

CITY OF SPRINGDALE, OHIO TREES AND DEVELOPMENT

ON REDEVELOPMENT SITES, TREES MUST BE REPLACED AT A RATE OF ONE CALIPER INCH OF REPLACEMENT FOR EVERY INCH REMOVED.

EXEMPTIONS: CERTAIN SITUATIONS ARE EXEMPT FROM TREE REPLACEMENT. THEY ARE:
1) TREES REMOVED DURING AN EMERGENCY.
2) TREES LOCATED IN THE AREA OF PROPOSED BUILDINGS.
3) TREES ON EXISTING DEVELOPED SINGLE FAMILY LOTS.
4) TREES < 12" ON LOTS < 20,000 S.F. EXCEPT THOSE WHICH WERE PLANTED AS PART OF A DEVELOPMENT LANDSCAPE PLAN.
5) DEAD OR DISEASED TREES AS VERIFIED BY THE BUILDING DEPARTMENT.

TOTAL CALIPER INCHES REQUIRING MITIGATION: 617

LEGEND

- 18" TREES TO REMAIN
X 18" TREES TO BE REMOVED, BUT NOT MITIGATED DUE TO LOCATION OR CONDITION
X 18" TREES TO BE REMOVED REQUIRING MITIGATION

NOTES:

1. TREES LOCATED INSIDE OF THE PROPOSED BUILDING OR DETENTION AREAS WERE NOT SURVEYED PER THE EXEMPTION NOTED.
* 2. TREES NOTED AS NOT REQUIRING MITIGATING, WERE SURVEYED BUT DO NOT REQUIRE MITIGATION BECAUSE THEY OCCUR WITHIN THE PROPOSED BUILDING FOOTPRINT OR ARE IN DEAD OR DISEASED CONDITION.

TREE REMOVAL LEGEND:

NUMBER	TREE SPECIES	CALIPER SIZE	CONDITION	MITIGATION
①	HONEYLOCUST	8"	POOR	YES
②	HONEYLOCUST	8"	POOR	YES
③	HONEYLOCUST	12"	POOR	YES
④	HONEYLOCUST	10"	POOR	YES
⑤	HONEYLOCUST	12"	POOR	NO*
⑥	HONEYLOCUST	6"	POOR	YES
⑦	LINDEN	15"	GOOD	YES
⑪	PLUM	6"	FAIR	YES
⑫	PLUM	6"	FAIR	YES
⑬	PLUM	6"	FAIR	YES
⑭	LINDEN	12"	GOOD	YES
⑮	LINDEN	12"	GOOD	YES
⑯	LINDEN	12"	GOOD	YES
⑰	CHERRY	12"	FAIR	YES
⑱	CHERRY	12"	POOR	YES

NUMBER	TREE SPECIES	CALIPER SIZE	CONDITION	MITIGATION
⑲	CHERRY	12"	FAIR	YES
⑳	LINDEN	12"	GOOD	YES
㉑	LINDEN	10"	GOOD	YES
㉒	LINDEN	8"	GOOD	YES
㉓	PLUM	6"	FAIR	YES
㉔	PLUM	8"	FAIR	YES
㉕	PLUM	8"	FAIR	YES
㉖	PLUM	8"	FAIR	YES
㉗	LINDEN	8"	FAIR	YES
㉘	LINDEN	8"	FAIR	YES
㉙	HONEYLOCUST	9"	POOR	YES
㉚	ASH	18"	FAIR	YES
㉛	WILLOW	18"	FAIR	YES
㉜	ASH	12"	FAIR	YES
㉝	ASH	12"	FAIR	YES

