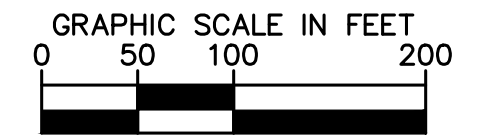
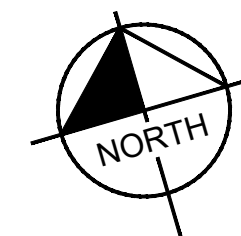


# Exhibit C - Detail Landscape Plan

ALL PROPOSED LANDSCAPE IMPROVEMENTS SHALL BE PROVIDED A PERMANENT IRRIGATION SYSTEM PER CITY OF COPPELL CODE OF ORDINANCES.

## PLANTING NOTES:

- CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATIONS OF ALL UNDERGROUND UTILITIES, PIPES, STRUCTURES, AND LINE RUNS IN THE FIELD PRIOR TO THE INSTALLATION OF ANY PLANT MATERIAL.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ADVISE THE LANDSCAPE ARCHITECT OF ANY CONDITION FOUND ON SITE WHICH PERMITS INSTALLATION AS SHOWN ON THESE DRAWINGS.
- ALL PLANT MATERIAL SHALL BE MAINTAINED IN A HEALTHY, GROWING CONDITION AND MUST BE REPLACED WITHIN 30 DAYS WITH PLANT MATERIAL OF THE SAME VARIETY AND SIZE IF DAMAGED, DESTROYED, OR REMOVED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR FINE GRADING AND REMOVAL OF DEBRIS PRIOR TO PLANTING IN ALL AREAS.
- FINAL FINISH GRADING SHALL BE REVIEWED AND APPROVED BY THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL TOPSOIL REQUIRED TO CREATE A SMOOTH CONDITION PRIOR TO PLANTING.
- CONTRACTOR SHALL VERIFY ALL PLANT QUANTITIES. ALL PLANT QUANTITIES ARE LISTED FOR INFORMATION PURPOSES ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE FULL COVERAGE IN ALL PLANTING AREAS AS SHOWN ON THE PLANS AND SPECIFIED IN THE PLANT SCHEDULE.
- CONTRACTOR TO PROVIDE STEEL EDGING BETWEEN ALL PLANTING BEDS AND TURF AREAS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
- ALL PLANT MATERIAL SHALL CONFORM TO THE SPECIFICATIONS GIVEN IN THE PLANT SCHEDULE, PLANTING DETAILS, AND PLANTING SPECIFICATIONS.
- ALL PLANT MATERIAL SHALL MEET INDUSTRY STANDARDS AS INDICATED IN THE CURRENT EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1).
- ALL PLANT MATERIAL SUBSTITUTIONS SHALL BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO PURCHASE.
- CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION WITH OTHER CONTRACTORS ON SITE AS REQUIRED TO ACCOMPLISH ALL PLANTING OPERATIONS.
- ALL PLANTING AREAS SHALL RECEIVE SOIL AMENDMENTS.
- PLANT MATERIAL SHALL BE PRUNED PER PLANTING DETAILS UNLESS OTHERWISE NOTED ON DRAWINGS.
- PLANTING AREAS SHALL BE KEPT FREE OF TRASH, WEEDS, DEBRIS, AND DEAD PLANT MATERIAL.
- ALL LIME STABILIZED SOIL AND INORGANIC SELECT FILL FOR BUILDING OR PAVING CONSTRUCTION SHALL BE REMOVED FROM ALL PLANTING BEDS TO A MINIMUM DEPTH OF 24" UNLESS OTHERWISE NOTED. REPLACE MATERIAL REMOVED WITH IMPORTED TOPSOIL.
- TREES OVERHANGING PEDESTRIAN WALKS AND WITHIN VISIBILITY TRIANGLES AS NOTED ON THE PLANS SHALL BE LIMBED TO A HEIGHT OF SEVEN FEET (7'). TREE OVERHANGING PUBLIC STREETS AND FIRELANES SHALL BE LIMBED TO A HEIGHT OF FOURTEEN FEET (14').
- TREES PLANTED NEXT TO ACCESSIBLE ROUTES AND ACCESSIBLE AREAS SHALL BE LIMBED TO 7" (80" MIN.) AFF.
- ALL PROPOSED TREES SHALL BE STAKED WITH AN AT-GRADE ROOT BALL SECURING SYSTEM AS SHOWN IN THE PLANTING DETAILS AND SPECIFICATIONS. NO ABOVE-GROUND STAKING SYSTEMS, GUY WIRES/WIRES, HOSES, STRAPS, POSTS (METAL OR WOOD) SHALL BE ALLOWED UNLESS AUTHORIZED IN WRITING BY THE LANDSCAPE ARCHITECT.



City of Coppell Landscape Requirements - Article 34		
Total Site Area: 1,120,089.26 SF		
Zoning: PD-221R4R-LI		
Landscape Requirements for Nonvehicular Open Space	Required	Provided
In all non-residential zoning districts, there shall be an area devoted to feature landscaping. The size of that area shall equal at least 15% of that portion of the lot not covered by a building or buildings.	15% (102,795.71 SF)	32.6% (223,370.77 SF)
Trees shall be planted in non-vehicular open space: 30% - 40% = 1 tree/3,000 sf 223,370.77 sf / 3,000 sf = 74.46 trees -- 75 Trees	75 Trees	75 Trees
Perimeter Landscaping		
All off-street parking, loading and vehicular use areas, including driveway pavement, shall also be screened from all abutting properties and/or public rights-of-way by a wall, fence, hedge, berm, or other durable landscape barrier.	Hedge Screen	Hedge Screen
Perimeter landscape areas shall contain at least one tree for each 50 linear feet or fraction thereof of perimeter landscape area. If / 50 lf = Trees		
SouthWest Buffer 2314.39 LF / 50 LF = 46.29 Trees	47 Trees	47 Trees
North Buffer 1486.11 LF / 50 LF = 29.72 Trees	30 Trees	30 Trees
East Buffer 1371.24 LF / 50 LF = 27.42 Trees	28 Trees	28 Trees
Perimeter Areas	77,565 SF	77,565 SF
Interior Landscaping	Required	Provided
A minimum 10% of the gross non-exempt area utilized for off-street parking and loading shall be devoted to living landscaping. Total parking SF: 116,895 SF 116,895 x 10% = 11,689.5 SF	10% (11,689.5 SF)	16.89% (19745.85 SF)
The total number of planting islands shall be an amount which is no less than 12% of the total number of non-exempt parking spaces. total spaces x .12 = Islands 356 Parking Spaces x .12 = 42.7 -- 43	12% (43 Islands/Trees)	13.2% (47 Islands/Trees)
There shall be a minimum of one tree planted for each 400 square feet 6,656.69/400 SF = 16.6 Trees	17 Trees	17 Trees
Planting islands shall be located at the terminus of each single row of parking and, when a single row of parking contains more than 15 spaces, at intervals between each terminus. Planting islands shall contain at least one tree.	Yes	Yes
	Required	Provided
Required Trees	240 Trees	240 Trees
Required Open Space	102,795.71 SF	223,370.77 SF
Required Interior Landscape	11,689.5 SF	19745.85 SF
Required Perimeter Area	77,565 SF	77,565 SF

# LP 1.00

# LP 1.01

# LP 1.02

## PLANT SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	ROOT	CAL	SIZE	REMARKS
<b>TREES</b>							
	UC	40	ULMUS CRASSIFOLIA / CEDAR ELM	B & B	4" CAL.	14'-16" HT.	SINGLE STRAIGHT CENTRAL LEADER, FULL AND MATCHING
	QM	46	QUERCUS MUEHLBERGII / CHINQUAPIN OAK	B & B	4" CAL.	14'-16" HT.	SINGLE STRAIGHT CENTRAL LEADER, FULL AND MATCHING
	LO	49	QUERCUS LACEYI / LACEY OAK	B & B	4" CAL.	14'-16" HT.	SINGLE STRAIGHT CENTRAL LEADER, FULL AND MATCHING
	QV	63	QUERCUS VIRGINIANA / LIVE OAK	B & B	4" CAL.	14'-16" HT.	SINGLE STRAIGHT CENTRAL LEADER, FULL AND MATCHING
	QS	42	QUERCUS SHUMARDII / SHUMARD RED OAK	B & B	4" CAL.	14'-16" HT.	SINGLE STRAIGHT CENTRAL LEADER, FULL AND MATCHING
<b>SHRUBS</b>							
	IC	998	ILEX CORNUTA 'DWARF BURFORD' / DWARF BURFORD HOLLY	CONT.	24" HT.	36" O.C.	FULL AND MATCHING
<b>AGGREGATE</b>							
	RR	779 SF	/ RIVER ROCK	N/A	N/A	N/A	3"-5" COBBLE SIZE, LOCALLY SOURCED.
<b>TURF/GRASSES</b>							
	SOD	205,011 SF	CYNODON DACTYLON / BERMUDA GRASS	N/A	N/A	N/A	SOD TO HAVE TIGHT, SAND FILLED JOINTS AND BE FREE OF WEEDS
	SEED	82,914 SF	CYNODON DACTYLON / CYNODON DACTYLON	N/A	N/A	N/A	HYDROSEED

**DEVELOPER AND OWNER**  
 JIN K. SONG  
 NATERRA INTERNATIONAL, INC  
 601 FRITZ DR., COPPELL, TX 75019  
 (214) 422-2549  
 JSONG@NATERRA.COM

**APPLICANT**  
 BLAINE MIKULIK, PLA, LI  
 KIMLEY-HORN AND ASSOCIATES, INC.  
 10101 REUNION PLACE, SUITE 400,  
 SAN ANTONIO, TX 78259  
 (726) 610-3728  
 BLAINE.MIKULIK@KIMLEY-HORN.COM

**SITE PLAN NATERRA WORLD HQ**  
 ZONED PD-221R4R-LI  
 PROPOSED ZONING PD-221R4R2-LI  
 25.411 AC, LOT 1  
 1581 POINT WEST BLVD  
 ALTA/NSPS LAND TITLE SURVEY  
 CORDELIA BOWEN  
 ABSTRACT NO. 56 PG. 405  
 CITY OF COPPELL  
 DALLAS COUNTY, TEXAS  
 FEBRUARY 10, 2026

DATE
REVISIONS

No.
No.

2600 NORTH CENTRAL EXPRESSWAY, TOWER 2600,  
 SUITE 400, RICHARDSON, TX 75080  
 PHONE: (214) 417-0535  
 WWW.KIMLEY-HORN.COM TX F-928  
 © 2026 KIMLEY-HORN AND ASSOCIATES, INC.

FOR REVIEW ONLY  
 Not for construction or permit purposes.

BLAINE D. MIKULIK  
 P.L.A. No. 3486 DATE: 02/10/2026

KHA PROJECT  
060066300

DATE  
FEB 2026

SCALE AS SHOWN

DESIGNED BY  
LC

DRAWN BY  
LC

CHECKED BY  
BDW

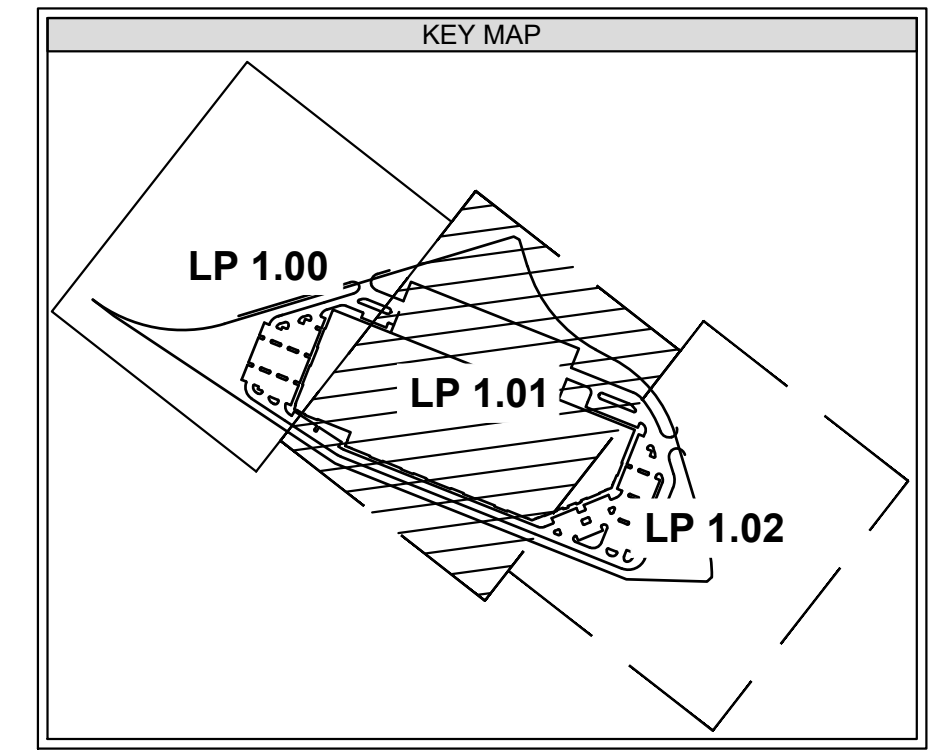
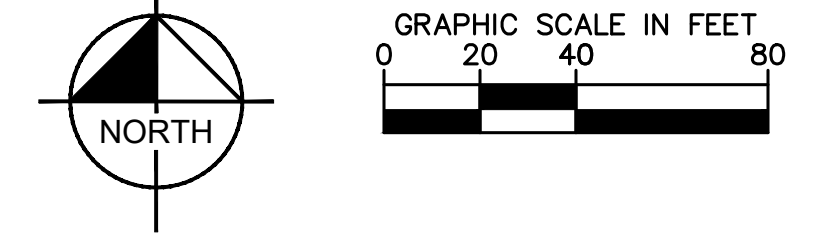
NATERRA WORLD HQ  
 PREPARED FOR  
 NATERRA INTERNATIONAL INC.  
 COPPELL, TEXAS

