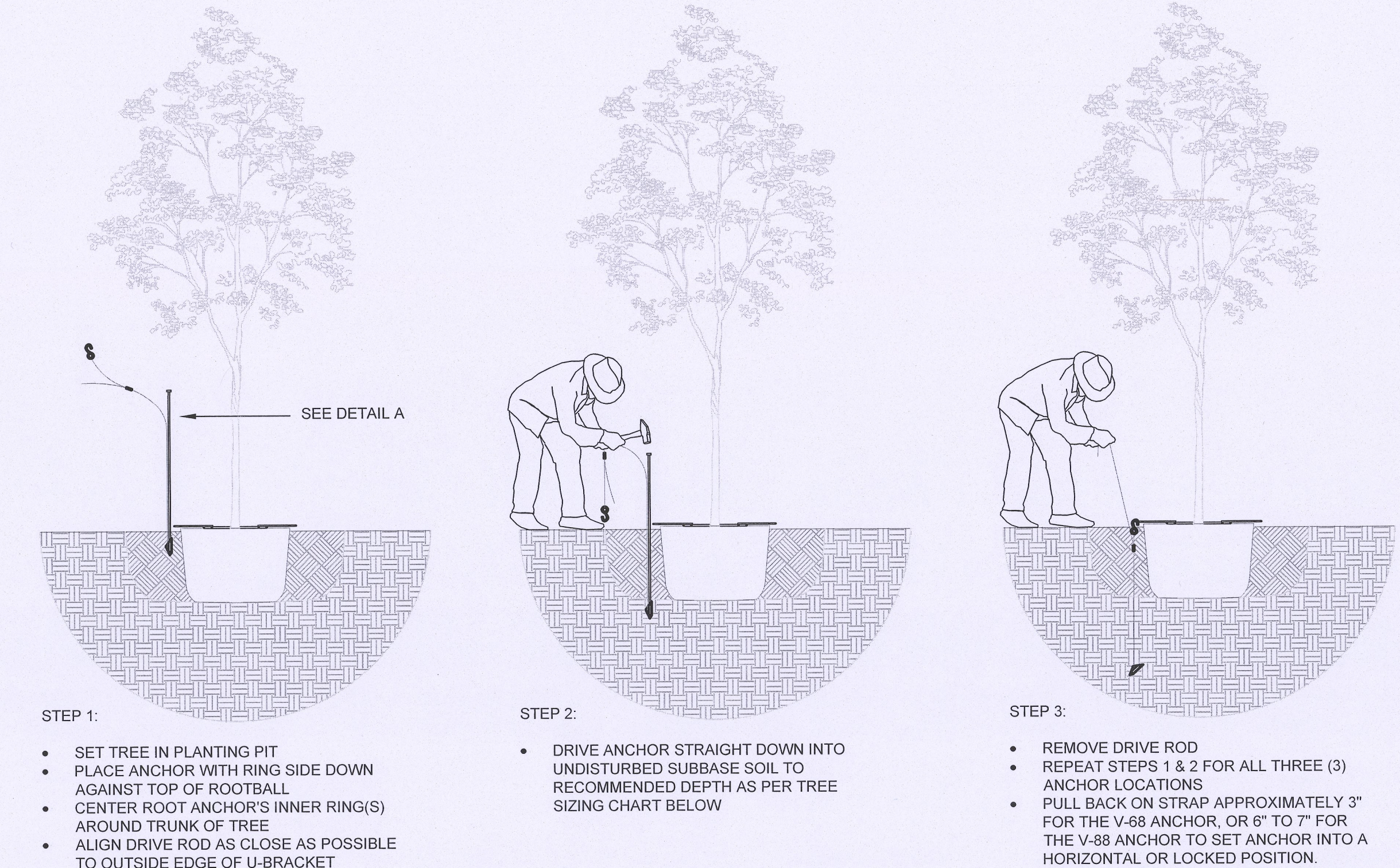
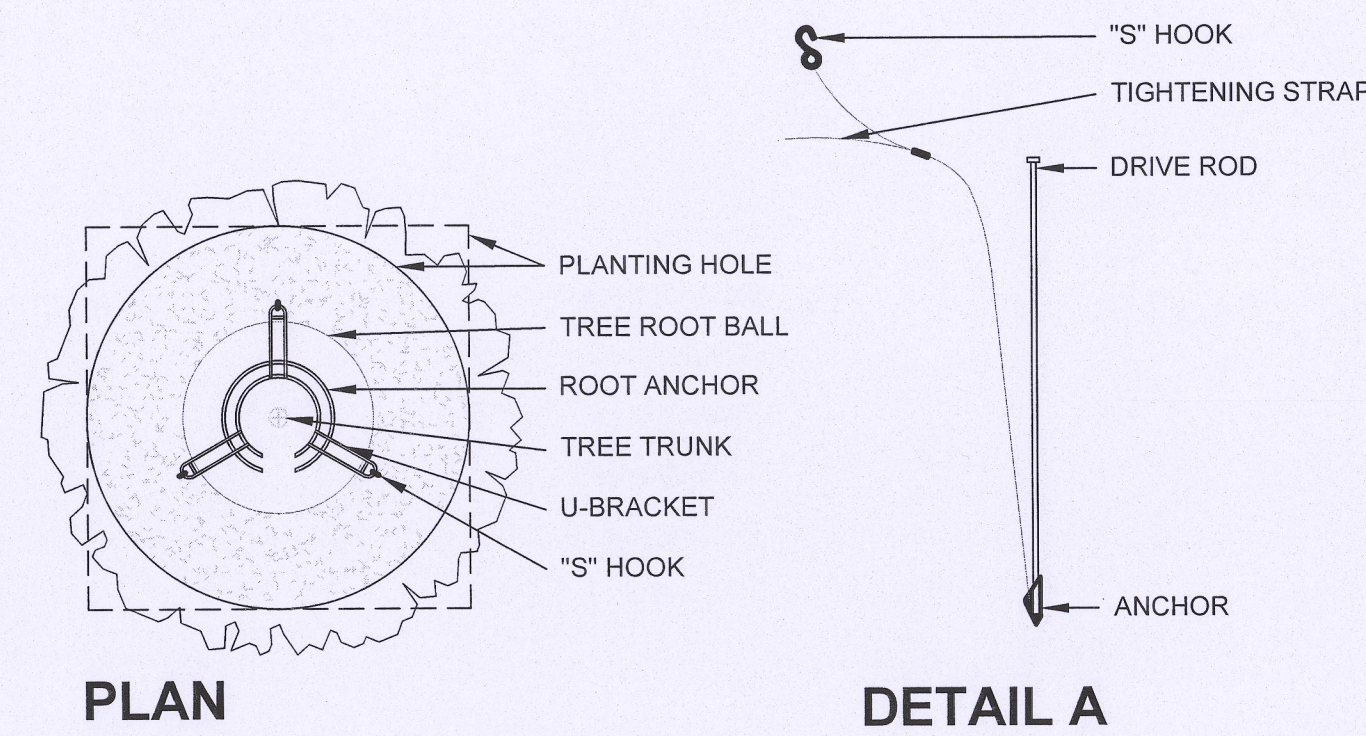
- B. Compost: Garden-Ville, or Approved Equal.
  - Approved equal shall be compost meeting TXDOT Specification 161-Compost.