NUMBER	TREE SPECIES	CALIPER SIZE	CONDITION	MITIGATION
③⑤	ASH	12"	POOR	YES
③⑥	ELM	15"	POOR	YES
③⑦	ASH	12"	POOR	YES
③⑧	HONEYLOCUST	12"	FAIR	YES
④①	HONEYLOCUST	15"	FAIR	YES
④②	CHERRY	12"	FAIR	YES
④③	LINDEN	8"	GOOD	YES
④④	PLUM	6"	FAIR	YES
④⑤	PINE	8"	POOR	NO*
④⑥	HONEYLOCUST	12"	FAIR	YES
⑤②	HONEYLOCUST	10"	POOR	YES
⑤③	HONEYLOCUST	8"	POOR	YES
⑤④	LINDEN	10"	FAIR	YES
⑤⑤	LINDEN	10"	GOOD	YES
⑤⑥	LINDEN	6"	FAIR	YES
⑤⑦	LINDEN	8"	FAIR	YES
⑤⑧	PLUM	6"	FAIR	YES
⑤⑨	LINDEN	8"	POOR	YES
⑥①	LINDEN	11"	GOOD	YES
⑥②	LINDEN	12"	GOOD	YES
⑥③	LINDEN	6"	FAIR	YES
⑥④	PLUM	6"	GOOD	YES
⑥⑤	PLUM	6"	GOOD	YES
⑥⑥	LINDEN	10"	FAIR	YES
⑥⑦	LINDEN	8"	FAIR	YES
⑥⑧	LINDEN	8"	FAIR	YES
⑦①	PLUM	6"	FAIR	YES
⑦②	LINDEN	10"	GOOD	YES
⑦③	LINDEN	6"	FAIR	YES
⑦④	PLUM	6"	GOOD	YES
⑦⑤	PLUM	6"	GOOD	YES
⑦⑥	LINDEN	8"	FAIR	YES
⑦⑦	LINDEN	8"	FAIR	YES
⑦⑧	LINDEN	6"	FAIR	YES
⑦⑨	LINDEN	8"	FAIR	YES
⑧②	SPRUCE	8"	GOOD	YES
⑧③	HONEYLOCUST	12"	POOR	NO*

NOTE: UNDERGROUND UTILITIES ARE PLOTTED FROM A COMPILED LIST OF AVAILABLE RECORD INFORMATION AND SURFACE INDICATIONS OF UNDERGROUND STRUCTURES AND MAY NOT BE INCLUSIVE. PRECISE LOCATIONS AND THE EXISTENCE OR NON EXISTENCE OF UNDERGROUND UTILITIES CANNOT BE VERIFIED. PLEASE NOTIFY THE OHIO UTILITY PROTECTION SERVICE AT 811 OR 1-800-362-3764 BEFORE ANY PERIOD OF EXCAVATION OR CONSTRUCTION ACTIVITY.



NOT FOR CONSTRUCTION

SEAL:

NO. DATE DESCRIPTION
1 06/27/2022 ZONING FINAL DEVELOPMENT PLAN

SPRINGDALE INDUSTRIAL
SPRINGDALE, OHIO

PROJECT NO: 210043.000
DATE: 2022-06-20

SCALE: 0 20 40 80

SHEET NAME:

TREE SURVEY

SHEET NO:

L001

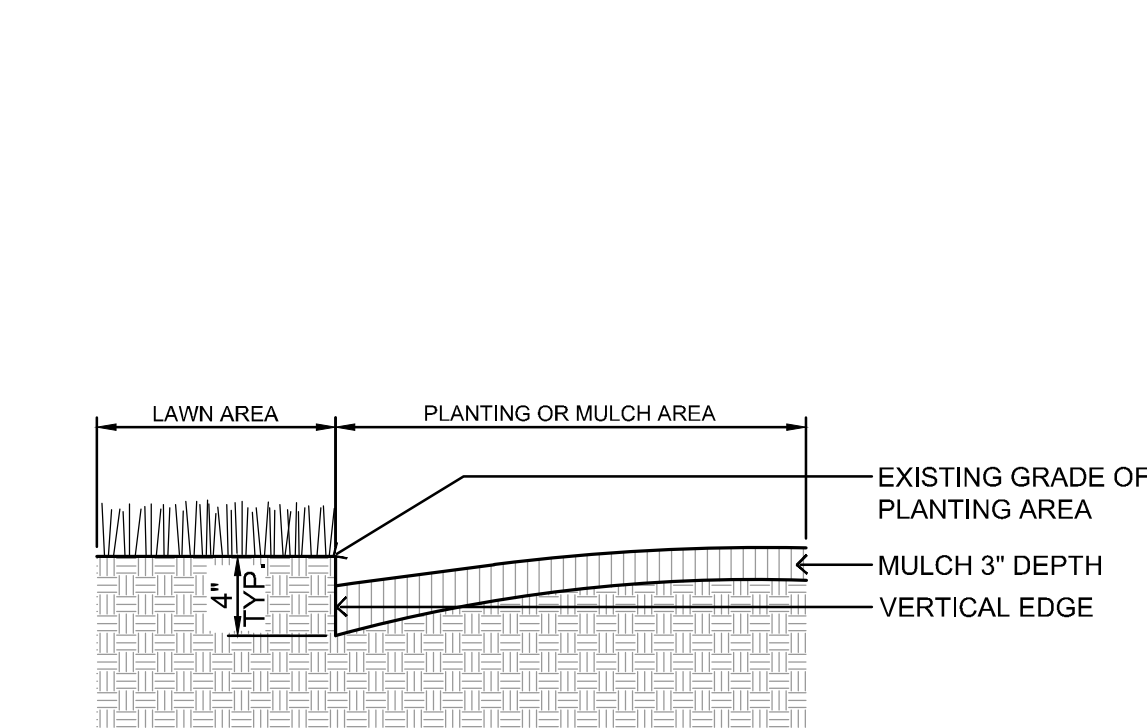
PROPOSED BUILDING
225,000 SQFT

NOTE:
UNDERGROUND UTILITIES ARE PLOTTED FROM A
COMPILATION OF AVAILABLE RECORD INFORMATION AND
SURFACE INDICATIONS OF UNDERGROUND STRUCTURES AND
MAY NOT BE INCLUSIVE. PRECISE LOCATIONS AND THE
EXISTENCE OR NON EXISTENCE OF UNDERGROUND UTILITIES
CANNOT BE VERIFIED. PLEASE NOTIFY THE OHIO UTILITY
PROTECTION SERVICE AT 811 OR 1-800-362-2764 BEFORE ANY
PERIOD OF EXCAVATION OR CONSTRUCTION ACTIVITY.

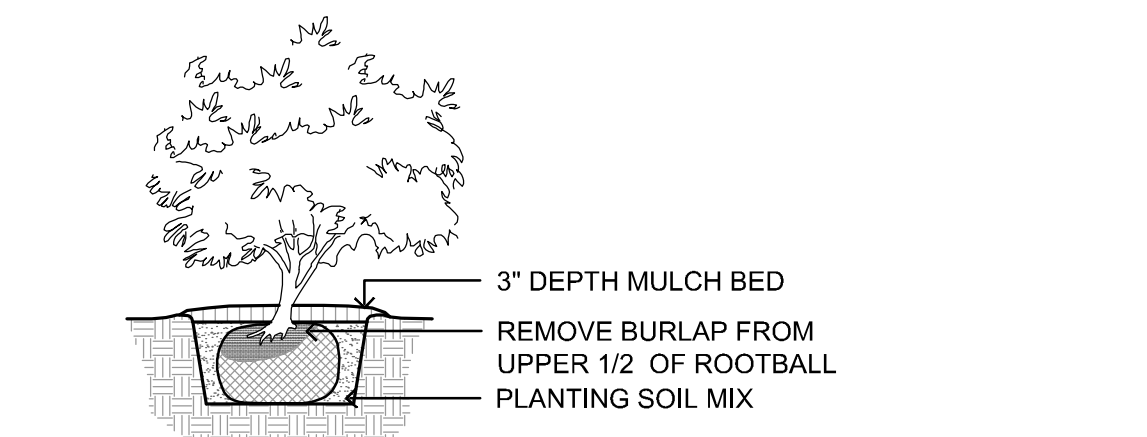
SHEET NO.