OVERALL LANDSCAPE  
 PLAN  
 SHEET NUMBER  
**LP 0.00**



Exhibit C - Detail Landscape Plan

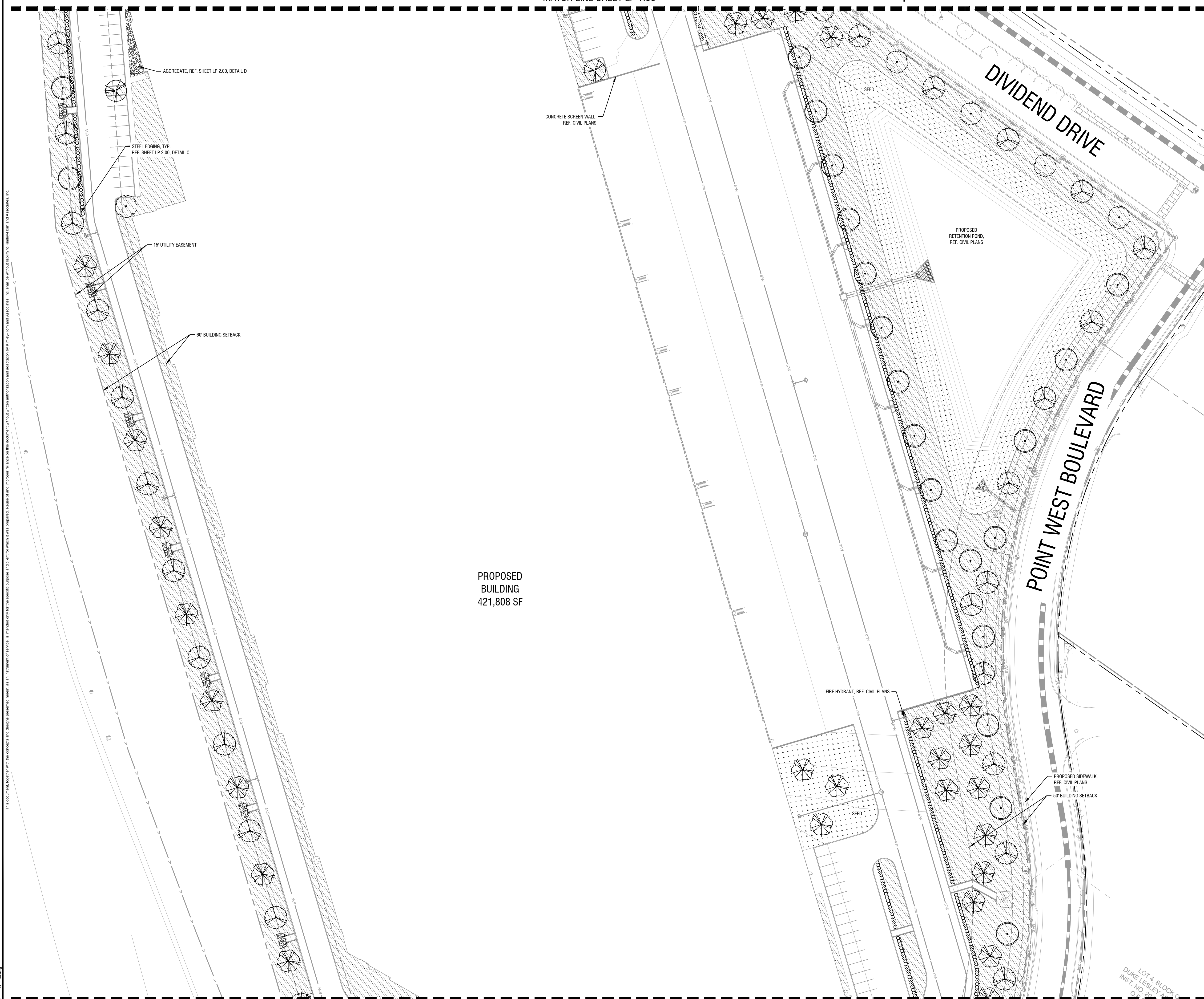
MATCH LINE SHEET LP 1.00



REF. SHEET LP 0.00 FOR COMPLETE PLANT SCHEDULE

PLANT SCHEDULE

SYMBOL	CODE	BOTANICAL / COMMON NAME
<b>TREES</b>		
	UC	ULMUS CRASSIFOLIA / CEDAR ELM
	QM	QUERCUS MUHLENBERGII / CHINQUAPIN OAK
	LO	QUERCUS LACEYI / LACEY OAK
	QV	QUERCUS VIRGINIANA / LIVE OAK
	QS	QUERCUS SHUMARDII / SHUMARD RED OAK
<b>SHRUBS</b>		
	IC	ILEX CORNUTA 'DWARF BURFORD' / DWARF BURFORD HOLLY
<b>AGGREGATE</b>		
	RR	/ RIVER ROCK
<b>TURF/GRASSES</b>		
	SOD	CYNODON DACTYLON / BERMUDA GRASS
	SEED	CYNODON DACTYLON / CYNODON DACTYLON



PROPOSED BUILDING  
421,808 SF

MATCH LINE SHEET LP 1.02

IMAGES: XREFS AND PLOTTED BY: CHANTEZ LINDSEY 2/20/2026 10:35 AM  
 DATE: 2/20/2026  
 DRAWN BY: DAVID NAME: LP 0.00.DWG  
 The document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Review of and reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

<p>2600 NORTH CENTRAL EXPRESSWAY, TOWER 2600, SUITE 400, RICHARDSON, TX 75080 PHONE: (214) 417-0535 WWW.KIMLEY-HORN.COM TX F-928 © 2026 KIMLEY-HORN AND ASSOCIATES, INC.</p>	DATE REVISIONS No.
	KHA PROJECT 060066300 DATE FEB 2026 SCALE AS SHOWN DESIGNED BY LC DRAWN BY LC CHECKED BY BDM
NATERRA WORLD HQ PREPARED FOR NATERRA INTERNATIONAL INC. COPPELL, TEXAS	SHEET NUMBER LP 1.01





# Exhibit C - Detail Landscape Plan

## SECTION 329300: PLANTING

### PART 1 GENERAL

#### 1.1 SUMMARY

- A. THE SCOPE OF WORK INCLUDES ALL LABOR, MATERIALS, APPLIANCES, TOOLS, EQUIPMENT, FACILITIES, TRANSPORTATION AND SERVICES NECESSARY FOR, AND INCIDENTAL TO PERFORMING ALL OPERATIONS IN CONNECTION WITH FURNISHING, DELIVERY, AND INSTALLATION OF PLANT (ALSO KNOWN AS "LANDSCAPING") COMPLETE AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN.
- B. THE SCOPE OF WORK IN THIS SECTION INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:
  1. LOCATE, PURCHASE, DELIVER AND INSTALL ALL SPECIFIED PLANTS.
  2. WATER ALL SPECIFIED PLANTS.
  3. MULCH, FERTILIZE, STAKE, AND PRUNE ALL SPECIFIED PLANTS.
  4. MAINTENANCE OF ALL SPECIFIED PLANTS UNTIL THE BEGINNING OF THE WARRANTY PERIOD.
  5. PLANT WARRANTY.
  6. CLEAN UP AND DISPOSAL OF ALL EXCESS AND SURPLUS MATERIAL.
  7. MAINTENANCE OF ALL SPECIFIED PLANTS DURING THE WARRANTY PERIOD.

#### 1.2 CONTRACT DOCUMENTS

- A. SHALL CONSIST OF SPECIFICATIONS AND GENERAL CONDITIONS AND THE CONSTRUCTION DRAWINGS. THE INTENT OF THESE DOCUMENTS IS TO INCLUDE ALL LABOR, MATERIALS, AND SERVICES NECESSARY FOR THE PROPER EXECUTION OF THE WORK. THE DOCUMENTS ARE TO BE CONSIDERED AS ONE, WHATEVER IS CALLED FOR BY ANY PARTS SHALL BE AS BINDING AS IF CALLED FOR IN ALL PARTS.

#### 1.3 RELATED DOCUMENTS AND REFERENCES

- A. RELATED DOCUMENTS:
  1. DRAWINGS AND GENERAL PROVISIONS OF CONTRACT INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION I SPECIFICATIONS APPLY TO WORK OF THIS SECTION
  2. RELATED SPECIFICATION SECTIONS
    - a. IRRIGATION
    - b. LAWN AND GRASSES
- B. REFERENCES: THE FOLLOWING SPECIFICATIONS AND STANDARDS OF THE ORGANIZATIONS AND DOCUMENTS LISTED IN THIS PARAGRAPH FORM A PART OF THE SPECIFICATION TO THE EXTENT REQUIRED BY THE REFERENCES THERETO. IN THE EVENT THAT THE REQUIREMENTS OF THE FOLLOWING REFERENCED STANDARDS AND SPECIFICATION CONFLICT WITH THIS SPECIFICATION SECTION THE REQUIREMENTS OF THIS SPECIFICATION SHALL PREVAIL. IN THE EVENT THAT THE REQUIREMENTS OF ANY OF THE FOLLOWING REFERENCED STANDARDS AND SPECIFICATIONS CONFLICT WITH EACH OTHER THE MORE STRINGENT REQUIREMENT SHALL PREVAIL OR AS DETERMINED BY THE OWNERS REPRESENTATIVE.
  1. ANSI Z60.1 AMERICAN STANDARD FOR NURSERY STOCK, MOST CURRENT EDITION.
  2. ANSI A 300 - STANDARD PRACTICES FOR TREE, SHRUB AND OTHER WOODY PLANT MAINTENANCE, MOST CURRENT EDITION AND ALL PARTS.
  3. INTERPRETATION OF PLANT NAMES AND DESCRIPTIONS DISAGREE THE FOLLOWING DOCUMENTS, WHERE THE NAMES OR PLANT DESCRIPTIONS DISAGREE BETWEEN THE SEVERAL DOCUMENTS, THE MOST CURRENT DOCUMENT SHALL PREVAIL.
    - a. USDA - THE GERMPASM RESOURCES INFORMATION NETWORK (WWW.ARS-GRIN.GOV/NPGS.HTML)
    - b. MANUAL OF WOODY LANDSCAPE PLANTS; MICHAEL DIRR; STIPES PUBLISHING, CHAMPAIGN, ILLINOIS; MOST CURRENT EDITION.
    - c. THE NEW SUNSET WESTERN GARDEN BOOK, OXMOOR HOUSE, MOST CURRENT EDITION.
  4. PRUNING PRACTICES SHALL CONFORM TO RECOMMENDATIONS "STRUCTURAL PRUNING: A GUIDE FOR THE GREEN INDUSTRY" MOST CURRENT EDITION; PUBLISHED BY URBAN TREE FOUNDATION, VISALIA, CALIFORNIA.
  5. GLOSSARY OF ARBORICULTURAL TERMS, INTERNATIONAL SOCIETY OF ARBORICULTURE, CHAMPAIGN IL, MOST CURRENT EDITION.

#### 1.4 VERIFICATION

- A. ALL SCALED DIMENSIONS ON THE DRAWINGS ARE APPROXIMATE. BEFORE PROCEEDING WITH ANY WORK, THE CONTRACTOR SHALL CAREFULLY CHECK AND VERIFY ALL DIMENSIONS AND QUANTITIES, AND SHALL IMMEDIATELY INFORM THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES BETWEEN THE INFORMATION ON THE DRAWINGS AND THE ACTUAL CONDITIONS, REFRAINING FROM DOING ANY WORK IN SAID AREAS UNTIL GIVEN APPROVAL TO DO SO BY THE OWNER'S REPRESENTATIVE.
- B. IN THE CASE OF A DISCREPANCY IN THE PLANT QUANTITIES BETWEEN THE PLAN DRAWINGS AND THE PLANT CALL OUTS, LIST OR PLANT SCHEDULE, THE NUMBER OF PLANTS OR SQUARE FOOTAGE OF THE PLANTING BED ACTUALLY DRAWN ON THE PLAN DRAWINGS SHALL BE DEEMED CORRECT AND PREVAIL.

#### 1.5 PERMITS AND REGULATIONS

- A. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS RELATED TO THIS SECTION OF THE WORK UNLESS PREVIOUSLY EXCLUDED UNDER PROVISIONS OF THE CONTRACT OR GENERAL CONDITIONS. THE CONTRACTOR SHALL COMPLY WITH ALL LAWS AND ORDINANCES BEARING ON THE OPERATION OR CONDUCT OF THE WORK AS DRAWN AND SPECIFIED. IF THE CONTRACTOR OBSERVES THAT A CONFLICT EXISTS BETWEEN PERMIT REQUIREMENTS AND THE WORK OUTLINED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE OWNER'S REPRESENTATIVE IN WRITING INCLUDING A DESCRIPTION OF ANY NECESSARY CHANGES AND CHANGES TO THE CONTRACT PRICE RESULTING FROM CHANGES IN THE WORK.
- B. WHEREVER REFERENCES ARE MADE TO STANDARDS OR CODES IN ACCORDANCE WITH WHICH WORK IS TO BE PERFORMED OR TESTED, THE EDITION OR REVISION OF THE STANDARDS AND CODES CURRENT ON THE EFFECTIVE DATE OF THIS CONTRACT SHALL APPLY, UNLESS OTHERWISE EXPRESSLY SET FORTH.
- C. IN CASE OF CONFLICT AMONG ANY REFERENCED STANDARDS OR CODES OR BETWEEN ANY REFERENCED STANDARDS AND CODES AND THE SPECIFICATIONS, THE MORE RESTRICTIVE STANDARD SHALL APPLY OR OWNER'S REPRESENTATIVE SHALL DETERMINE WHICH SHALL GOVERN.

#### 1.6 PROTECTION OF WORK, PROPERTY AND PERSON

- A. THE CONTRACTOR SHALL ADEQUATELY PROTECT THE WORK, ADJACENT PROPERTY, AND THE PUBLIC, AND SHALL BE RESPONSIBLE FOR ANY DAMAGES OR INJURY DUE TO HIS/HER ACTIONS.

#### 1.7 CHANGES IN THE WORK

- A. THE OWNER'S REPRESENTATIVE MAY ORDER CHANGES IN THE WORK, AND THE CONTRACT SUM SHOULD BE ADJUSTED ACCORDINGLY. ALL SUCH ORDERS AND ADJUSTMENTS PLUS CLAIMS BY THE CONTRACTOR FOR EXTRA COMPENSATION MUST BE MADE AND APPROVED IN WRITING BEFORE EXECUTING THE WORK INVOLVED.
- B. ALL CHANGES IN THE WORK, NOTIFICATIONS AND CONTRACTOR'S REQUEST FOR INFORMATION (RFI) SHALL CONFORM TO THE CONTRACT GENERAL CONDITION REQUIREMENTS.