**2. SUBGRADE PREPARATION**

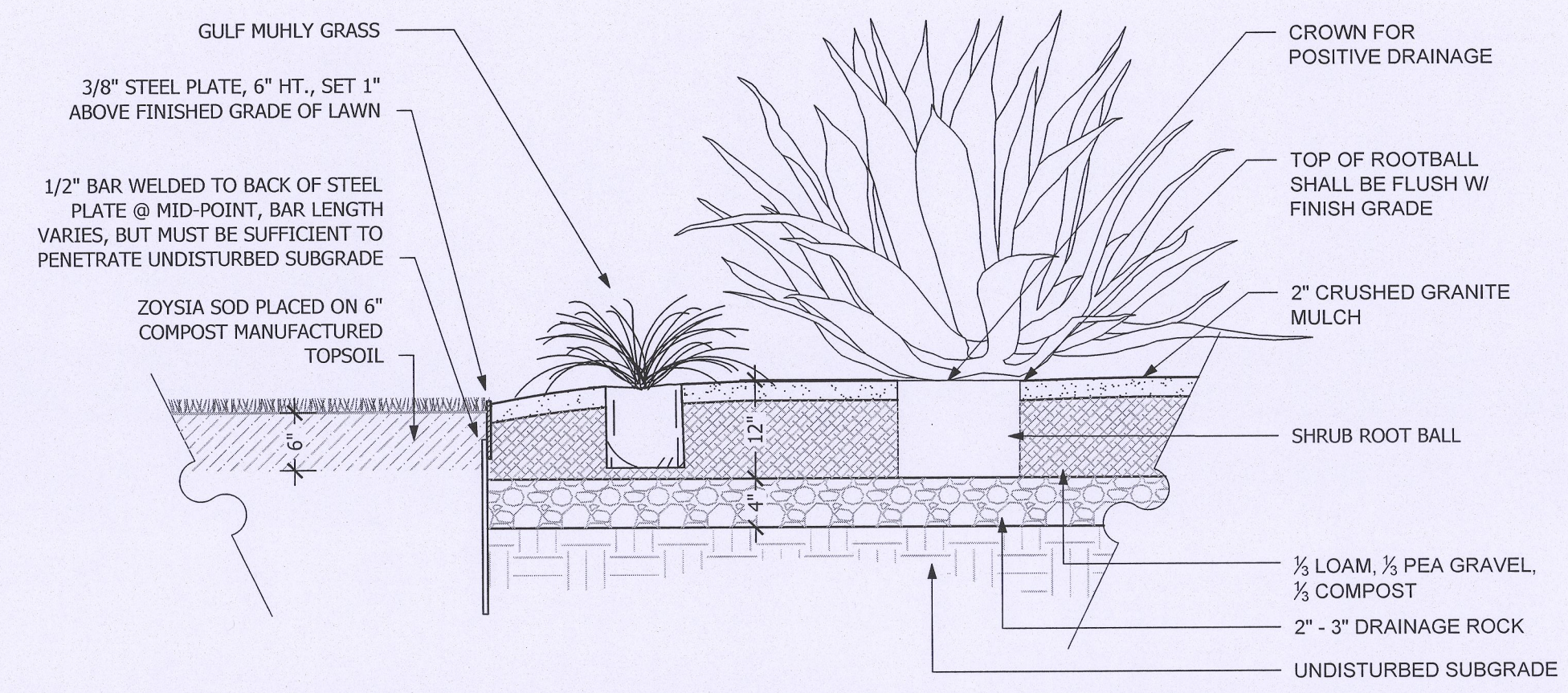
- Locate utility lines before commencement of work and protect from damage.
- Remove foreign material, undesirable plants, roots, stones in excess of 2 inches diameter, debris and soil contaminated with toxic materials and petroleum products, from site. Do not bury foreign material beneath areas to be landscaped.
- Grade and finish subgrade to eliminate uneven areas, low spots and ensure positive drainage. Finish subgrades to:
  - 6 inches below final grade for seeded areas.
  - 5 inches below final grade for sodded areas.
- Loosen subsoil by scarifying or tilling using discs, harrows or other suitable equipment to a depth of 6 inches immediately before placing any topsoil.
  - Repeat cultivation in areas where equipment used for hauling and spreading topsoil has compacted subsoil.
  - Remove stones over 2-1/2 inches in any dimension, sticks, roots, rubbish, and other extraneous material.
  - Limit preparation to areas which will receive topsoil within 2 days after preparation.