L100

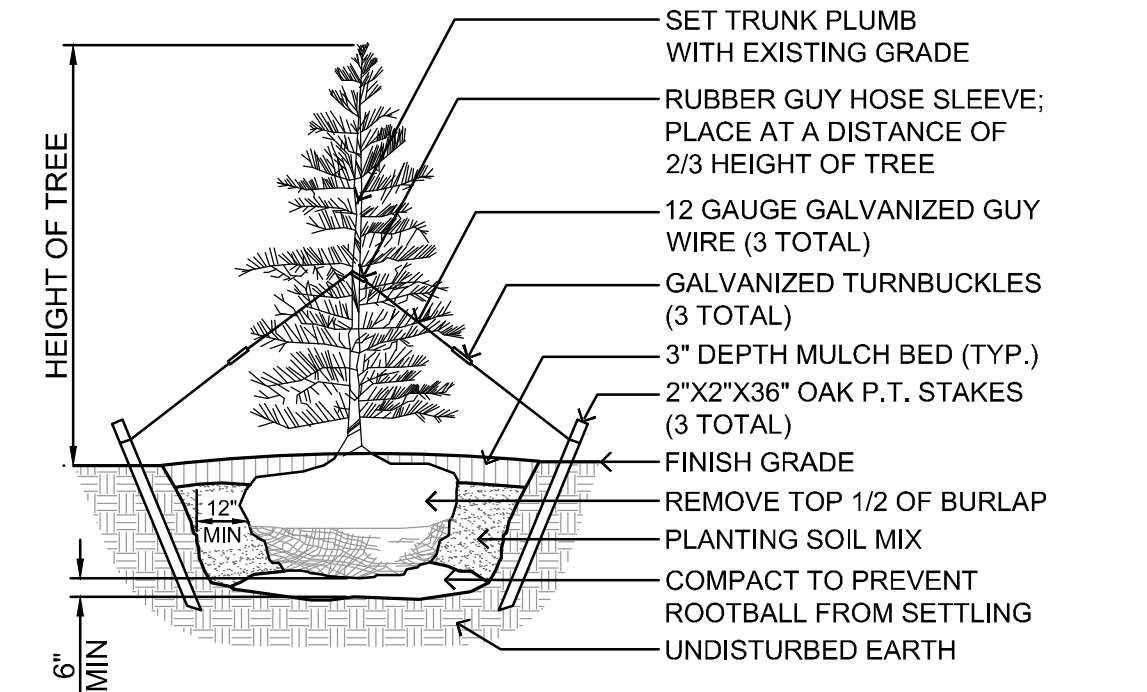