#### 1.8 CORRECTION OF WORK

- A. THE CONTRACTOR, AT THEIR OWN COST, SHALL RE-EXECUTE ANY WORK THAT FAILS TO CONFORM TO THE REQUIREMENTS OF THE CONTRACT AND SHALL REMEDY DEFECTS DUE TO FAULTY MATERIALS OR WORKMANSHIP UPON WRITTEN NOTICE FROM THE OWNER'S REPRESENTATIVE, AT THE SOONEST AS POSSIBLE TIME THAT CAN BE COORDINATED WITH OTHER WORK AND SEASONAL WEATHER DEMANDS.

#### 1.9 DEFINITIONS

- A. ALL TERMS IN THIS SPECIFICATION SHALL BE AS DEFINED IN THE "GLOSSARY OF ARBORICULTURAL TERMS" OR AS MODIFIED BELOW.
- A. BOXED TREES: A CONTAINER ROOT BALL PACKAGE MADE OF WOOD IN THE SHAPE OF A FOUR-SIDED BOX.
- B. CONTAINER PLANT: PLANTS THAT ARE GROWN IN AND/OR ARE CURRENTLY IN A CONTAINER INCLUDING BOXED TREES.
- C. DEFECTIVE PLANT: ANY PLANT THAT FAILS TO MEET THE PLANT QUALITY REQUIREMENT OF THIS SPECIFICATION.
- D. END OF WARRANTY FINAL ACCEPTANCE: THE DATE WHEN THE OWNER'S REPRESENTATIVE ACCEPTS THAT THE PLANTS AND WORK IN THIS SECTION MEET ALL THE REQUIREMENTS OF THE WARRANTY. IT IS INTENDED THAT THE MATERIALS AND WORKMANSHIP WARRANTY FOR PLANTING, PLANTING SOIL, AND IRRIGATION WORK RUN CONCURRENT WITH EACH OTHER.
- E. FIELD GROWN TREES (F&B): TREES GROWING IN FIELD SOIL FOR AT LEAST 12 MONTHS PRIOR TO HARVEST.
- F. HEALTHY: PLANTS THAT ARE GROWING IN A CONDITION THAT EXPRESSES LEAF SIZE, GROWN DENSITY, COLOR, AND WITH ANNUAL GROWTH RATES TYPICAL OF THE SPECIES AND CULTIVAR'S HORTICULTURAL DESCRIPTION, ADJUSTED FOR THE PLANTING SITE SOIL, DRAINAGE AND WEATHER CONDITIONS.
- G. KINKED ROOT: A ROOT WITHIN THE ROOT PACKAGE THAT BENDS MORE THAN 90 DEGREES.
- H. MAINTENANCE: ACTIONS THAT PRESERVE THE HEALTH OF PLANTS AFTER INSTALLATION AND AS DEFINED IN THIS SPECIFICATION.
- I. MAINTENANCE PERIOD: THE TIME PERIOD, AS DEFINED IN THIS SPECIFICATION, WHICH THE CONTRACTOR IS TO PROVIDE MAINTENANCE.
- J. NORMAL: THE PREVAILING PROTOCOL OF INDUSTRY STANDARD(S).
- K. OWNER'S REPRESENTATIVE: THE PERSON APPOINTED BY THE OWNER TO REPRESENT THEIR INTEREST IN THE REVIEW AND APPROVAL OF THE WORK AND TO SERVE AS THE CONTRACTING AUTHORITY WITH THE CONTRACTOR. THE OWNER'S REPRESENTATIVE MAY APPOINT OTHER PERSONS TO REVIEW AND APPROVE ANY ASPECTS OF THE WORK.
- L. REASONABLE AND REASONABLY: WHEN USED IN THIS SPECIFICATION RELATIVE TO PLANT QUALITY, IT IS INTENDED TO MEAN THAT THE CONDITIONS CITED WILL NOT AFFECT THE ESTABLISHMENT OR LONG TERM STABILITY, HEALTH OR GROWTH OF THE PLANT. THIS SPECIFICATION RECOGNIZES THAT IT IS NOT POSSIBLE TO PRODUCE PLANTS FREE OF ALL DEFECTS, BUT THAT SOME ACCEPTED INDUSTRY PROTOCOLS AND STANDARDS RESULT IN PLANTS UNACCEPTABLE TO THIS PROJECT.
- M. WHEN REASONABLE OR REASONABLY IS USED IN RELATION TO OTHER ISSUES SUCH AS WEEDS, DISEASED,

INSECTS, IT SHALL MEAN AT LEVELS LOW ENOUGH THAT NO TREATMENT WOULD BE REQUIRED WHEN APPLYING RECOGNIZED INTEGRATED PLANT MANAGEMENT PRACTICES.

THIS SPECIFICATION RECOGNIZES THAT SOME DECISIONS CANNOT BE TOTALLY BASED ON MEASURED FINDINGS AND THAT PROFESSIONAL JUDGMENT IS REQUIRED. IN CASES OF DIFFERING OPINION, THE OWNER'S REPRESENTATIVE'S EXPERT SHALL DETERMINE WHEN CONDITIONS ARE JUDGED AS REASONABLE.

- M. ROOT BALL: THE MASS OF ROOTS INCLUDING ANY SOIL OR SUBSTRATE THAT IS SHIPPED WITH THE TREE WITHIN THE ROOT BALL PACKAGE.
- N. ROOT BALL PACKAGE: THE MATERIAL THAT SURROUNDS THE ROOT BALL DURING SHIPPING. THE ROOT PACKAGE MAY INCLUDE THE MATERIAL IN WHICH THE PLANT WAS GROWN, OR NEW PACKAGING PLACED AROUND THE ROOT BALL FOR SHIPPING.
- O. ROOT COLLAR (ROOT CROWN, ROOT FLARE, TRUNK FLARE, FLARE): THE REGION AT THE BASE OF THE TRUNK WHERE THE MAJORITY OF THE STRUCTURAL ROOTS JOIN THE PLANT STEM, USUALLY AT OR NEAR GROUND LEVEL.
- P. SHRUB: WOODY PLANTS WITH MATURE HEIGHT APPROXIMATELY LESS THAN 15 FEET.
- Q. SPADE HARVESTED AND TRANSPLANTED: FIELD GROWN TREES THAT ARE MECHANICALLY HARVESTED AND IMMEDIATELY TRANSPLANTED TO THE FINAL GROWING SITE WITHOUT BEING REMOVED FROM THE DIGGING MACHINE.
- R. STEM: THE TRUNK OF THE TREE.
- S. SUBSTANTIAL COMPLETION ACCEPTANCE: THE DATE AT THE END OF THE PLANTING, PLANTING SOIL, AND IRRIGATION INSTALLATION WHERE THE OWNER'S REPRESENTATIVE ACCEPTS THAT ALL WORK IN THESE SECTIONS IS COMPLETE AND THE WARRANTY PERIOD HAS BEGUN. THIS DATE MAY BE DIFFERENT THAN THE DATE OF SUBSTANTIAL COMPLETION FOR THE OTHER SECTIONS OF THE PROJECT.
- T. STEM GIRDLING ROOT: ANY ROOT MORE THAN 1/4 INCH DIAMETER CURRENTLY TOUCHING THE TRUNK, OR WITH THE POTENTIAL TO TOUCH THE TRUNK, ABOVE THE ROOT COLLAR APPROXIMATELY TANGENT TO THE TRUNK. CIRCUMFERENCE OR CIRCLING THE TRUNK. ROOTS SHALL BE CONSIDERED AS STEM GIRDLING THAT HAVE, OR ARE LIKELY TO HAVE IN THE FUTURE, ROOT TO TRUNK BARK CONTACT.
- U. STRUCTURAL ROOT: ONE OF THE LARGEST ROOTS EMERGING FROM THE ROOT COLLAR.
- V. TREE: SINGLE AND MULTI-STEMMED PLANTS WITH MATURE HEIGHT APPROXIMATELY GREATER THAN 15 FEET.

#### 1.10 SUBMITTALS

- A. SEE CONTRACT GENERAL CONDITIONS FOR POLICY AND PROCEDURE RELATED TO SUBMITTALS.
- B. SUBMIT ALL PRODUCT SUBMITTALS 4 WEEKS PRIOR TO INSTALLATION OF PLANTINGS.
- C. PRODUCT DATA: SUBMIT MANUFACTURER PRODUCT DATA AND LITERATURE DESCRIBING ALL PRODUCTS REQUIRED BY THIS SECTION TO THE OWNER'S REPRESENTATIVE FOR APPROVAL. PROVIDE SUBMITTAL FOUR WEEKS BEFORE THE INSTALLATION OF PLANTS.
- D. SAMPLES: SUBMIT SAMPLES OF EACH PRODUCT AND MATERIAL WHERE REQUIRED BY THE SPECIFICATION TO THE OWNER'S REPRESENTATIVE FOR APPROVAL. LABEL SAMPLES TO INDICATE PRODUCT, CHARACTERISTICS, AND LOCATIONS IN THE WORK. SAMPLES WILL BE REVIEWED FOR APPEARANCE ONLY. COMPLIANCE WITH ALL OTHER REQUIREMENTS IS THE EXCLUSIVE RESPONSIBILITY OF THE CONTRACTOR.
- E. CLOSE OUT SUBMITTALS: SUBMIT TO THE OWNER'S REPRESENTATIVE FOR APPROVAL.
  1. PLANT MAINTENANCE DATA AND REQUIREMENTS.
  2. WARRANTY PERIOD SITE VISIT RECORD: IF THERE IS NO MAINTENANCE DURING THE WARRANTY PERIOD, AFTER EACH VISIT DURING THE WARRANTY PERIOD, BY THE CONTRACTOR, REJECTED MATERIALS SHALL BE IMMEDIATELY REMOVED FROM THE SITE AND REPLACED AT THE CONTRACTOR'S EXPENSE. THE COST OF TESTING MATERIALS NOT MEETING SPECIFICATIONS SHALL BE PAID BY THE CONTRACTOR.
- F. WARRANTY PERIOD SITE VISIT RECORD: IF THERE IS NO MAINTENANCE DURING THE WARRANTY PERIOD, AFTER EACH VISIT DURING THE WARRANTY PERIOD, BY THE CONTRACTOR, REJECTED MATERIALS SHALL BE IMMEDIATELY REMOVED FROM THE SITE AND REPLACED AT THE CONTRACTOR'S EXPENSE. THE COST OF TESTING MATERIALS NOT MEETING SPECIFICATIONS SHALL BE PAID BY THE CONTRACTOR.

#### 1.11 OBSERVATION OF THE WORK

- A. THE OWNER'S REPRESENTATIVE MAY OBSERVE THE WORK AT ANY TIME. THEY MAY REMOVE SAMPLES OF MATERIALS FOR CONFORMITY TO SPECIFICATIONS. REJECTED MATERIALS SHALL BE IMMEDIATELY REMOVED FROM THE SITE AND REPLACED AT THE CONTRACTOR'S EXPENSE. THE COST OF TESTING MATERIALS NOT MEETING SPECIFICATIONS SHALL BE PAID BY THE CONTRACTOR.
- B. THE OWNER'S REPRESENTATIVE SHALL BE INFORMED OF THE PROGRESS OF THE WORK SO THE WORK MAY BE OBSERVED AT THE FOLLOWING KEY TIMES IN THE CONSTRUCTION PROCESS. THE OWNER'S REPRESENTATIVE SHALL BE AFFORDED SUFFICIENT TIME TO SCHEDULE VISIT TO THE SITE. FAILURE OF THE OWNER'S REPRESENTATIVE TO MAKE FIELD OBSERVATIONS SHALL NOT RELIEVE THE CONTRACTOR FROM MEETING ALL THE REQUIREMENTS OF THIS SPECIFICATION.
  1. SITE CONDITIONS PRIOR TO THE START OF PLANTING: REVIEW THE SOIL AND DRAINAGE CONDITIONS.
  2. COMPLETION OF THE PLANT LAYOUT STAKING: REVIEW OF THE PLANT LAYOUT.
  3. PLANT QUALITY: REVIEW OF PLANT QUALITY AT THE TIME OF DELIVERY AND PRIOR TO INSTALLATION. REVIEW TREE QUALITY PRIOR TO UNLOADING WHERE POSSIBLE, BUT IN ALL CASES PRIOR TO PLANTING.
  4. COMPLETION OF THE PLANTING: REVIEW THE COMPLETED PLANTING.

#### 1.12 PRE-CONSTRUCTION CONFERENCE

- A. SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE OWNER'S REPRESENTATIVE AT LEAST SEVEN (7) DAYS BEFORE BEGINNING WORK TO REVIEW ANY QUESTIONS THE CONTRACTOR MAY HAVE REGARDING THE WORK, ADMINISTRATIVE PROCEDURES DURING CONSTRUCTION AND PROJECT WORK SCHEDULE.

#### 1.13 QUALITY ASSURANCE

- A. SUBSTANTIAL COMPLETION ACCEPTANCE - ACCEPTANCE OF THE WORK PRIOR TO THE START OF THE WARRANTY PERIOD:
  1. ONCE THE CONTRACTOR COMPLETES THE INSTALLATION OF ALL ITEMS IN THIS SECTION, THE OWNER'S REPRESENTATIVE WILL OBSERVE ALL WORK FOR SUBSTANTIAL COMPLETION ACCEPTANCE UPON WRITTEN REQUEST OF THE CONTRACTOR. THE REQUEST SHALL BE RECEIVED AT LEAST TEN CALENDAR DAYS BEFORE THE ANTICIPATED DATE OF THE OBSERVATION.
  2. SUBSTANTIAL COMPLETION ACCEPTANCE BY THE OWNER'S REPRESENTATIVE SHALL BE FOR GENERAL CONFORMANCE TO SPECIFIED SIZE, CHARACTER AND QUALITY AND NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR FULL CONFORMANCE TO THE CONTRACT DOCUMENTS, INCLUDING CORRECT SPECIES.
  3. ANY PLANTS THAT ARE DEEMED DEFECTIVE AS DEFINED UNDER THE PROVISIONS BELOW SHALL NOT BE ACCEPTED.
- B. THE OWNER'S REPRESENTATIVE WILL PROVIDE THE CONTRACTOR WITH WRITTEN ACKNOWLEDGMENT OF THE DATE OF SUBSTANTIAL COMPLETION ACCEPTANCE AND THE BEGINNING OF THE WARRANTY PERIOD AND PLANT MAINTENANCE PERIOD (IF PLANT MAINTENANCE IS INCLUDED).
- C. CONTRACTOR'S QUALITY ASSURANCE RESPONSIBILITIES: THE CONTRACTOR IS SOLELY RESPONSIBLE FOR QUALITY CONTROL OF THE WORK.
  1. THE INSTALLER QUALIFICATIONS: THE INSTALLER SHALL BE A FIRM HAVING AT LEAST 5 YEARS OF SUCCESSFUL EXPERIENCE OF A SCOPE SIMILAR TO THAT REQUIRED FOR THE WORK, INCLUDING THE HANDLING AND PLANTING OF LARGE SPECIMEN TREES IN URBAN AREAS. THE SAME FIRM SHALL INSTALL PLANTING SOIL (WHERE APPLICABLE) AND PLANT MATERIAL.
  2. THE INSTALLER'S FIELD SUPERVISOR SHALL HAVE A MINIMUM OF FIVE YEARS EXPERIENCE AS A FIELD SUPERVISOR INSTALLING PLANTS AND TREES OF THE QUALITY AND SCALE OF THE PROPOSED PROJECT, AND WHO CAN COMMUNICATE IN ENGLISH WITH THE OWNER'S REPRESENTATIVE.
  3. THE INSTALLER'S CREW SHALL HAVE A MINIMUM OF 3 YEARS EXPERIENCE IN THE INSTALLATION OF PLANTING SOIL, PLANTINGS, AND IRRIGATION (WHERE APPLICABLE) AND INTERPRETATION OF SOIL PLANS, PLANTING PLANS AND IRRIGATION PLANS.
  4. SUBMIT REFERENCES OF PAST PROJECTS, EMPLOYEE TRAINING CERTIFICATIONS THAT SUPPORT THAT THE CONTRACTOR'S MEETS ALL OF THE ABOVE INSTALLER QUALIFICATIONS AND APPLICABLE LICENSURES.