**3. PLACEMENT AND SPREADING OF TOPSOIL**

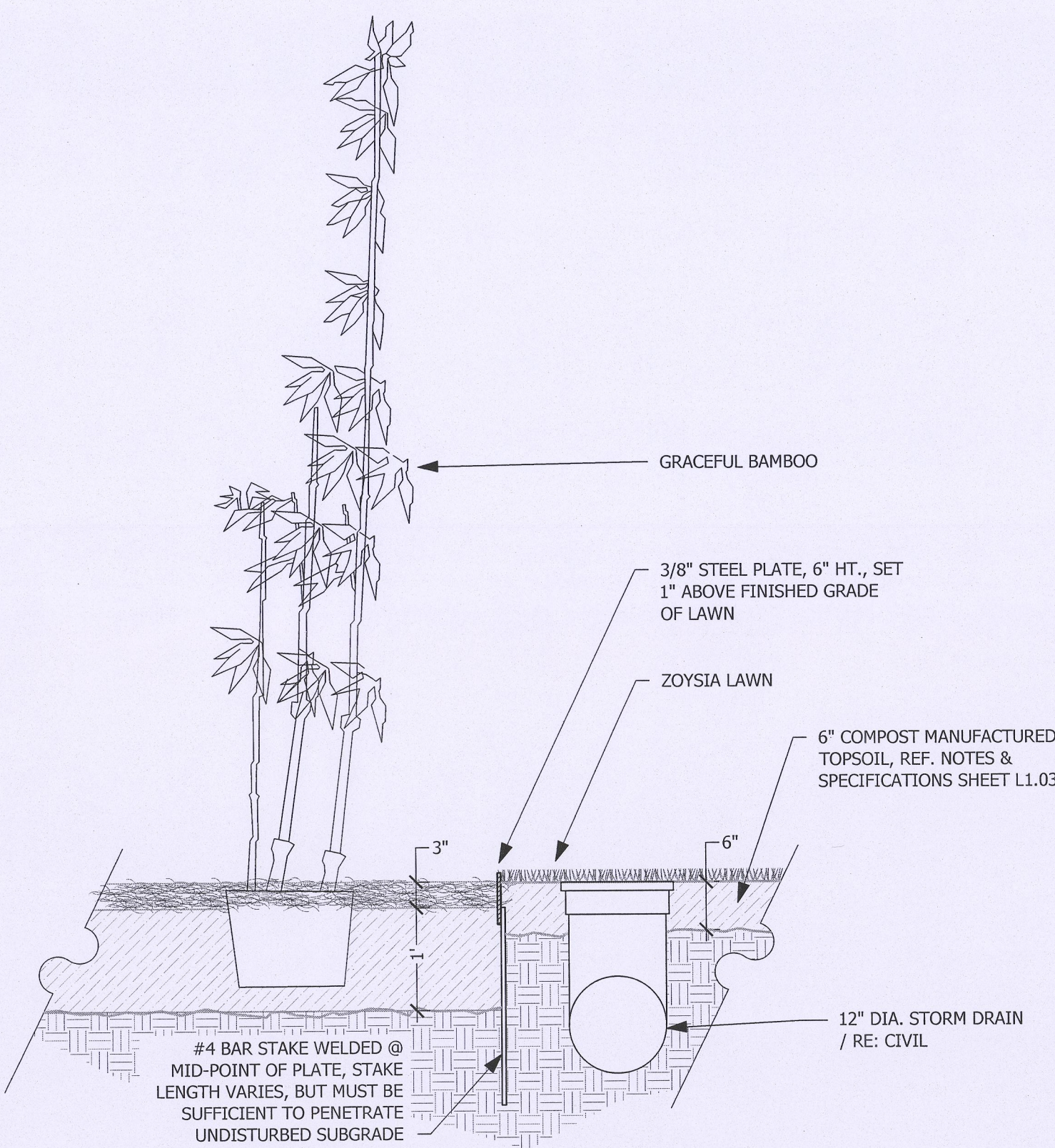
- Place topsoil only upon loose friable graded subgrade surfaces approved by Landscape Architect.
- Do not place topsoil when subsoil or topsoil is frozen, excessively wet, or otherwise detrimental to the Work.
- Mix soil amendments and compost with topsoil before placement or spread on topsoil surface and mix thoroughly into entire depth of topsoil before planting or seeding.
- Place 1/2 of total depth of topsoil and work into top 4 inches of subgrade soil to create a transition layer. Place remainder of topsoil to depth as shown after compacting to 75 percent where seeding and planting are scheduled.
- Uniformly distribute to within 1/2 inch of final grades.
- Spread topsoil to obtain minimum depth after settlement of:
  - 6 inches depth for seeded areas.
  - 5 inches depth for sodded areas.
- Manually spread topsoil around trees, plants and surface obstacles to prevent damage.