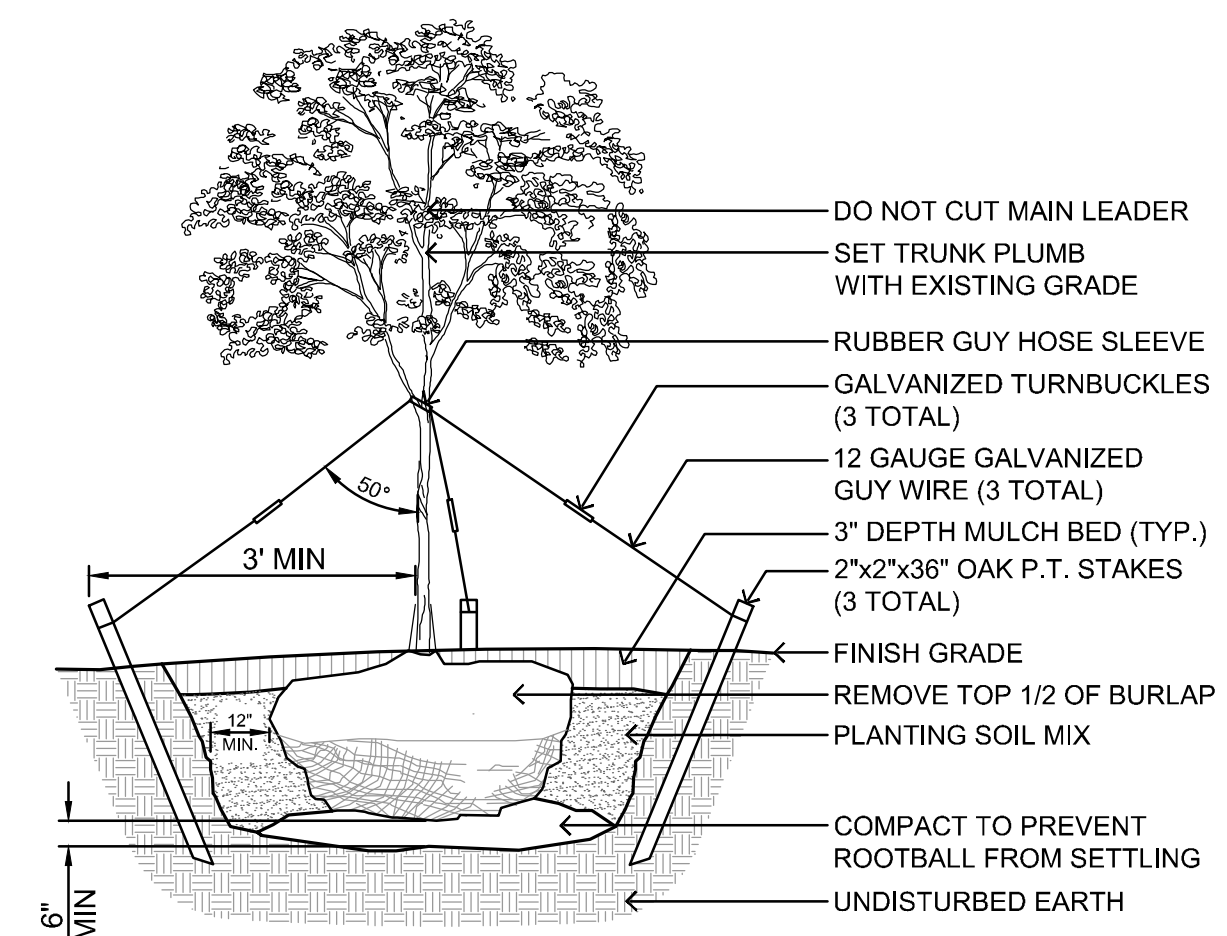
1 PLANTING BED EDGING DETAIL
N.T.S.