#### 1.14 PLANT WARRANTY

- A. THE CONTRACTOR AGREES TO REPLACE DEFECTIVE WORK AND DEFECTIVE PLANTS. THE OWNER'S REPRESENTATIVE SHALL MAKE THE FINAL DETERMINATION IF PLANTS MEET THESE SPECIFICATIONS OR THAT PLANTS ARE DEFECTIVE.
- B. PLANTS WARRANTY SHALL BEGIN ON THE DATE OF SUBSTANTIAL COMPLETION ACCEPTANCE AND CONTINUE FOR THE FOLLOWING PERIODS, CLASSIFIED BY PLANT TYPE:
  1. TREES - 1 YEAR.
  2. SHRUBS - 1 YEAR.
  3. GROUND COVER AND PERENNIAL FLOWER PLANTS - 1 YEAR.
  4. BULBS, ANNUAL FLOWER AND SEASONAL COLOR PLANTS - FOR THE PERIOD OF EXPECTED BLOOM OR PRIMARY DISPLAY.
- C. WHEN THE WORK IS ACCEPTED IN PARTS, THE WARRANTY PERIODS SHALL EXTEND FROM EACH OF THE PARTIAL SUBSTANTIAL COMPLETION ACCEPTANCES TO THE TERMINAL DATE OF THE LAST WARRANTY PERIOD. THUS, ALL WARRANTY PERIODS FOR EACH CLASS OF PLANT WARRANTY, SHALL TERMINATE AT ONE TIME.
- D. ALL PLANTS SHALL BE WARRANTED TO MEET ALL THE REQUIREMENTS FOR PLANT QUALITY AT INSTALLATION IN THIS SPECIFICATION. DEFECTIVE PLANTS SHALL BE DEFINED AS PLANTS NOT MEETING THESE REQUIREMENTS. THE OWNER'S REPRESENTATIVE SHALL MAKE THE FINAL DETERMINATION THAT PLANTS ARE DEFECTIVE.
- E. PLANTS DETERMINED TO BE DEFECTIVE SHALL BE REMOVED IMMEDIATELY UPON NOTIFICATION BY THE OWNER'S REPRESENTATIVE AND REPLACED WITHOUT COST TO THE OWNER, AS SOON AS WEATHER CONDITIONS PERMIT AND WITHIN THE SPECIFIED PLANTING PERIOD.
- F. ANY WORK REQUIRED BY THIS SPECIFICATION OR THE OWNER'S REPRESENTATIVE DURING THE PROGRESS OF THE WORK, TO CORRECT PLANT DEFECTS INCLUDING THE REMOVAL OF ROOTS OR BRANCHES, TO OBSERVE FOR OR CORRECT ROOT DEFECTS SHALL NOT BE CONSIDERED AS GROUNDS TO VOID ANY CONDITIONS OF THE

- WARRANTY. IN THE EVENT THAT THE CONTRACTOR DECIDES THAT SUCH REMEDIATION WORK MAY COMPROMISE THE FUTURE HEALTH OF THE PLANT, THE PLANT OR PLANTS IN QUESTION SHALL BE REJECTED AND REPLACED WITH PLANTS THAT DO NOT CONTAIN DEFECTS THAT REQUIRE REMEDIATION OR CORRECTION.
- G. THE CONTRACTOR IS EXEMPT FROM REPLACING PLANTS, AFTER SUBSTANTIAL COMPLETION ACCEPTANCE AND DURING THE WARRANTY PERIOD, THAT ARE REMOVED BY OTHERS, LOST OR DAMAGED DUE TO OCCUPANCY OF PROJECT, LOST OR DAMAGED BY A THIRD PARTY, VANDALISM, OR ANY NATURAL DISASTERS.
- H. REPLACEMENTS SHALL CLOSELY MATCH ADJACENT SPECIMENS OF THE SAME SPECIES. REPLACEMENTS SHALL BE SUBJECT TO ALL REQUIREMENTS STATED IN THIS SPECIFICATION. MAKE ALL NECESSARY REPAIRS DUE TO PLANT REPLACEMENTS. SUCH REPAIRS SHALL BE DONE AT NO EXTRA COST TO THE OWNER.
- I. THE WARRANTY OF ALL REPLACEMENT PLANTS SHALL EXTEND FOR AN ADDITIONAL ONE-YEAR PERIOD FROM THE DATE OF THEIR ACCEPTANCE AFTER REPLACEMENT. IN THE EVENT THAT A REPLACEMENT PLANT IS NOT ACCEPTABLE DURING OR AT THE END OF THE SAID EXTENDED WARRANTY PERIOD, THE OWNER'S REPRESENTATIVE MAY EJECT ONE MORE REPLACEMENT ITEMS OR CREDIT FOR EACH ITEM. THESE TERTIARY REPLACEMENT ITEMS ARE NOT PROTECTED UNDER A WARRANTY PERIOD.
- J. DURING AND BY THE END OF THE WARRANTY PERIOD, REMOVE ALL ABOVE GROUND TREE ASSESSMENTS PRESENT (IE: TREE WRAP, TIES, AND GUYING) UNLESS AGREED TO BY THE OWNER'S REPRESENTATIVE TO REMAIN IN PLACE. ALL TREES THAT DO NOT HAVE SUFFICIENT CALIPER TO REMAIN UPRIGHT, OR THOSE REQUIRING ADDITIONAL ANCHORAGE IN WINDY LOCATIONS, SHALL BE STAKED OR REMAIN STAKED, IF REQUIRED BY THE OWNER'S REPRESENTATIVE.
- K. END OF WARRANTY FINAL ACCEPTANCE - ACCEPTANCE OF PLANTS AT THE END OF THE WARRANTY PERIOD.
  1. AT THE END OF THE WARRANTY PERIOD, THE OWNER'S REPRESENTATIVE SHALL OBSERVE ALL WARRANTED WORK, UPON WRITTEN REQUEST OF THE CONTRACTOR. THE REQUEST SHALL BE RECEIVED AT LEAST TEN CALENDAR DAYS BEFORE THE ANTICIPATED DATE FOR FINAL OBSERVATION.
  2. END OF WARRANTY FINAL ACCEPTANCE WILL BE GIVEN ONLY WHEN ALL THE REQUIREMENTS OF THE WORK UNDER THIS SPECIFICATION AND IN SPECIFICATION SECTION IRRIGATION HAVE BEEN MET.

#### 1.15 SELECTION AND OBSERVATION OF PLANTS

- A. THE OWNER'S REPRESENTATIVE MAY REVIEW ALL PLANTS SUBJECT TO APPROVAL OF SIZE, HEALTH, QUALITY, CHARACTER, ETC. REVIEW OR APPROVAL OF ANY PLANT DURING THE PROCESS OF SELECTION, DELIVERY, INSTALLATION AND ESTABLISHMENT PERIOD SHALL NOT PREVENT THAT PLANT FROM LATER REJECTION IN THE EVENT THAT THE PLANT QUALITY CHANGES OR PREVIOUSLY EXISTING DEFECTS BECOME APPARENT THAT WERE NOT OBSERVED.
- B. PLANT SELECTION: THE OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO SELECT AND OBSERVE ALL PLANTS AT THE NURSERY PRIOR TO DELIVERY AND TO REJECT PLANTS THAT DO NOT MEET SPECIFICATIONS AS SET FORTH IN THIS SPECIFICATION. IF A PARTICULAR DEFECT OR SUBSTANDARD ELEMENT CAN BE CORRECTED AT THE NURSERY, AS DETERMINED BY THE OWNER'S REPRESENTATIVE, THE AGREED UPON REMEDY MAY BE APPLIED BY THE NURSERY OR THE CONTRACTOR PROVIDED THAT THE CORRECTION ALLOWS THE PLANT TO MEET THE REQUIREMENTS SET FORTH IN THIS SPECIFICATION. ANY WORK TO CORRECT PLANT DEFECTS SHALL BE AT THE CONTRACTOR'S EXPENSE.
- C. THE OWNER'S REPRESENTATIVE MAY MAKE INVASIVE OBSERVATION OF THE TREE'S ROOT SYSTEM IN THE AREA OF THE ROOT COLLAR AND THE TOP OF THE ROOT BALL IN GENERAL IN ORDER TO DETERMINE THAT THE TREE MEETS THE QUALITY REQUIREMENTS FOR DEPTH OF THE ROOT COLLAR AND PRESENCE OF ROOTS ABOVE THE ROOT COLLAR. SUCH OBSERVATIONS WILL NOT HARM THE PLANT.
- D. CORRECTIONS ARE TO BE UNDERTAKEN AT THE NURSERY PRIOR TO SHIPPING.
- E. THE CONTRACTOR SHALL BEAR ALL COST RELATED TO PLANT CORRECTIONS.
- F. ALL PLANTS THAT ARE REJECTED SHALL BE IMMEDIATELY REMOVED FROM THE SITE AND ACCEPTABLE REPLACEMENT PLANTS PROVIDED AT NO COST TO THE OWNER.
- G. SUBMIT TO THE OWNER'S REPRESENTATIVE, FOR APPROVAL, PLANT SOURCES INCLUDING THE NAMES AND LOCATIONS OF NURSERIES PROPOSED AS SOURCES OF ACCEPTABLE PLANTS, AND A LIST OF THE PLANTS THEY WILL PROVIDE. THE PLANT LIST SHALL INCLUDE THE BOTANICAL AND COMMON NAME AND THE SIZE AT THE TIME OF SELECTION. OBSERVE ALL NURSERY MATERIALS TO DETERMINE THAT THE MATERIALS MEET THE REQUIREMENTS OF THIS SECTION.
- H. TREES SHALL BE PURCHASED FROM THE GROWING NURSERY. RE-WHOLESALE PLANT SUPPLIERS SHALL NOT BE USED AS SOURCES UNLESS THE CONTRACTOR CAN CERTIFY THAT THE REQUIRED TREES ARE NOT DIRECTLY AVAILABLE FROM A GROWING NURSERY. WHEN RE-WHOLESALE SUPPLIERS ARE UTILIZED, THE CONTRACTOR SHALL SUBMIT THE NAME AND LOCATION OF THE GROWING NURSERY FROM WHERE THE TREES WERE OBTAINED BY THE RE-WHOLESALE SELLER. THE RE-WHOLESALE NURSERY SHALL BE RESPONSIBLE FOR ANY REQUIRED PLANT QUALITY CERTIFICATIONS.
- I. THE CONTRACTOR SHALL REQUIRE THE GROWER OR RE-WHOLESALE SUPPLIER TO PERMIT THE OWNER'S REPRESENTATIVE TO OBSERVE THE ROOT SYSTEM OF ALL PLANTS AT THE NURSERY OR JOB SITE PRIOR TO PLANTING INCLUDING RANDOM REMOVAL OF SOIL OR SUBSTRATE AROUND THE BASE OF THE PLANT. OBSERVATION MAY BE AS FREQUENT AND AS EXTENSIVE AS NEEDED TO VERIFY THAT THE PLANTS MEET THE REQUIREMENTS OF THE SPECIFICATIONS AND CONFORM TO REQUIREMENTS.
- J. EACH TREE SHALL HAVE A NUMBERED SEAL APPLIED BY THE CONTRACTOR. THE SEAL SHALL BE PLACED ON A LATERAL BRANCH ON THE NORTH SIDE OF THE TREE. THE SEAL SHALL BE A TAMPER PROOF PLASTIC SEAL BEARING THE CONTRACTOR'S NAME AND A UNIQUE SEVEN-DIGIT NUMBER EMBOSSED ON THE SEAL.
  1. DO NOT PLACE SEALS ON BRANCHES THAT ARE SO LARGE THAT THERE IS NOT SUFFICIENT ROOM FOR THE BRANCH GROWTH OVER THE PERIOD OF THE WARRANTY.
- K. THE OWNER'S REPRESENTATIVE MAY CHOOSE TO ATTACH THEIR SEAL TO EACH PLANT, OR A REPRESENTATIVE SAMPLE VIEWING AND/OR SEALING OF PLANTS BY THE OWNER'S REPRESENTATIVE AT THE NURSERY DOES NOT PRECLUDE THE OWNER'S REPRESENTATIVE'S RIGHT TO REJECT MATERIAL WHILE ON SITE. THE CONTRACTOR IS RESPONSIBLE FOR PAYING ANY UP CHARGE FOR THE OWNER'S REPRESENTATIVE TO ATTACH THEIR SEAL TO SPECIFIC PLANTS.
- L. WHERE REQUESTED BY THE OWNER'S REPRESENTATIVE, SUBMIT PHOTOGRAPHS OF PLANTS OR REPRESENTATIVE SAMPLES OF PLANTS, PHOTOGRAPHS SHALL BE LEGIBLE AND CLEARLY DEPICT THE PLANT SPECIMEN. EACH SUBMITTED IMAGE SHALL CONTAIN A HEIGHT REFERENCE, SUCH AS A MEASURING STICK. THE APPROVAL OF PLANTS BY THE OWNER'S REPRESENTATIVE VIA PHOTOGRAPH DOES NOT PRECLUDE THE OWNER'S REPRESENTATIVE'S RIGHT TO REJECT MATERIAL WHILE ON SITE.