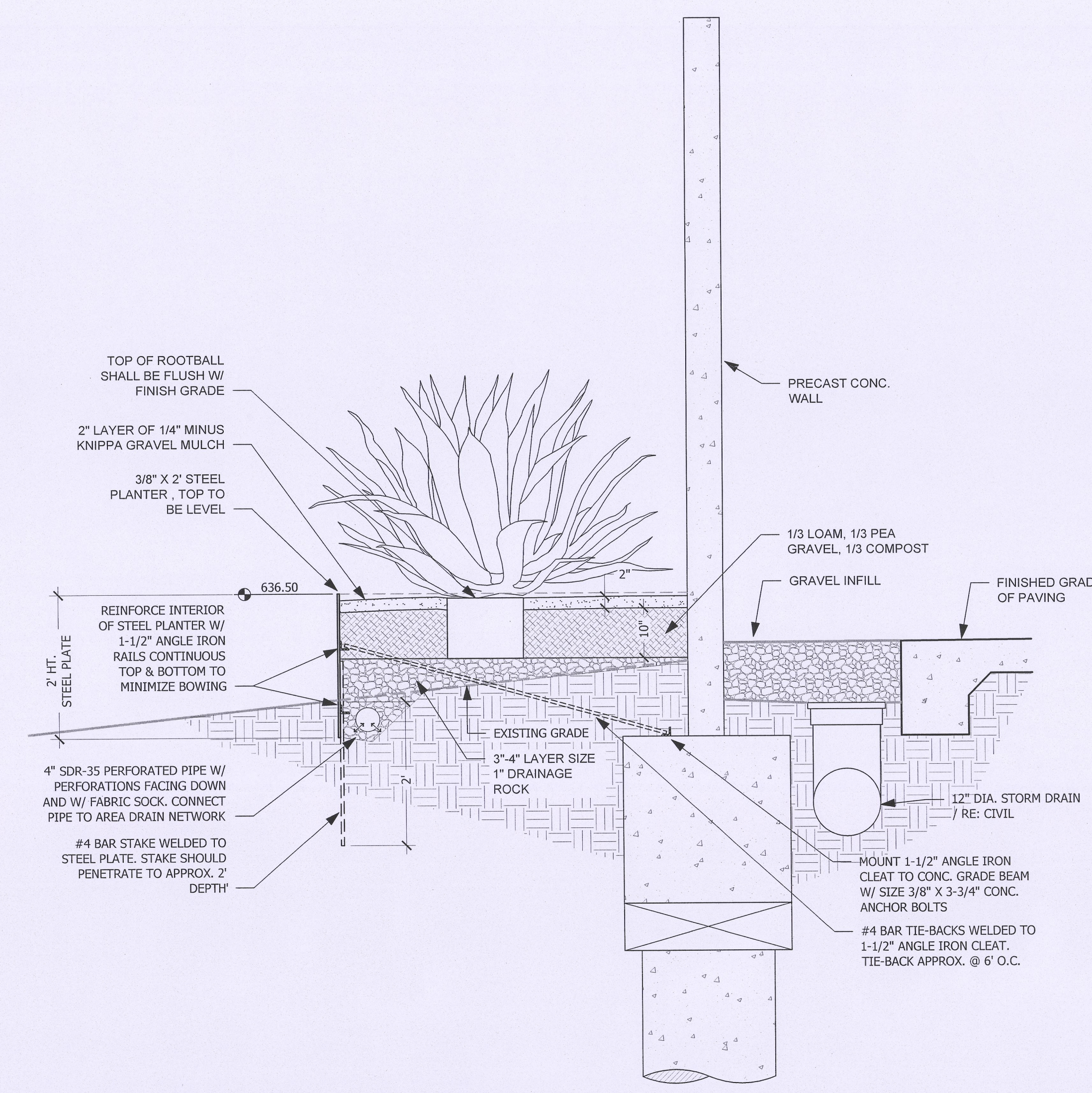
ROOT ANCHOR ITEM	ROOT BALL & CONTAINER SIZE	ANCHOR INSTALLATION DEPTH	QUANTITY & ANCHOR SIZE
15-BG	10 / 15 Gallon or 17" root ball	12 - 18" Minimum Depth	3 - V88 Anchors
30-BG	20 / 39 Gallon or 22" root ball	18 - 24" Minimum Depth	3 - V88 Anchors
45/65-BG	45 / 65 Gallon or 27-30" root ball	24 - 30" Minimum Depth	3 - V88 Anchors
100-BG	95 / 100 Gallon or 36" root ball	30 - 36" Minimum Depth	3 - V88 Anchors
150-BG	150 Gallon or 42" root ball	48" Minimum Depth	3 - V88 Anchors
200-BG	200 Gallon or 48" root ball	48" Minimum Depth	3 - V88 Anchors
300-BG	300 Gallon or 58" root ball	48" Minimum Depth	3 - V88 Anchors
CUSTOM-BG	Root Balls larger than 60"	TBD	