2 SHRUB PLANTING
N.T.S.

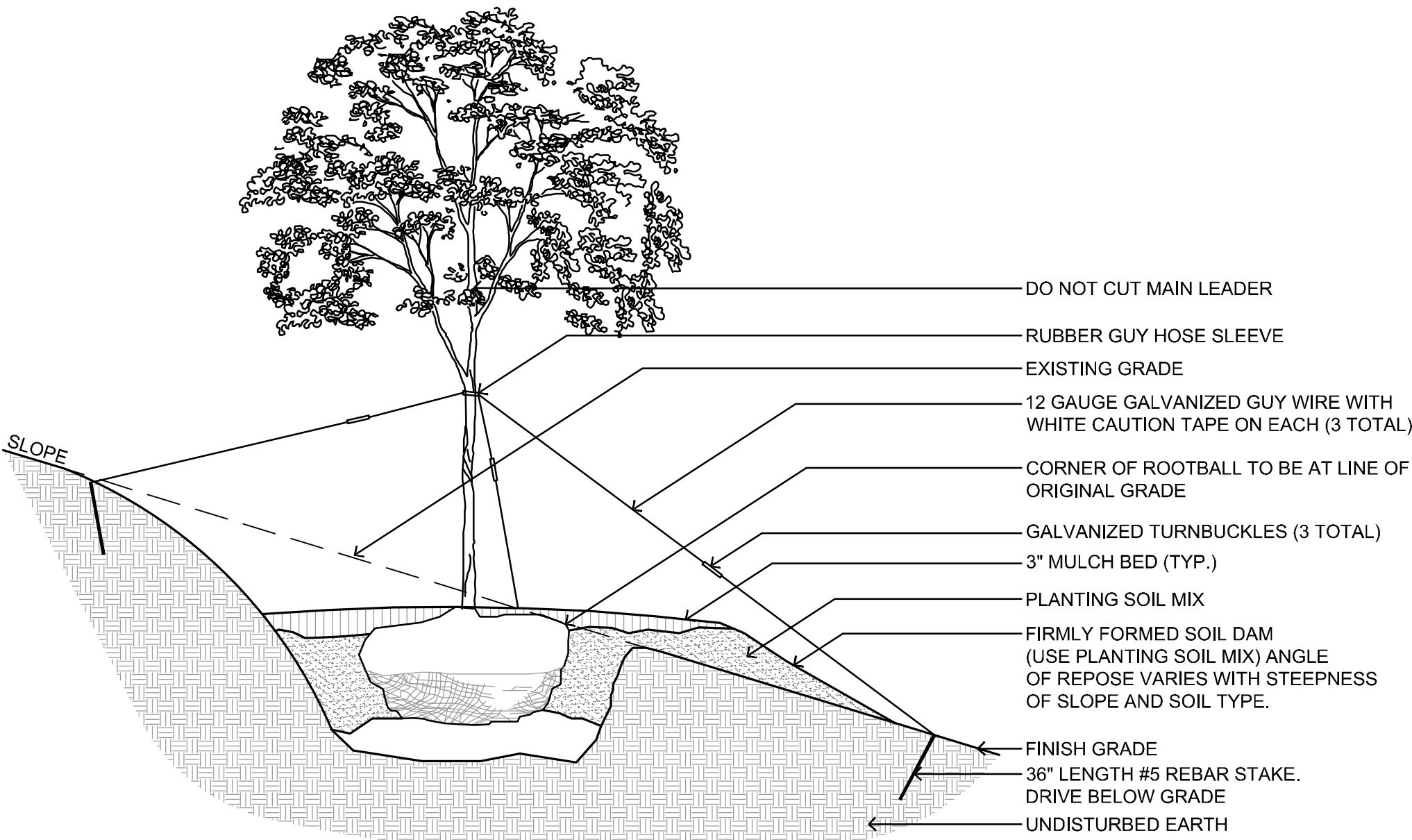


3 EVERGREEN TREE PLANTING
N.T.S.



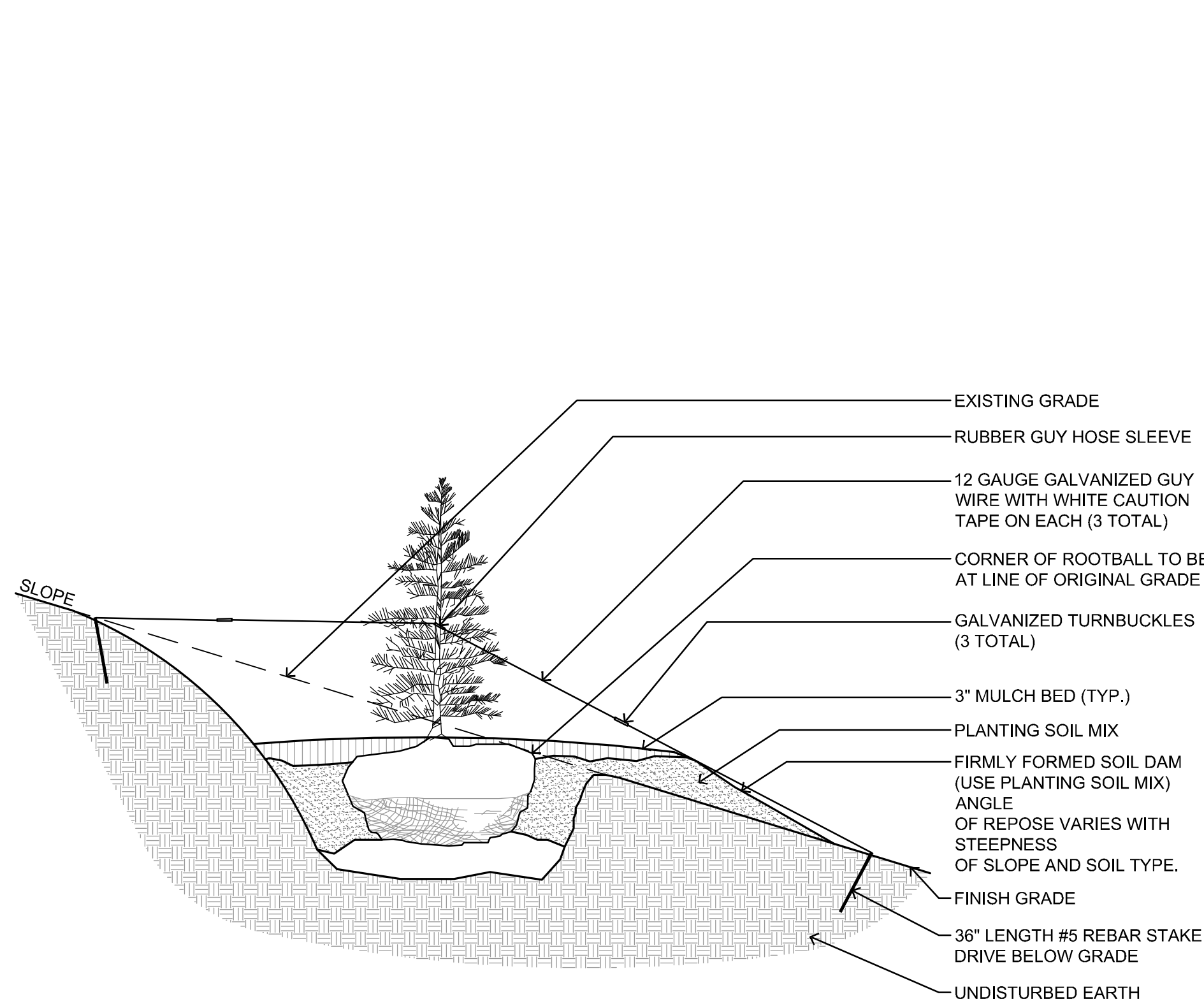
NOTES:
1. TOP OF ROOT BALL TO BE 2'-3" ABOVE ADJACENT FINISHED GRADE.
2. REMOVE ALL LABELS, TAGS, OR OTHER FOREIGN MATERIALS FROM LIMBS.
3. REMOVE GUY WIRES, TURNBUCKLES, HOSE AND STAKES 1 YEAR AFTER PLANTING.
4. THE AMOUNT OF PRUNING SHALL BE LIMITED TO THE MINIMUM NECESSARY TO REMOVE DEAD OR INJURED TWIGS AND BRANCHES AND TO COMPENSATE FOR THE LOSS OF ROOTS DURING TRANSPLANTING. RETAIN NORMAL SHAPE OF TREE. OWNER'S REPRESENTATIVE WILL DETERMINE AMOUNT OF PRUNING NECESSARY. PLANT TREES AT SAME GRADE AS GROWN IN THE NURSERY.

5 DECIDUOUS TREE PLANTING
N.T.S.



NOTES:
1. FOR PLANTING INSTRUCTIONS SEE DECIDUOUS TREE PLANTING DETAIL, THIS SHEET.