#### 1.16 PLANT SUBSTITUTIONS FOR PLANTS NOT AVAILABLE

- A. SUBMIT ALL REQUESTS FOR SUBSTITUTIONS OF PLANT SPECIES, OR SIZE TO THE OWNER'S REPRESENTATIVE, FOR APPROVAL. PRIOR TO PURCHASING THE PROPOSED SUBSTITUTION, REQUEST FOR SUBSTITUTION SHALL BE ACCOMPANIED WITH A LIST OF NURSERIES CONTACTED IN THE SEARCH FOR THE REQUIRED PLANT AND A RECORD OF OTHER ATTEMPTS TO LOCATE THE REQUIRED MATERIAL. REQUESTS SHALL ALSO INCLUDE SOURCES OF PLANTS FOUND THAT MAY BE OF A SMALLER OR LARGER SIZE, OR A DIFFERENT SHAPE OR HABIT THAN SPECIFIED, OR PLANTS OF THE SAME GENUS AND SPECIES, BUT DIFFERENT CULTIVAR ORIGIN, OR WHICH MAY OTHERWISE NOT MEET THE REQUIREMENTS OF THE SPECIFICATIONS, BUT WHICH MAY BE AVAILABLE FOR SUBSTITUTION.

#### 1.17 SITE CONDITIONS

- A. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE AWARE OF ALL SURFACE AND SUB-SURFACE CONDITIONS, AND TO NOTIFY THE OWNER'S REPRESENTATIVE, IN WRITING, OF ANY CIRCUMSTANCES THAT WOULD NEGATIVELY IMPACT THE HEALTH OF PLANTINGS. DO NOT PROCEED WITH WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
  1. SHOULD SUBSURFACE DRAINAGE OR SOIL CONDITIONS BE ENCOUNTERED WHICH WOULD BE DETRIMENTAL TO GROWTH OR SURVIVAL OF PLANT MATERIAL, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE IN WRITING, STATING THE CONDITIONS AND SUBMIT A PROPOSAL COVERING COST OF CORRECTIONS. IF THE CONTRACTOR FAILS TO NOTIFY THE OWNER'S REPRESENTATIVE OF SUCH CONDITIONS, HE/SHE SHALL REMAIN RESPONSIBLE FOR PLANT MATERIAL UNDER THE WARRANTY CLAUSE OF THE SPECIFICATIONS.
- B. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE FAMILIAR WITH THE LOCAL GROWING CONDITIONS, AND IF ANY SPECIFIED PLANTS WILL BE IN CONFLICT WITH THESE CONDITIONS, REPORT ANY POTENTIAL CONFLICTS, IN WRITING, TO THE OWNER'S REPRESENTATIVE.
- C. THIS SPECIFICATION REQUIRES THAT ALL PLANTING SOIL AND IRRIGATION (IF APPLICABLE) WORK BE COMPLETED AND ACCEPTED PRIOR TO THE INSTALLATION OF ANY PLANTS.
  1. PLANTING OPERATIONS SHALL NOT BEGIN UNTIL SUCH TIME THAT THE IRRIGATION SYSTEM IS COMPLETELY OPERATIONAL FOR THE AREA(S) TO BE PLANTED, AND THE IRRIGATION SYSTEM FOR THAT AREA HAS BEEN PRELIMINARILY OBSERVED AND APPROVED BY THE OWNER'S REPRESENTATIVE.
- D. ACTUAL PLANTING SHALL BE PERFORMED DURING THOSE PERIODS WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE IN ACCORDANCE WITH LOCALLY ACCEPTED HORTICULTURAL PRACTICES.
  1. DO NOT INSTALL PLANTS INTO SATURATED OR FROZEN SOILS. DO NOT INSTALL PLANTS DURING INCLEMENT WEATHER, SUCH AS RAIN OR SNOW OR DURING EXTREMELY HOT, COLD OR WINDY CONDITIONS.

#### 1.18 PLANTING AROUND UTILITIES

- A. CONTRACTOR SHALL CAREFULLY EXAMINE THE CIVIL, RECORD, AND SURVEY DRAWINGS TO BECOME FAMILIAR WITH THE EXISTING UNDERGROUND CONDITIONS BEFORE DIGGING.
- B. DETERMINE LOCATION OF UNDERGROUND UTILITIES AND PERFORMANCE IN A MANNER THAT WILL AVOID POSSIBLE DAMAGE. HAND EXCAVATE, AS REQUIRED, MAINTAIN FORD STAKES SET BY OTHERS UNTIL PARTIES CONCERNED MUTUALLY AGREE UPON REMOVAL.
- C. NOTIFICATION OF LOCAL UTILITY LOCATOR SERVICE (AS NOTED ON DRAWINGS) IS REQUIRED FOR ALL PLANTING AREAS THE CONTRACTOR IS RESPONSIBLE FOR KNOWING THE LOCATION AND AVOIDING UTILITIES THAT ARE NOT COVERED BY THE LOCAL UTILITY LOCATOR SERVICE.

### PART 2 PRODUCTS

#### 2.1 PLANTS: GENERAL

- A. STANDARDS AND MEASUREMENT: PROVIDE PLANTS OF QUANTITY, SIZE, GENUS, SPECIES, AND VARIETY OR CULTIVARS AS SHOWN AND SCHEDULED IN CONTRACT DOCUMENTS.

- 1. ALL PLANTS, INCLUDING THE ROOT BALL DIMENSIONS OR CONTAINER SIZE TO TRUNK CALIPER RATIO, SHALL CONFORM TO ANSI Z60.1 "AMERICAN STANDARD FOR NURSERY STOCK" LATEST EDITION, UNLESS MODIFIED BY PROVISIONS IN THIS SPECIFICATION. WHEN THERE IS A CONFLICT BETWEEN THIS SPECIFICATION AND ANSI Z60.1, THIS SPECIFICATION SECTION SHALL BE CONSIDERED CORRECT.
- 2. PLANTS LARGER THAN SPECIFIED MAY BE USED IF ACCEPTABLE TO THE OWNER'S REPRESENTATIVE. USE OF SUCH PLANTS SHALL NOT INCREASE THE CONTRACT PRICE. IF LARGER PLANTS ARE ACCEPTED THE ROOT BALL SHALL BE IN ACCORDANCE WITH ANSI Z60.1. LARGER PLANTS MAY NOT BE ACCEPTABLE IF THE RESULTING ROOT BALL CANNOT BE FIT INTO THE REQUIRED PLANTING SPACE.
- 3. IF A RANGE OF SIZE IS GIVEN, NO PLANT SHALL BE LESS THAN THE MINIMUM SIZE AND NOT LESS THAN 50 PERCENT OF THE PLANTS SHALL BE AS LARGE AS THE MAXIMUM SIZE SPECIFIED. THE MEASUREMENTS SPECIFIED ARE THE MINIMUM AND MAXIMUM SIZE ACCEPTABLE AND ARE THE MEASUREMENTS AFTER PRUNING, WHERE PRUNING IS REQUIRED.
- B. PROPER IDENTIFICATION: ALL TREES SHALL BE TRUE TO NAME AS ORDERED OR SHOWN ON PLANTING PLANS AND SHALL BE LABELED INDIVIDUALLY OR IN GROUPS BY GENUS, SPECIES, VARIETY AND CULTIVAR.
- C. COMPLIANCE: ALL TREES SHALL COMPLY WITH FEDERAL AND STATE LAWS AND REGULATIONS REQUIRING OBSERVATION FOR PLANT DISEASE, PESTS, AND WEEDS. OBSERVATION CERTIFICATES REQUIRED BY LAW SHALL ACCOMPANY EACH SHIPMENT OF PLANTS.
- D. CLEARANCE FROM THE LOCAL COUNTY AGRICULTURAL COMMISSIONER, IF REQUIRED, SHALL BE OBTAINED BEFORE PLANTING TREES ORIGINATING OUTSIDE THE COUNTY IN WHICH THEY ARE TO BE PLANTED.
- D. PLANT QUALITY:
  1. GENERAL: PROVIDE HEALTHY STOCK, GROWN IN A NURSERY AND REASONABLY FREE OF DIE-BACK, DISEASE, INSECTS, EGGS, BORES, AND LARVAE. AT THE TIME OF PLANTING ALL PLANTS SHALL HAVE A ROOT SYSTEM, STEM, AND BRANCH FORM THAT WILL NOT RESTRICT NORMAL GROWTH, STABILITY AND HEALTH FOR THE EXPECTED LIFE OF THE PLANT.
  2. PLANT QUALITY ABOVE THE SOIL LINE:
    - a. PLANTS SHALL BE HEALTHY WITH THE COLOR, SHAPE, SIZE AND DISTRIBUTION OF TRUNK, STEMS, BRANCHES, BUDS AND LEAVES NORMAL TO THE PLANT TYPE SPECIFIED. TREE QUALITY ABOVE THE SOIL LINE SHALL COMPLY WITH THE PROJECT CROWN ACCEPTANCE DETAILS AND THE FOLLOWING:
      - 1.) CROWN: THE FORM AND DENSITY OF THE CROWN SHALL BE TYPICAL FOR A YOUNG SPECIMEN OF THE SPECIES OR CULTIVAR PRUNED TO A CENTRAL AND DOMINANT LEADER.
        - A.) CROWN SPECIFICATIONS DO NOT APPLY TO PLANTS THAT HAVE BEEN SPECIFICALLY TRAINED IN THE NURSERY AS TOPIARY, ESPALIER, MULTI-STEM, CLUMP, OR UNIQUE SELECTIONS SUCH AS CONTORTED OR WEEPING CULTIVARS.
      - 2.) LEAVES: THE SIZE, COLOR, AND APPEARANCE OF LEAVES SHALL BE TYPICAL FOR THE TIME OF YEAR AND STAGE OF GROWTH OF THE SPECIES OR CULTIVAR. TREES SHALL NOT SHOW SIGNS OF PROLONGED MOISTURE STRESS OR OVER WATERING AS INDICATED BY WILTED, SHRIVELED, OR DEAD LEAVES.
      - 3.) BRANCHES: SHOOT GROWTH (LENGTH AND DIAMETER) THROUGHOUT THE CROWN SHOULD BE APPROPRIATE FOR THE AGE AND SIZE OF THE SPECIES OR CULTIVAR. TREES SHALL NOT HAVE DEAD, DISEASED, BROKEN, DISTORTED, OR OTHERWISE INJURED BRANCHES.
        - A.) MAIN BRANCHES SHALL BE DISTRIBUTED ALONG THE CENTRAL LEADER NOT CLUSTERED TOGETHER. THEY SHALL FORM A BALANCED CROWN APPROPRIATE FOR THE CULTIVAR/SPECIES.
        - B.) BRANCH DIAMETER SHALL BE NO LARGER THAN TWO-THIRDS (ONE-HALF IS PREFERRED) THE DIAMETER OF THE CENTRAL LEADER MEASURED 1 INCH ABOVE THE BRANCH UNION.
        - C.) THE ATTACHMENT OF THE LARGEST BRANCHES (SCAFFOLD BRANCHES) SHALL BE FREE OF INCLUDED BARK.
      - 4.) TRUNK: THE TREE TRUNK SHALL BE RELATIVELY STRAIGHT, VERTICAL, AND FREE OF WOUNDS THAT PENETRATE TO THE WOOD (PROPERLY MADE PRUNING CUTS, CLOSED OR NOT, ARE ACCEPTABLE AND ARE NOT CONSIDERED WOUNDS), SUNBURNED AREAS, CONKS (FUNGAL FRUITING BODIES), WOOD CRACKS, SAP LEAKAGE, SIGNS OF BORING INSECTS, GALLS, CANKERS, GIRDLING TIES, OR LESIONS (MECHANICAL INJURY).
      - 5.) TEMPORARY BRANCHES, UNLESS OTHERWISE SPECIFIED, CAN BE PRESENT ALONG THE LOWER TRUNK BELOW THE LOWEST MAIN (SCAFFOLD) BRANCH, PARTICULARLY FOR TREES LESS THAN 1 INCH IN CALIPER. THESE BRANCHES SHOULD BE NO GREATER THAN 3/8-INCH DIAMETER. CLEAR TRUNK SHOULD BE NO MORE THAN 40% OF THE TOTAL HEIGHT OF THE TREE, UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS (WHICHEVER IS GREATER).
    - b. TREES SHALL HAVE ONE CENTRAL LEADER AS NOTED IN PLANT LIST. IF THE LEADER WAS HEADED, A NEW LEADER (WITH A LIVE TERMINAL BUD) AT LEAST ONE-HALF THE DIAMETER OF THE PRUNING CUT SHALL BE PRESENT.
      - 1.) ALL TREES ARE ASSUMED TO HAVE ONE CENTRAL LEADER TREES UNLESS A DIFFERENT FORM IS SPECIFIED IN THE PLANT LIST OR DRAWINGS.
    - c. ALL GRAFT UNIONS, WHERE APPLICABLE, SHALL BE COMPLETELY CLOSED WITHOUT VISIBLE SIGN OF GRAFT REJECTION. ALL GRAFTS SHALL BE VISIBLE ABOVE THE SOIL LINE.
    - d. TRUNK CALIPER AND TAPER SHALL BE SUFFICIENT SO THAT THE LOWER FIVE FEET OF THE TRUNK REMAINS VERTICAL WITHOUT A STAKE. AUXILIARY STAKE MAY BE USED TO MAINTAIN A STRAIGHT LEADER IN THE UPPER HALF OF THE TREE.
  3. PLANT QUALITY AT OR BELOW THE SOIL LINE:
    - 1.) THE ROOTS SHALL BE REASONABLY FREE OF SCRAPES, BROKEN OR SPLIT WOOD.
    - 2.) THE ROOT SYSTEM SHALL BE REASONABLY FREE OF INJURY FROM BIOTIC (E.G., INSECTS AND PATHOGENS) AND ABIOTIC (E.G., HERBICIDE TOXICITY AND SALT INJURY) AGENTS. WOUNDS RESULTING FROM ROOT PRUNING USED TO PRODUCE A HIGH QUALITY ROOT SYSTEM ARE NOT CONSIDERED INJURIES.
    - 3.) A MINIMUM OF THREE STRUCTURAL ROOTS REASONABLY DISTRIBUTED AROUND THE TRUNK (NOT CLUSTERED ON ONE SIDE) SHALL BE FOUND IN EACH PLANT. ROOT DISTRIBUTION SHALL BE UNIFORM THROUGHOUT THE ROOT BALL, AND GROWTH SHALL BE APPROPRIATE FOR THE SPECIES.
      - A.) PLANTS WITH STRUCTURAL ROOTS ON ONLY ONE SIDE OF THE TRUNK (J ROOTS) SHALL BE REJECTED.
    - 4.) THE ROOT COLLAR SHALL BE WITHIN THE UPPER 2 INCHES OF THE SUBSTRATE/SOIL. TWO STRUCTURAL ROOTS SHALL REACH THE SIDE OF THE ROOT BALL NEAR THE TOP SURFACE OF THE ROOT BALL. THE GROWER MAY REQUEST A MODIFICATION TO THIS REQUIREMENT FOR SPECIES WITH ROOTS THAT RAPIDLY DEVELOP PLANTS OF THE SAME GENUS AND SPECIES, BUT DIFFERENT CULTIVAR ORIGIN, OR WHICH MAY OTHERWISE NOT MEET THE REQUIREMENTS OF THE SPECIFICATIONS, BUT WHICH MAY BE AVAILABLE FOR SUBSTITUTION.
    - 5.) THE ROOT SYSTEM SHALL BE REASONABLY FREE OF STEM GIRDLING ROOTS OVER THE ROOT COLLAR OR KINKED ROOTS FROM NURSERY PRODUCTION PRACTICES.
  - 6.) AT TIME OF OBSERVATIONS AND DELIVERY, THE ROOT BALL SHALL BE MOIST THROUGHOUT. ROOTS SHALL NOT SHOW SIGNS OF EXCESS SOIL MOISTURE CONDITIONS AS INDICATED BY STUNTED, DISCOLORED, DISTORTED, OR DEAD ROOTS.
- 2.2 ROOT BALL PACKAGE OPTIONS: THE FOLLOWING ROOT BALL PACKAGES ARE PERMITTED. SPECIFIC ROOT BALL PACKAGES SHALL BE REQUIRED WHERE INDICATED ON THE PLANT LIST OR IN THIS SPECIFICATION. ANY TYPE OF ROOT BALL PACKAGES THAT IS NOT SPECIFICALLY DEFINED IN THIS SPECIFICATION SHALL NOT BE PERMITTED.
  - A. BALLED AND BURLAPPED PLANTS
    1. ALL BALLED AND BURLAPPED PLANTS SHALL BE FIELD GROWN, AND THE ROOT BALL PACKAGED IN A BURLAP AND TWINE AND/OR BURLAP AND WIRE BASKET PACKAGE.
  2. PLANTS SHALL BE HARVESTED WITH THE FOLLOWING MODIFICATIONS TO STANDARD NURSERY PRACTICES.
    - a. PRIOR TO DIGGING ANY TREE THAT FAILS TO MEET THE REQUIREMENT FOR MAXIMUM SOIL AND ROOTS ABOVE THE ROOT COLLAR, CAREFULLY REMOVE THE SOIL FROM THE TOP OF THE ROOT BALL OF EACH PLANT, USING HAND TOOLS. WATER OR AN AIR SPADE, TO LOCATE THE ROOT COLLAR AND ATTAIN THE SOIL DEPTH OVER THE STRUCTURAL ROOTS REQUIREMENTS. REMOVE ALL STEM GIRDLING ROOTS ABOVE THE ROOT COLLAR. CARE MUST BE EXERCISED NOT TO DAMAGE THE SURFACE OF THE ROOT COLLAR AND THE TOP OF THE STRUCTURAL ROOTS.
    - b. TREES SHALL BE DUG FOR A MINIMUM OF 4 WEEKS AND A MAXIMUM OF 52 WEEKS PRIOR TO SHIPPING. TREES DUG 4 TO 52 WEEKS PRIOR TO SHIPPING ARE DEFINED AS HARDENED-OFF. DIGGING IS DEFINED AS CUTTING ALL ROOTS AND LIFTING THE TREE OUT OF THE GROUND AND EITHER MOVING IT TO A NEW LOCATION IN THE NURSERY OR PLACING IT BACK INTO THE SAME HOLE. TREES THAT ARE STORED OUT OF THE GROUND SHALL BE PLACED IN A HOLDING AREA PROTECTED FROM EXTREMES OF WIND AND SUN WITH THE ROOT BALL PROTECTED BY COVERING WITH MULCH OR BRAWL AND IRRIGATED SUFFICIENTLY TO KEEP MOISTURE IN THE ROOT BALL ABOVE WILT POINT AND BELOW SATURATION.
    - c. TWINE AND BURLAP USED FOR WRAPPING THE ROOT BALL PACKAGE SHALL BE NATURAL, BIODEGRADABLE MATERIAL. IF THE BURLAP DECOMPOSES AFTER DIGGING THE TREE THEN THE ROOT BALL SHALL BE RE-WRAPPED PRIOR TO SHIPPING IF ROOTS HAVE NOT YET GROWN TO KEEP ROOT BALL INTACT DURING SHIPPING.
  - B. CONTAINER (INCLUDING ABOVE-GROUND FABRIC CONTAINERS AND BOXES) PLANTS
    1. CONTAINER PLANTS MAY BE PERMITTED ONLY WHEN INDICATED ON THE DRAWING, IN THIS SPECIFICATION, OR APPROVED BY THE OWNER'S