**2 AGAVE PLANTING DETAIL AT COURTYARD**  
SCALE: 3/4" = 1'-0"



**4 STEEL EDGING AND BAMBOO PLANTING DETAIL AT COURTYARD**  
SCALE: 3/4" = 1'-0"



**1 AGAVE PLANTING DETAIL AT STEEL PLANTER**  
SCALE: 3/4" = 1'-0"

**LANDSCAPE NOTES**

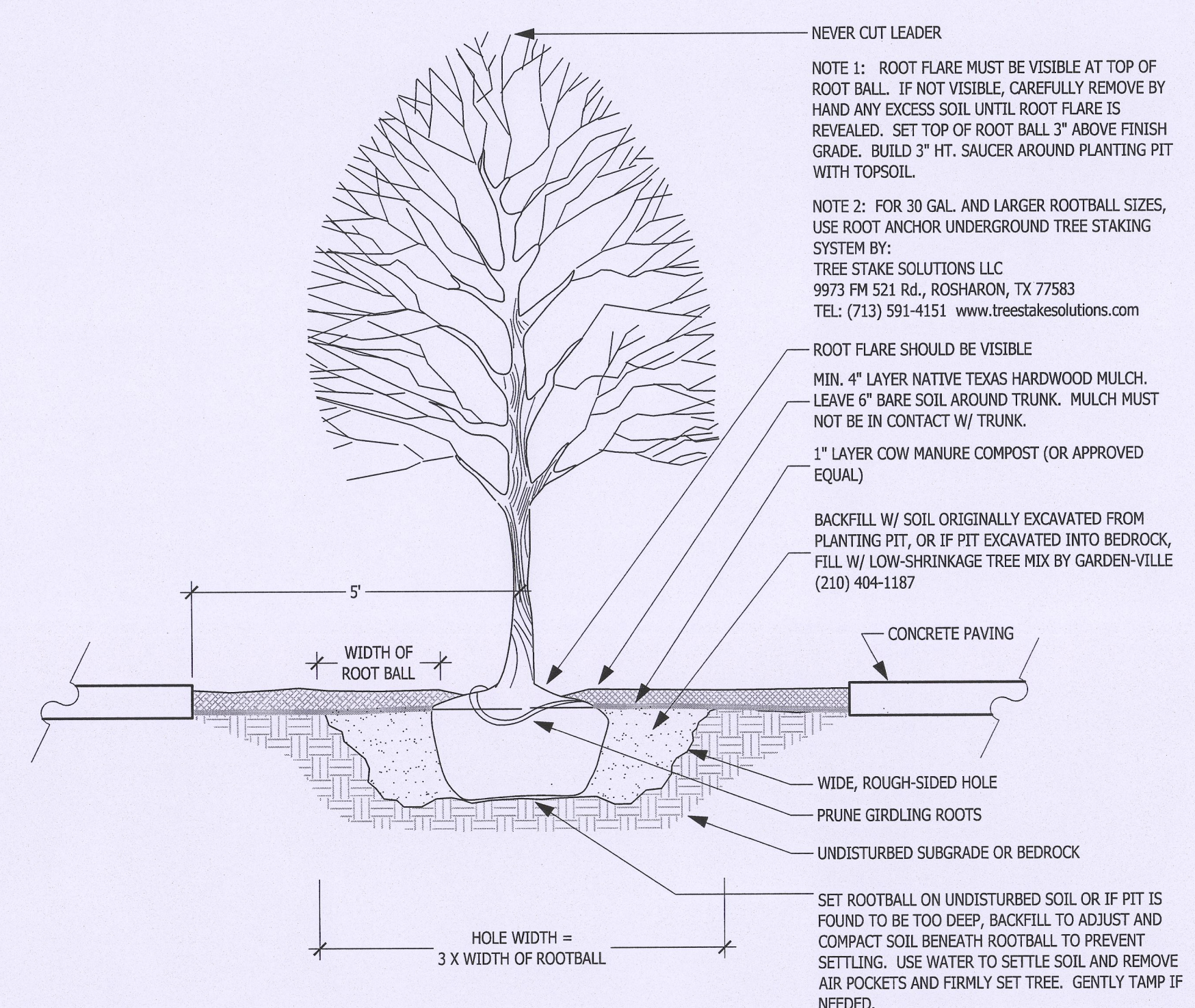
- AN AUTOMATIC IRRIGATION SYSTEM WILL BE INSTALLED IN ALL LANDSCAPE AREAS PRIOR TO INSTALLATION OF PLANT MATERIALS. THE SYSTEM WILL BE MAINTAINED AND KEPT OPERATIONAL AT ALL TIMES TO SUSTAIN GROWTH OF THE PLANT MATERIALS.
- LANDSCAPING AND TREES ADJACENT TO PAVED AREA WILL BE PROTECTED BY A CURB THROUGHOUT THE SITE.
- ALL PLANT MATERIAL SHALL MEET SIZE SPECIFICATIONS AS SHOWN ON THE PLANT LIST, AND SHALL BE HEALTHY, FULL, AND OF FIRST RATE QUALITY. ALL PLANT MATERIAL SHALL MATCH SPECIFICATIONS PER SPECIES, AND SHALL COMPLY WITH ANSI Z60.1 "STANDARD FOR NURSERY STOCK."
- ALL REQUIRED LANDSCAPING SHALL BE CONTINUOUSLY MAINTAINED AND REPLACED AS REQUIRED TO MEET THE CITY OF SAN ANTONIO LANDSCAPE ORDINANCE STANDARDS.
- GRADE CHANGES THAT DO NOT APPEAR ON SITE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BY THE GENERAL CONTRACTOR.
- SPICE SHRUB MATERIAL AS SHOWN ON PLAN. TURF GRASSES SHALL BE INSTALLED AS SOD AS SHOWN ON PLANS.
- PRIOR TO FINAL LANDSCAPE INSPECTION, A SEALED LETTER OF CONCURRENCE SHALL BE PROVIDED TO THE CITY OF SAN ANTONIO TO VERIFY THAT THE PROJECT HAS BEEN IMPLEMENTED IN ACCORDANCE WITH THE CITY APPROVED PLANS.
- NOT MORE THAN 50% OF THE PROPOSED TREES OR SHRUBS ARE OF THE SAME SPECIES.
- STEEL EDGING IS TO BE USED AROUND ALL SHRUB BEDS AND/OR GROUND COVER BEDS.
- ALL PLANTING BEDS ARE TO RECEIVE 3" NATIVE TEXAS HARDWOOD MULCH.
- CONTRACTOR TO CONFIRM FINISH GRADING HAS BEEN COMPLETED AND TOPSOIL IS LIGHTLY COMPACTED AND IN GOOD CONDITION PRIOR TO LAYING SOD AND PLANTING.

**5 ROOT BALL ANCHORING DETAIL**

SCALE: N.T.S.

**TREE PLANTING NOTES**

- CONTAINER GROWN TREES:
  - DO NOT PULL THE TREE OUT OF THE CONTAINER BY ITS TRUNK. INSTEAD, THE CONTAINER MUST BE PULLED AWAY FROM THE ROOT BALL OF THE TREE.
  - IF CIRCLING OR GIRDLING ROOTS ARE DISCOVERED, CUT THEM AND SPREAD THEM APART PRIOR TO PLANTING.
  - THE ROOT BALL OF THE TREE IS TO BE PLACED IN THE CENTER OF THE HOLE. ADJUSTMENTS MAY BE NECESSARY TO ENSURE THAT THE TREE IS STRAIGHT AND AT THE PROPER LEVEL PRIOR TO FILLING THE HOLE WITH DIRT.
- BALL AND BURLAPPED TREES (ONLY FROM OCT.1ST - MARCH 31ST):
  - TO PLANT, THE ROOT BALL MUST BE RESTED IN THE CENTER OF THE HOLE. ONCE THE TREE IS IN THE HOLE, RESHAPING OF THE HOLE MAY BE NECESSARY TO ENSURE THAT THE TREE WILL BE STRAIGHT AND AT THE PROPER LEVEL.
  - AFTER ADJUSTMENTS HAVE BEEN MADE, PULL BURLAP AND ANY OTHER MATERIAL AWAY FROM THE SIDES AND TOP OF THE ROOT BALL. BURLAP IS NOT TO BE REMOVED FROM THE BOTTOM OF THE ROOT BALL.
  - DO NOT ADJUST OR LIFT THE TREE AFTER BURLAP HAS BEEN REMOVED. DOING THIS COULD CAUSE DAMAGE TO THE ROOT SYSTEM.
- SOIL USED FOR BACKFILLING IS TO BE ORIGINAL SOIL. IN THE CASE THAT THE ORIGINAL SOIL HAS BEEN REMOVED OR IS OF POOR QUALITY, SPECIFIED PLANTING MIX MUST BE USED. OR SOIL MUST BE AMENDED. CONSULT WITH A LANDSCAPE ARCHITECT OR CERTIFIED ARBORIST PRIOR TO AMENDING SOIL TO DETERMINE THE MOST APPROPRIATE SOIL MIX.
- FILLING OF THE PLANTING HOLE MUST NOT BE DONE ALL AT ONCE IN ORDER TO AVOID CREATING LARGE AIR POCKETS IN THE SOIL. THE HOLE IS TO BE FILLED HALF FULL WITH SOIL, THEN FLOODED WITH A SLOW HOSE AND TAMPED GENTLY WITH YOUR FOOT TO FIRM THE SOIL. REPEAT THIS PROCESS UNTIL THE HOLE IS FULL. CARE SHOULD BE TAKEN TO NOT TAMP THE SOIL TOO FIRMLY. TAMPING SHOULD ONLY BE DONE FIRMLY ENOUGH TO HOLD THE TREE UPRIGHT.
- A SMALL BERM SHALL BE CONSTRUCTED AROUND THE TREE. THE BERM SHALL BE 3" DIAMETER AND 3" HIGH.
- THE ENTIRE AREA OF SOIL WHICH HAS BEEN LOOSENEED DUE TO TREE PLANTING IS TO BE MULCHED. THE MULCH SHALL BE APPLIED AT A DEPTH OF 3", AND SHALL BE OF A SHREDDED WOOD OR BARK. MULCH SHALL NOT BE PLACED WITHIN 1'-2" OF THE TRUNK OF THE TREE.
- ANY BAMBOO OR NURSERY STAKES SHALL BE REMOVED FROM THE TREES. TREE STAKES SHALL BE INSTALLED 12"-18" FROM THE TRUNK, IN UNDISTURBED SOIL OUTSIDE OF THE PLANTING HOLE. STAKES SHALL BE SIX, EIGHT, OR TEN FEET TALL DEPENDING ON THE HEIGHT OF THE TREE. TREES SHALL BE STAKED WITH 3 METAL T-POSTS. INSURE THAT METAL STAKES WILL NOT RUB AGAINST TREE TRUNKS. TREE TIES SHALL BE LOCATED NEAR THE LOWEST MAIN BRANCH ON THE TREE. STAKED OR GIRDLED TREES SHALL BE CHECKED MONTHLY DURING THE GROWING SEASON AND AFTER STORMS OR STRONG WIND TO ENSURE THEY ARE IN PROPER CONDITION. THE STAKING SYSTEM SHALL BE SNUG, BUT NOT SO SNUG THAT IT WOULD MAKE AN IMPRESSION ON THE STEM OR TRUNK. TREES SHALL BE STAKED FOR ONLY AS LONG AS IS NECESSARY FOR THE TRUNK TO BE STRENGTHENED. UNDER NORMAL CONDITIONS THIS TIME PERIOD SHOULD BE ONE OR TWO GROWING SEASONS.
- PREPARED PLANTING MIX: COMMERCIAL GRADE PRE-MIXED PLANTING MIX BY "GARDENVILLE VITAL EARTH RESOURCES" OR APPROVED EQUAL SHALL BE USED AS BACKFILL AROUND ALL PLANT MATERIAL ROOT BALLS.