# Exhibit C - Detail Landscape Plan

## 2.4 PLANTING SOIL

- A. PLANTING SOIL AS USED IN THIS SPECIFICATION MEANS THE SOIL AT THE PLANTING SITE, OR IMPORTED AS MODIFIED AND DEFINED IN SPECIFICATION SECTION PLANTING SOIL. IF THERE IS NO PLANTING SOIL SPECIFICATION, THE TERM PLANTING SOIL SHALL MEAN THE SOIL AT THE PLANTING SITE WITHIN THE PLANTING HOLE.
- B. PLANTING SOIL SHALL BE 2" LAYER OF IMPORTED MIXED SOIL WITH COMPOST FROM LIVING EARTH OR APPROVED EQUAL.
- CONTACT: PAUL TOMASO, 214.533.6296

## 2.5 MULCH

- A. MULCH SHALL BE COARSE, GROUND, FROM HARDWOOD TREES AND WOODY BRUSH SOURCES. THE SIZE RANGE SHALL BE A MINIMUM (LESS THAN 25% OR LESS OF VOLUME) FINE PARTICLES 3/8 INCH OR LESS IN SIZE, AND A MAXIMUM SIZE OF INDIVIDUAL PIECES (LARGEST 20% OR LESS OF VOLUME) SHALL BE APPROXIMATELY 1 TO 1-1/2 INCH IN DIAMETER AND MAXIMUM LENGTH APPROXIMATELY 4 TO 8". PIECES LARGER THAN 8 INCH LONG THAT ARE VISIBLE ON THE SURFACE OF THE MULCH AFTER INSTALLATION SHALL BE REMOVED.

- IT IS UNDERSTOOD THAT MULCH QUALITY WILL VARY SIGNIFICANTLY FROM SUPPLIER TO SUPPLIER AND REGION TO REGION. THE ABOVE REQUIREMENTS MAY BE MODIFIED TO CONFORM TO THE SOURCE MATERIAL FROM A LOCALLY RELIABLE SUPPLIER AS APPROVED BY THE OWNER'S REPRESENTATIVE.

- B. SUBMIT MANUFACTURER'S PRODUCT SPECIFICATION DATA SHEET AND A ONE GALLON SAMPLE FOR APPROVAL.

## 2.6 TREE STAKING AND GUYING MATERIAL

- A. TREE STAKING SHALL BE PER PLANTING DETAILS.
- B. ARBOR STAKE OR APPROVED EQUAL.

- MANUFACTURER: WWW.ARBORSTAKES.COM

- C. SUBMIT MANUFACTURER'S PRODUCT DATA FOR APPROVAL

## 2.7 CHEMICAL OR BIOLOGICAL ADDITIVES

- A. PER SOILS TEST RESULTS.

## 2.8 COMPOST

- A. LIVING EARTH COMPOST OR APPROVED EQUAL

- MANUFACTURER: LIVING EARTH; 972-869-4332

## 2.10 PLANTER POTTING SOIL

- A. LIVING EARTH CONTAINER POTTING SOIL OR APPROVED EQUAL

- MANUFACTURER: LIVING EARTH; 972-869-4332

## PART 3 EXECUTION

### 3.1 SITE EXAMINATION

- A. EXAMINE THE SURFACE GRADES AND SOIL CONDITIONS TO CONFIRM THAT THE REQUIREMENTS OF THE SPECIFICATION SECTION - PLANTING SOIL - AND THE SOIL AND DRAINAGE MODIFICATIONS INDICATED ON THE PLANTING SOIL PLAN AND DETAILS (IF APPLICABLE) HAVE BEEN COMPLETED. NOTIFY THE OWNER'S REPRESENTATIVE IN WRITING OF ANY UNSATISFACTORY CONDITIONS.

### 3.2 DELIVERY, STORAGE AND HANDLING

- A. PROTECT MATERIALS FROM DETERIORATION DURING DELIVERY AND STORAGE. ADEQUATELY PROTECT PLANTS FROM DRYING OUT. EXPOSURE OF ROOTS TO SUN, WIND OR EXTREMES OF HEAT AND COLD TEMPERATURES. IF PLANTING IS DELAYED MORE THAN 24 HOURS AFTER DELIVERY, SET PLANTS IN A LOCATION PROTECTED FROM SUN AND WIND. PROVIDE ADEQUATE WATER TO THE ROOT BALL PACKAGE DURING THE SHIPPING AND STORAGE PERIOD.

- ALL PLANT MATERIALS MUST BE AVAILABLE FOR OBSERVATION PRIOR TO PLANTING.
- USING A SOIL MOISTURE METER, PERIODICALLY CHECK THE SOIL MOISTURE IN THE ROOT BALLS OF ALL PLANTS TO ASSURE THAT THE PLANTS ARE BEING ADEQUATELY WATERED. VOLUMETRIC SOIL MOISTURE SHALL BE MAINTAINED ABOVE WILTING POINT AND BELOW FIELD CAPACITY FOR THE ROOT BALL SUBSTRATE OR SOIL.

- B. DO NOT DELIVER MORE PLANTS TO THE SITE THAN THERE IS SPACE WITH ADEQUATE STORAGE CONDITIONS. PROVIDE A SUITABLE REMOTE STAGING AREA FOR PLANTS AND OTHER SUPPLIES.

- THE OWNER'S REPRESENTATIVE OR CONTRACTOR SHALL APPROVE THE DURATION, METHOD AND LOCATION OF STORAGE OF PLANTS.

- C. PROVIDE PROTECTIVE COVERING OVER ALL PLANTS DURING TRANSPORTING.

### 3.3 PLANTING SEASON

- A. PLANTING SHALL ONLY BE PERFORMED WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE FOR PLANTING THE MATERIALS SPECIFIED IN ACCORDANCE WITH LOCALLY ACCEPTED PRACTICE BELOW UNLESS OTHERWISE APPROVED IN WRITING BY THE OWNER'S REPRESENTATIVE. IN THE EVENT THAT THE CONTRACTOR REQUEST PLANTING OUTSIDE THE DATES OF THE PLANTING SEASON, APPROVAL OF THE REQUEST DOES NOT CHANGE THE REQUIREMENTS OF THE WARRANTY.

### 3.4 ADVERSE WEATHER CONDITIONS

- A. NO PLANTING SHALL TAKE PLACE DURING EXTREMELY HOT, DRY, WINDY OR FREEZING WEATHER.

### 3.5 COORDINATION WITH PROJECT WORK

- A. THE CONTRACTOR SHALL COORDINATE WITH ALL OTHER WORK THAT MAY IMPACT THE COMPLETION OF THE WORK.

- B. PRIOR TO THE START OF WORK, PREPARE A DETAILED SCHEDULE OF THE WORK FOR COORDINATION WITH OTHER TRADES.

- C. COORDINATE THE RELOCATION OF ANY IRRIGATION LINES, HEADS OR THE CONDUITS OF OTHER UTILITY LINES THAT ARE IN CONFLICT WITH TREE LOCATIONS. ROOT BALLS SHALL NOT BE ALTERED TO FIT AROUND LINES. NOTIFY THE OWNER'S REPRESENTATIVE OF ANY CONFLICTS ENCOUNTERED.

### 3.6 LAYOUT AND PLANTING SEQUENCE

- A. RELATIVE POSITIONS OF ALL PLANTS AND TREES ARE SUBJECT TO APPROVAL OF THE OWNER'S REPRESENTATIVE.

- B. NOTIFY THE OWNER'S REPRESENTATIVE, ONE (1) WEEK PRIOR TO LAYOUT. LAYOUT ALL INDIVIDUAL TREE AND SHRUB LOCATIONS. PLACE PLANTS ABOVE SURFACE AT PLANTING LOCATION OR PLACE A LABELED STAKE AT PLANTING LOCATION. LAYOUT BED LINES WITH PAINT FOR THE OWNER'S REPRESENTATIVE'S APPROVAL. SECURE THE OWNER'S REPRESENTATIVE'S ACCEPTANCE BEFORE DIGGING AND START OF PLANTING WORK.

- C. WHEN APPLICABLE, PLANT TREES BEFORE OTHER PLANTS ARE INSTALLED.

- D. IT IS UNDERSTOOD THAT PLANTS ARE NOT PRECISE OBJECTS AND THAT MINOR ADJUSTMENTS IN THE LAYOUT WILL BE REQUIRED AS THE PLANTING PLAN IS CONSTRUCTED. THESE ADJUSTMENTS MAY NOT BE APPARENT UNTIL SOME OR ALL OF THE PLANTS ARE INSTALLED. MAKE ADJUSTMENTS AS REQUIRED BY THE OWNER'S REPRESENTATIVE INCLUDING RELOCATING PREVIOUSLY INSTALLED PLANTS.

### 3.7 SOIL PROTECTION DURING PLANT DELIVERY AND INSTALLATION

- A. PROTECT SOIL FROM COMPACTION DURING THE DELIVERY OF PLANTS TO THE PLANTING LOCATIONS, DIGGING OF PLANTING HOLES AND INSTALLING PLANTS.

- WHERE POSSIBLE DELIVER AND PLANT TREES THAT REQUIRE THE USE OF HEAVY MECHANIZED EQUIPMENT PRIOR TO FINAL SOIL PREPARATION AND TILLING. WHERE POSSIBLE, RESTRICT THE DRIVING LANES TO ONE AREA INSTEAD OF DRIVING OVER AND COMPACTING A LARGE AREA OF SOIL.
- TILL TO A DEPTH OF 6 INCHES. ALL SOIL THAT HAS BEEN DRIVEN OVER DURING THE INSTALLATION OF PLANTS.

### 3.8 SOIL MOISTURE

- A. VOLUMETRIC SOIL MOISTURE LEVEL, IN BOTH THE PLANTING SOIL AND THE ROOT BALLS OF ALL PLANTS, PRIOR TO, DURING AND AFTER PLANTING SHALL BE ABOVE PERMANENT WILTING POINT AND BELOW FIELD CAPACITY FOR EACH TYPE OF SOIL TEXTURE WITHIN THE FOLLOWING RANGES:

SOIL TYPE	PERMANENT WILTING POINT	FIELD CAPACITY
SAND, LOAMY SAND, SANDY LOAM	5 - 8%	12-18%
LOAM, SANDY CLAY, SANDY CLAY LOAM	14 - 25%	27-36%
CLAY LOAM, SILT LOAM	11 - 22%	31 - 36%
SILTY CLAY, SILTY CLAY LOAM	22 - 27%	38 - 41%

- VOLUMETRIC SOIL MOISTURE SHALL BE MEASURED WITH A DIGITAL MOISTURE METER. THE METER SHALL BE THE DIGITAL SOIL MOISTURE METER, DSM500 BY GENERAL SPECIALTY TOOLS AND INSTRUMENTS, OR APPROVED EQUIVALENT.

- B. THE CONTRACTOR SHALL CONFIRM THE SOIL MOISTURE LEVELS WITH A MOISTURE METER. IF THE MOISTURE IS TOO HIGH, SUSPEND PLANTING OPERATIONS UNTIL THE SOIL MOISTURE DRAINS TO BELOW FIELD CAPACITY.

### 3.9 INSTALLATION OF PLANTS - GENERAL

- A. OBSERVE EACH PLANT AFTER DELIVERY AND PRIOR TO INSTALLATION FOR DAMAGE OF OTHER CHARACTERISTICS THAT MAY CAUSE REJECTION OF THE PLANT. NOTIFY THE OWNER'S REPRESENTATIVE OF ANY CONDITION OBSERVED.

- B. NO MORE PLANTS SHALL BE DISTRIBUTED ABOUT THE PLANTING BED AREA THAN CAN BE PLANTED AND WATERED ON THE SAME DAY.

- C. THE ROOT SYSTEM OF EACH PLANT, REGARDLESS OF ROOT BALL PACKAGE TYPE, SHALL BE OBSERVED BY THE CONTRACTOR, AT THE TIME OF PLANTING TO CONFIRM THAT THE ROOTS MEET THE REQUIREMENTS FOR PLANT ROOT QUALITY IN PART 2 PRODUCTS: PLANTS GENERAL. PLANT QUALITY. THE CONTRACTOR SHALL UNDERTAKE AT THE TIME OF PLANTING, ALL MODIFICATIONS TO THE ROOT SYSTEM REQUIRED BY THE OWNER'S REPRESENTATIVE TO MEET THESE QUALITY STANDARDS.

- MODIFICATIONS, AT THE TIME OF PLANTING, TO MEET THE SPECIFICATIONS FOR THE DEPTH OF THE ROOT COLLAR AND REMOVAL OF STEM GIRDLING ROOTS AND CIRCLING ROOTS MAY MAKE THE PLANT UNSTABLE OR STRESS THE PLANT TO THE POINT THAT THE OWNER'S REPRESENTATIVE MAY CHOOSE TO REJECT THE PLANT RATHER THAN PERMITTING THE MODIFICATION.

- ANY MODIFICATIONS REQUIRED BY THE OWNER'S REPRESENTATIVE TO MAKE THE ROOT SYSTEM CONFORM TO THE PLANT QUALITY STANDARDS OUTLINED IN PART 2 PRODUCTS: PLANTS GENERAL: QUALITY, OR OTHER REQUIREMENTS RELATED TO THE PERMITTED ROOT BALL PACKAGE, SHALL NOT BE CONSIDERED AS GROUNDS TO MODIFY OR VOID THE PLANT WARRANTY.

- THE RESULTING ROOT BALL MAY NEED ADDITIONAL STAKING AND WATER AFTER PLANTING. THE OWNER'S REPRESENTATIVE MAY REJECT THE PLANT IF THE ROOT MODIFICATION PROCESS MAKES THE TREE UNSTABLE OR IF THE TREE IS NOT HEALTHY AT THE END OF THE WARRANTY PERIOD. SUCH PLANTS SHALL STILL BE COVERED UNDER THE WARRANTY

- THE CONTRACTOR REMAINS RESPONSIBLE TO CONFIRM THAT THE GROWER HAS MADE ALL REQUIRED ROOT MODIFICATIONS NOTED DURING ANY NURSERY OBSERVATIONS.

- D. CONTAINER AND BOXED ROOT BALL SHAVING (IF REQUIRED -SEE DRAWINGS FOR CONDITIONS); THE OUTER SURFACES OF ALL PLANTS IN CONTAINERS AND BOXES, INCLUDING THE TOP, SIDES AND BOTTOM OF THE ROOT BALL SHALL BE SHAVED TO REMOVE ALL CIRCLING, DESCENDING, AND MATTED ROOTS. SHAVING SHALL BE PERFORMED USING SAWS, KNIVES, SHARP SHOVELS OR OTHER SUITABLE EQUIPMENT THAT IS CAPABLE OF MAKING CLEAN CUTS TO THE ROOTS. SHAVING SHALL REMOVE A MINIMUM OF ONE INCH OF ROOT MAT OR UP TO 2 INCHES AS REQUIRED TO REMOVE ALL ROOT SEGMENTS THAT ARE NOT GROWING REASONABLY RADIAL TO THE TRUNK.

- E. EXPOSED STEM TISSUE AFTER MODIFICATION: THE REQUIRED ROOT BALL MODIFICATIONS MAY RESULT IN STEM TISSUE THAT HAS NOT FORMED TRUNK BARK BEING EXPOSED ABOVE THE SOIL LINE. IF SUCH CONDITION OCCURS, WRAP THE EXPOSED PORTION OF THE STEM IN A PROTECTIVE WRAPPING WITH A WHITE FILTER FABRIC. SECURE THE FABRIC WITH BIODEGRADABLE MASKING TAPE. DO NOT USE STRING, TWINE, GREEN NURSERY TIES OR ANY OTHER MATERIAL THAT MAY GIRDLE THE TRUNK IF NOT REMOVED.

- F. EXCAVATION OF THE PLANTING SPACE: USING HAND TOOLS OR TRACKED MINI-EXCAVATOR, EXCAVATE THE PLANTING HOLE INTO THE PLANTING SOIL TO THE DEPTH OF THE ROOT BALL MEASURED AFTER ANY ROOT BALL MODIFICATION TO CORRECT ROOT PROBLEMS, AND WIDE ENOUGH FOR WORKING ROOM AROUND THE ROOT BALL OR TO THE SIZE INDICATED ON THE DRAWING OR AS NOTED BELOW.

- FOR TREES AND SHRUBS PLANTED IN SOIL AREAS THAT ARE NOT TILLED OR OTHERWISE MODIFIED TO A DEPTH OF AT LEAST 12 INCHES OVER A DISTANCE OF MORE THAN 10 FEET RADIUS FROM EACH TREE, OR 5 FEET RADIUS FROM EACH SHRUB, THE SOIL AROUND THE ROOT BALL SHALL BE LOOSENEED AS DEFINED BELOW OR AS INDICATED ON THE DRAWINGS.
  - THE AREA OF LOOSENING SHALL BE A MINIMUM OF 3 TIMES THE DIAMETER OF THE ROOT BALL AT THE SURFACE SLOPING TO 2 TIMES THE DIAMETER OF THE ROOT BALL AT THE DEPTH OF THE ROOT BALL.
  - LOOSENING IS DEFINED AS DIGGING INTO THE SOIL AND TURNING THE SOIL TO REDUCE THE COMPACTION. THE SOIL DOES NOT HAVE TO BE REMOVED FROM THE HOLE. JUST DUG, LIFTED AND TURNED. LIFTING AND TURNING MAY BE ACCOMPLISHED WITH A TRACKED MINI EXCAVATOR, OR HAND SHOVELS.

- IF AN AUGER IS USED TO DIG THE INITIAL PLANTING HOLE, THE SOIL AROUND THE AUGER HOLE SHALL BE LOOSENEED AS DEFINED ABOVE FOR TREES AND SHRUBS PLANTED IN SOIL AREAS THAT ARE NOT TILLED OR OTHERWISE MODIFIED.

- THE MEASURING POINT FOR ROOT BALL DEPTH SHALL BE THE AVERAGE HEIGHT OF THE OUTER EDGE OF THE ROOT BALL AFTER ANY REQUIRED ROOT BALL MODIFICATION.

- IF MOTORIZED EQUIPMENT IS USED TO DELIVER PLANTS TO THE PLANTING AREA OVER EXPOSED PLANTING BEDS, OR USED TO LOOSEN THE SOIL OR DIG THE PLANTING HOLES, ALL SOIL THAT HAS BEEN DRIVEN OVER SHALL BE TILLED TO A DEPTH OF 6 INCHES.

- G. FOR TREES TO BE PLANTED IN PREPARED PLANTING SOIL THAT IS DEEPER THAN THE ROOT BALL DEPTH, COMPACT THE SOIL UNDER THE ROOT BALL USING A MECHANICAL TAMPER TO ASSURE A FIRM BEDDING FOR THE ROOT BALL. IF THERE IS MORE THAN 12 INCHES OF PLANTING SOIL UNDER THE ROOT BALL EXCAVATE AND TAMP THE PLANTING SPACE. THE TAMP SHALL NOT EXCEED 12 INCHES.

- H. SET TOP OUTER EDGE OF THE ROOT BALL AT THE AVERAGE ELEVATION OF THE PROPOSED FINISH. SET THE PLANT PLUMB AND UPRIGHT IN THE CENTER OF THE PLANTING HOLE. THE TREE GRAFT, IF APPLICABLE, SHALL BE VISIBLE ABOVE THE GRADE. DO NOT PLACE SOIL ON TOP OF THE ROOT BALL.

- I. THE OWNER'S REPRESENTATIVE MAY REQUEST THAT PLANTS ORIENTATION BE ROTATED WHEN PLANTED BASED ON THE FORM OF THE PLANT.

- J. BACKFILL THE SPACE AROUND THE ROOT BALL WITH THE SAME PLANTING SOIL OR EXISTING SOIL THAT WAS EXCAVATED DURING THE PLANTING SPACE. SEE SPECIFICATION SECTION PLANTING SOIL, FOR REQUIREMENTS TO MODIFY THE SOIL WITHIN THE PLANTING BED.

- K. BRACE ROOT BALL BY TAMPING PLANTING SOIL AROUND THE LOWER PORTION OF THE ROOT BALL. PLACE ADDITIONAL PLANTING SOIL AROUND BASE AND SIDES OF BALL IN SW-INCH (6") LIFTS. LIGHTLY TAMP EACH LIFT USING FOOT PRESSURE OR HAND TOOLS TO SETTLE BACKFILL. SUPPORT THE TREE AND ELIMINATE VOIDS. DO NOT OVER COMPACT THE BACKFILL OR USE MECHANICAL OR PNEUMATIC TAMPING EQUIPMENT. OVER COMPACTION SHALL BE DEFINED AS GREATER THAN 85% OF MAXIMUM DRY DENSITY. STANDARD PROCTOR OR GREATER THAN 250 PSI AS MEASURED BY A CONE PENETROMETER WHEN THE VOLUMETRIC SOIL MOISTURE IS LOWER THAN FIELD CAPACITY.

- WHEN THE PLANTING HOLE HAS BEEN BACKFILLED TO THREE QUARTERS OF ITS DEPTH, WATER SHALL BE Poured AROUND THE ROOT BALL AND ALLOWED TO SOAK INTO THE SOIL TO SETTLE THE SOIL. DO NOT FLOOD THE PLANTING SPACE. IF THE SOIL IS ABOVE FIELD CAPACITY, ALLOW THE SOIL TO DRAIN TO BELOW FIELD CAPACITY BEFORE FINISHING THE PLANTING. AIR POCKETS SHALL BE ELIMINATED AND BACKFILL CONTINUED UNTIL THE PLANTING SOIL IS BROUGHT TO GRADE LEVEL.

- L. WHERE INDICATED ON THE DRAWINGS, BUILD A 4 INCH HIGH, LEVEL BERM OF PLANTING SOIL AROUND THE OUTSIDE OF THE ROOT BALL TO RETAIN WATER. TAMP THE BERM TO REDUCE LEAKING AND EROSION OF THE SAUCER.

- M. THOROUGHLY WATER THE PLANTING SOIL AND ROOT BALL IMMEDIATELY AFTER PLANTING.

- N. REMOVE ALL NURSERY PLANT IDENTIFICATION TAGS AND RIBBONS AS PER OWNER'S REPRESENTATIVE INSTRUCTIONS. THE OWNER'S REPRESENTATIVE'S SEALS ARE TO REMAIN ON PLANTS UNTIL THE END OF THE WARRANTY PERIOD.

- O. REMOVE ANY CORRUGATED CARDBOARD TRUNK PROTECTION AFTER PLANTING.

- P. FOLLOW ADDITIONAL REQUIREMENTS FOR THE PERMITTED ROOT BALL PACKAGES.

### 3.10 PERMITTED ROOT BALL PACKAGES AND SPECIAL PLANTING REQUIREMENTS

- A. THE FOLLOWING ARE PERMITTED ROOT BALL PACKAGES AND SPECIAL PLANTING REQUIREMENTS THAT SHALL BE FOLLOWED DURING THE PLANTING PROCESS IN ADDITION TO THE ABOVE GENERAL PLANTING REQUIREMENTS.

- B. BALLED AND BURLAPPED PLANTS

- AFTER THE ROOT BALL HAS BEEN BACKFILLED, REMOVE ALL TWINE AND BURLAP FROM THE TOP OF THE ROOT BALL. CUT THE BURLAP AWAY AS INDICATED ON DRAWINGS; DO NOT FOLD DOWN ONTO THE PLANTING SOIL.

- IF THE PLANT IS SHIPPED WITH A WIRE BASKET REMOVE THE BASKET WIRES JUST BEFORE THE FINAL BACKFILLING OF THE TREE AS INDICATED ON THE DRAWINGS.

- EARTH ROOT BALLS SHALL BE KEPT INTACT EXCEPT FOR ANY MODIFICATIONS REQUIRED BY THE OWNER'S REPRESENTATIVE TO MAKE ROOT PACKAGE COMPLY WITH THE REQUIREMENT IN PART 2 PRODUCTS.