**3 BALD CYPRESS PLANTING DETAIL**  
SCALE: 1/2" = 1'-0"



<b>CLIENT</b> PACE EXHIBITIONS, LLC P.O. BOX 836607 San Antonio, TX 78263 P. 210.477.9236	<b>ARCHITECT OF RECORD</b> ALAMO ARCHITECTS 1612 South Flores Street San Antonio, Texas 78204 P. 210.227.2612 / F. 210.227.9457	<b>CIVIL ENGINEER</b> KFW ENGINEERS + SURVEYING 3421 Paeanos Parkway San Antonio, TX 78231 P. 210.979.8444 / F. 210.979.8441	<b>MEP &amp; FP / AV / CT / SECURITY</b> WSP GROUP 88 Black Flacon Ave, Suite 210 Boston, MA 02210 P. 617.210.1600 / F. 617.210.1800	<b>LIGHTING</b> TILLOTSON DESIGN ASSOC. 40 North St., Suite 703 New York, NY 10013 P. 212.675.7760	<b>LIFE SAFETY</b> FIRE PROTECTION CONSULTING GROUP 339 Sandalwood Lane San Antonio, TX 78216 P. 210.835.6300
<b>CLIENT REPRESENTATIVE</b> NORTON COMPANY PO Box 701344 San Antonio, TX 78270 P. 210.241.8822	<b>DESIGN CONSULTANT</b> ADJAYE ASSOCIATES 415 Broadway New York City, NY 10013 P. 212.965.8477 / F. 212.965.8420	<b>STRUCTURAL ENGINEER</b> GUY NORDENSON & ASSOCIATES 225 Varick St., 6th Floor New York City, NY 10014 P. 212.765.9119	<b>LANDSCAPE ARCHITECT</b> MADRONE LDC PO Box 28884 Austin, TX 78785 P. 512.798.4767 / F. 832.615.3455	<b>BUILDING ENVELOPE / GLAZING</b> WJE ASSOCIATES 8818 Tradeway San Antonio, TX 78217 P. 210.826.4200 / F. 512.335.6268	<b>ACOUSTICIAN</b> WHJW INC. 12500 Network Blvd., Suite 402 San Antonio, TX 78249 P. 372.034.3700 / F. 210.561.9810

NUM.	DATE	ISSUE DESCRIPTION
2	06/14/2017	100 CD

**PERMIT SET**

**SEAL**

**SHEET TITLE**  
**PLANTING DETAILS**

PROJECT: LINDA PACE FOUNDATION - EXHIBITION SPACE  
PROJECT #: 2014-16  
DATE: 05-19-2017  
DRAWN: WTP  
APPROVED: JA

**L1.02**