### C. CONTAINER PLANTS

- THIS SPECIFICATION ASSUMES THAT MOST CONTAINER PLANTS HAVE SIGNIFICANT STEM GIRDLING AND CIRCLING ROOTS, AND THAT THE ROOT COLLAR IS TOO LOW IN THE ROOT BALL.

- PERFORM ROOT BALL SHAVING AS DEFINED IN INSTALLATION OF PLANTS: GENERAL ABOVE.

- REMOVE ALL ROOTS AND SUBSTRATE ABOVE THE ROOT COLLAR AND THE MAIN STRUCTURAL ROOTS ACCORDING TO ROOT CORRECTION DETAILS SO ROOT SYSTEM CONFORMS TO ROOT OBSERVATIONS DETAIL.

- REMOVE ALL SUBSTRATE AT THE BOTTOM OF THE ROOT BALL THAT DOES NOT CONTAIN ROOTS.

- USING A HOSE, POWER WASHER OR AIR EXCAVATION DEVICE, WASH OUT THE SUBSTRATE FROM AROUND THE TRUNK AND TOP OF THE REMAINING ROOT BALL AND FIND AND REMOVE ALL STEM GIRDLING ROOTS WITHIN THE ROOT BALL ABOVE THE TOP OF THE STRUCTURAL ROOTS.

### 3.11 GROUND COVER, PERENNIAL AND ANNUAL PLANTS

- A. ASSURE THAT SOIL MOISTURE IS WITHIN THE REQUIRED LEVELS PRIOR TO PLANTING. IRRIGATION, IF REQUIRED, SHALL BE APPLIED AT LEAST 12 HOURS PRIOR TO PLANTING TO AVOID PLANTING IN MUDDY SOILS.

- B. ASSURE THAT SOIL GRADES IN THE BEDS ARE SMOOTH AND AS SHOWN ON THE PLANS.

- C. PLANTS SHALL BE PLANTED IN EVEN, TRIANGULARLY SPACED ROWS, AT THE INTERVALS CALLED OUT FOR ON THE DRAWINGS, UNLESS OTHERWISE NOTED. THE FIRST ROW OF ANNUAL FLOWER PLANTS SHALL BE 6 INCHES FROM THE BED EDGE UNLESS OTHERWISE DIRECTED.

- D. DIG PLANTING HOLES SUFFICIENTLY LARGE ENOUGH TO INSERT THE ROOT SYSTEM WITHOUT DEFORMING THE ROOTS. SET THE TOP OF THE ROOT SYSTEM AT THE GRADE OF THE SOIL.

- E. SCHEDULE THE PLANTING TO OCCUR PRIOR TO APPLICATION OF THE MULCH. IF THE BED IS ALREADY MULCHED, PULL THE MULCH FROM AROUND THE HOLE AND PLANT INTO THE SOIL. DO NOT PLANT THE ROOT SYSTEM IN THE MULCH. PULL MULCH BACK SO IT IS NOT ON THE ROOT BALL SURFACE.

- F. PRESS SOIL TO BRING THE ROOT SYSTEM IN CONTACT WITH THE SOIL.

- G. SPREAD ANY EXCESS SOIL AROUND IN THE SPACES BETWEEN PLANTS.

- H. APPLY MULCH TO THE BED BEING SURE NOT TO COVER THE TOPS OF THE PLANTS WITH OR THE TOPS OF THE ROOT BALL WITH MULCH.

- WATER EACH PLANTING AREA AS SOON AS THE PLANTING IS COMPLETED. APPLY ADDITIONAL WATER TO KEEP THE SOIL MOISTURE AT THE REQUIRED LEVELS. DO NOT OVER WATER.

### 3.12 STAKING AND GUYING

- A. DO NOT STAKE TREES UNLESS SPECIFICALLY REQUIRED BY THE CONTRACT DOCUMENTS, OR IN THE EVENT THAT THE CONTRACTOR FEELS THAT STAKING IS THE ONLY ALTERNATIVE WAY TO KEEP PARTICULAR TREES PLUMB.

- THE OWNER'S REPRESENTATIVE SHALL HAVE THE AUTHORITY TO REQUIRE THAT TREES ARE STAKED OR TO REJECT STAKING AS AN ALTERNATIVE WAY TO STABILIZE THE TREE.

- TREES THAT REQUIRED HEAVILY MODIFIED ROOT BALLS TO MEET THE ROOT QUALITY STANDARDS MAY BECOME UNSTABLE. THE OWNER'S REPRESENTATIVE MAY CHOOSE TO REJECT THESE TREES RATHER THAN UTILIZE STAKING TO TEMPORARILY SUPPORT THE TREE.

- PLANTS SHALL STAND PLUMB AFTER STAKING.

- STAKES SHALL BE DRIVEN TO SUFFICIENT DEPTH TO HOLD THE TREE RIDGID.

### 3.13 STRAIGHTENING PLANTS

- B. MAINTAIN ALL PLANTS IN A PLUMB POSITION THROUGHOUT THE WARRANTY PERIOD. STRAIGHTEN ALL TREES THAT MOVE OUT OF PLUMB INCLUDING THOSE NOT STAKED. PLANTS TO BE STRAIGHTENED SHALL BE EXCAVATED AND THE ROOT BALL MOVED TO THE PLUMB POSITION, AND THEN RE-BACKFILLED.

- C. DO NOT STRAIGHTEN PLANTS BY PULLING THE TRUNK WITH GUYS.

### 3.14 INSTALLATION OF FERTILIZER AND OTHER CHEMICAL ADDITIVES

- A. DO NOT APPLY ANY SOLUBLE FERTILIZER TO PLANTINGS DURING THE FIRST YEAR AFTER TRANSPLANTING UNLESS SOIL TEST DETERMINES THAT FERTILIZER OR OTHER CHEMICAL ADDITIVES IS REQUIRED. APPLY CHEMICAL ADDITIVES ONLY UPON THE APPROVAL OF THE OWNER'S REPRESENTATIVE.

- B. CONTROLLED RELEASE FERTILIZERS SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS, STANDARD HORTICULTURAL PRACTICES, AND PER THE SOIL TEST RECOMMENDATIONS.

### 3.15 PRUNING OF TREES AND SHRUBS

- A. PRUNE PLANTS AS DIRECTED BY THE OWNER'S REPRESENTATIVE. PRUNING TREES SHALL BE LIMITED TO ADDRESSING STRUCTURAL DEFECTS AS SHOWN IN DETAILS; FOLLOW RECOMMENDATIONS IN "STRUCTURAL PRUNING: A GUIDE FOR THE GREEN INDUSTRY" PUBLISHED BY URBAN TREE FOUNDATION, VISALIA CA.

- B. ALL PRUNING SHALL BE PERFORMED BY A PERSON EXPERIENCED IN STRUCTURAL TREE PRUNING.

- C. EXCEPT FOR PLANTS SPECIFIED AS MULTI-STEMMED OR AS OTHERWISE INSTRUCTED BY THE OWNER'S REPRESENTATIVE, PRESERVE OR CREATE A CENTRAL LEADER.

- D. PRUNING OF LARGE TREES SHALL BE DONE USING POLE PRUNERS OR IF NEEDED, FROM A LADDER OR HYDRAULIC LIFT TO GAIN ACCESS TO THE TOP OF THE TREE. DO NOT CLIMB IN NEWLY PLANTED TREES. SMALL TREES CAN BE STRUCTURALLY PRUNED BY LAYING THEM OVER BEFORE PLANTING. PRUNING MAY ALSO BE PERFORMED AT THE NURSERY PRIOR TO SHIPPING.

- E. REMOVE AND REPLACE EXCESSIVELY PRUNED OR MALFORMED STOCK RESULTING FROM IMPROPER PRUNING THAT OCCURRED IN THE NURSERY OR AFTER.

- F. PRUNING SHALL BE DONE WITH CLEAN, SHARP TOOLS.

- G. NO TREE PAINT OR SEALANTS SHALL BE USED.

### 3.16 MULCHING OF PLANTS

- A. APPLY MULCH BEFORE SETTLEMENT TO DEPTH SHOWN ON PLANS, COVERING THE ENTIRE PLANTING BED AREA. INSTALL NO MORE THAN 1 INCH OF MULCH OVER THE TOP OF THE ROOT BALLS OF ALL PLANTS. TAPER TO 2 INCHES WHEN ADJUTING PAVEMENT.

- B. FOR TREES PLANTED IN LAWN AREAS THE MULCH SHALL EXTEND TO A 4 FOOT RADIUS AROUND THE TREE OR TO THE EXTENT INDICATED ON THE PLANS.

- C. LIFT ALL LEAVES, LOW HANGING STEMS AND OTHER GREEN PORTIONS OF SMALL PLANTS OUT OF THE MULCH IF COVERED.

### 3.17 PLANTING BED FINISHING

- A. AFTER PLANTING, SMOOTH OUT ALL GRADES BETWEEN PLANTS BEFORE MULCHING.

- B. SEPARATE THE EDGES OF PLANTING BEDS AND LAWN AREAS WITH A SMOOTH, FORMED EDGE CUT INTO THE TURF WITH THE BED MULCH LEVEL SLIGHTLY LOWER, 1 AND 2 INCHES, THAN THE ADJACENT TURF SO OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE. BED EDGE LINES SHALL BE A DEPICTED ON THE DRAWINGS.

### 3.18 WATERING

- A. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE TO ENSURE THAT ADEQUATE WATER IS PROVIDED TO ALL PLANTS FROM THE DATE OF INSTALLATION UNTIL THE DATE OF SUBSTANTIAL COMPLETION ACCEPTANCE. THE CONTRACTOR SHALL ADJUST THE AUTOMATIC IRRIGATION SYSTEM, IF AVAILABLE, AND APPLY ADDITIONAL OR ADJUST FOR LESS WATER USING HOSES AS REQUIRED.

- B. HAND WATER ROOT BALLS OF ALL PLANTS TO ASSURE THAT THE ROOT BALLS HAVE MOISTURE ABOVE WILT POINT AND BELOW FIELD CAPACITY. TEST THE MOISTURE CONTENT IN EACH ROOT BALL AND THE SOIL OUTSIDE THE ROOT BALL TO DETERMINE THE WATER CONTENT.

### 3.19 CLEAN-UP

- A. DURING INSTALLATION, KEEP THE SITE FREE OF TRASH, PAVEMENTS REASONABLY CLEAN AND WORK AREA IN AN ORDERLY CONDITION AT THE END OF EACH DAY. REMOVE TRASH AND DEBRIS IN CONTAINERS FROM THE SITE NO LESS THAN ONCE A WEEK.

- IMMEDIATELY CLEAN UP ANY SPILLED OR TRACKED SOIL, FUEL, OIL, TRASH OR DEBRIS DEPOSITED BY THE CONTRACTOR FROM ALL SURFACES WITHIN THE PROJECT OR ON PUBLIC RIGHT OF WAYS AND NEIGHBORING PROPERTY.

- ONCE INSTALLATION IS COMPLETE, WASH ALL SOIL FROM PAVEMENTS AND OTHER STRUCTURES. ENSURE THAT MULCH IS CONFINED TO PLANTING BEDS AND THAT ALL TAGS AND FLAGGING TAPE ARE REMOVED FROM THE SITE. THE OWNER'S REPRESENTATIVE'S SEALS ARE TO REMAIN ON THE TREES AND REMOVED AT THE END OF THE WARRANTY PERIOD.

- MAKE ALL REPAIRS TO GRADES, RUTS, AND DAMAGE BY THE PLANT INSTALLER TO THE WORK OR OTHER WORK AT THE SITE.

- REMOVE AND DISPOSE OF ALL EXCESS PLANTING SOIL, SUBSOIL, MULCH, PLANTS, PACKAGING, AND OTHER MATERIAL BROUGHT TO THE SITE BY THE CONTRACTOR.

### 3.20 PROTECTION DURING CONSTRUCTION

- A. THE CONTRACTOR SHALL PROTECT PLANTING AND RELATED WORK AND OTHER SITE WORK FROM DAMAGE DUE TO PLANTING OPERATIONS, OPERATIONS BY OTHER CONTRACTORS OR TRESPASSERS. MAINTAIN PROTECTION DURING INSTALLATION UNTIL SUBSTANTIAL COMPLETION ACCEPTANCE. TREAT, REPAIR OR REPLACE DAMAGED WORK IMMEDIATELY.

- B. DAMAGE DONE BY THE CONTRACTOR, OR ANY OF THEIR SUB-CONTRACTORS TO EXISTING OR INSTALLED PLANTS, OR ANY OTHER PARTS OF THE WORK OR EXISTING FEATURES TO REMAIN, INCLUDING ROOTS, TRUNK OR BRANCHES OF LARGE EXISTING TREES, SOIL, PAVING, UTILITIES, LIGHTING, IRRIGATION, OTHER FINISHED WORK AND SURFACES INCLUDING THOSE ON ADJACENT PROPERTY, SHALL BE CLEANED, REPAIRED OR REPLACED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER. THE OWNER'S REPRESENTATIVE SHALL DETERMINE WHEN SUCH CLEANING, REPLACEMENT OR REPAIR IS SATISFACTORY.

### 3.21 PLANT MAINTENANCE PRIOR TO SUBSTANTIAL COMPLETION ACCEPTANCE

- A. DURING THE PROJECT WORK PERIOD AND PRIOR TO SUBSTANTIAL COMPLETION ACCEPTANCE, THE CONTRACTOR SHALL MAINTAIN ALL PLANTS.

- B. MAINTENANCE DURING THE PERIOD PRIOR TO SUBSTANTIAL COMPLETION ACCEPTANCE SHALL CONSIST OF PRUNING, WATERING, CULTIVATING, WEEDING, MULCHING, REMOVAL OF DEAD MATERIAL, REPAIRING AND REPLACING OF TREE STAKES, TIGHTENING AND REPAIRING OF GUYS, REPAIRING AND REPLACING OF DAMAGED TREE WRAP MATERIAL, RESETTING PLANTS TO PROPER GRADES AND UPRIGHT POSITION, AND FURNISHING AND APPLYING SUCH SPRAYS AS ARE NECESSARY TO KEEP PLANTINGS REASONABLY FREE OF DAMAGING INSECTS AND DISEASE, AND IN HEALTHY CONDITION. THE THRESHOLD FOR APPLYING INSECTICIDES AND HERBICIDE SHALL FOLLOW ESTABLISHED INTEGR