6 DECIDUOUS TREE PLANTING ON A SLOPE
N.T.S.

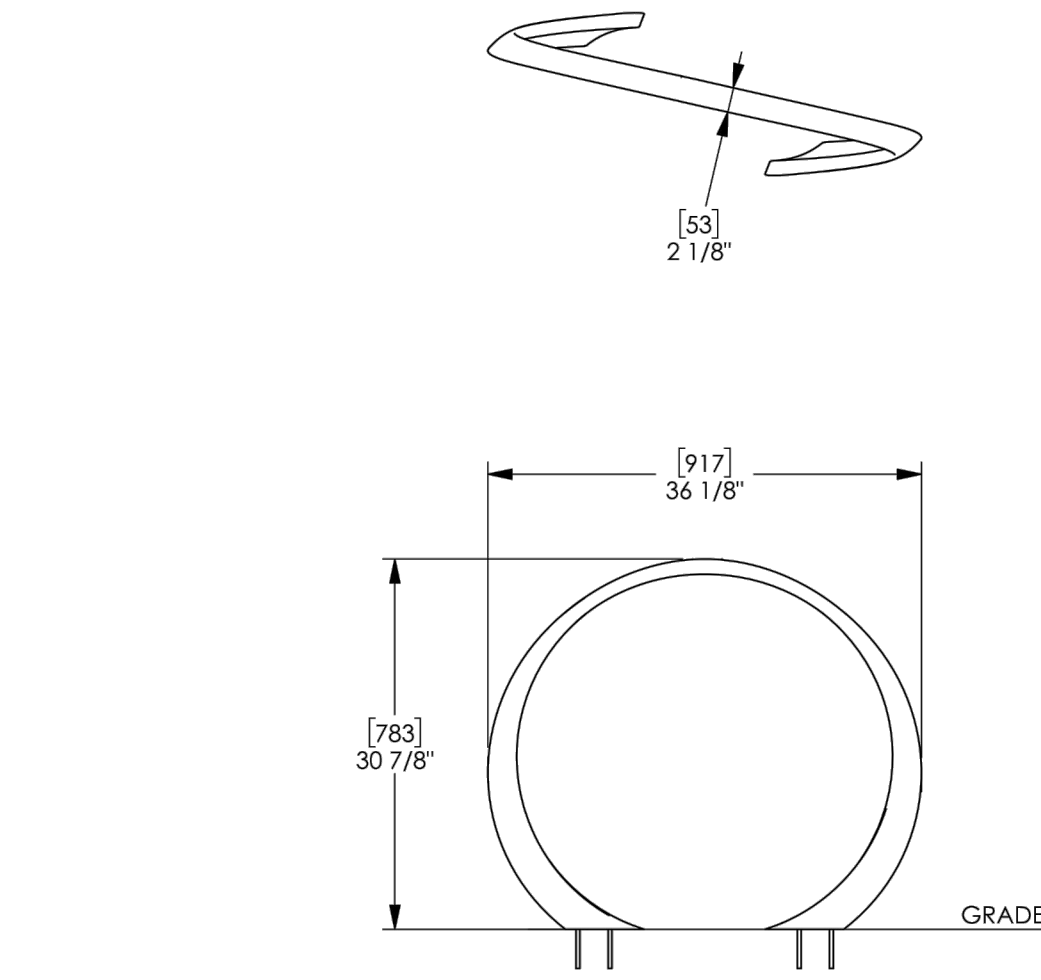


NOTES:
1. TOP OF ROOT BALL TO BE 2'-3" ABOVE ADJACENT FINISHED GRADE.
2. REMOVE ALL LABELS, TAGS, OR OTHER FOREIGN MATERIALS FROM LIMBS.
3. REMOVE GUY WIRES, TURNBUCKLES, HOSE AND STAKES 1 YEAR AFTER PLANTING.
4. THE AMOUNT OF PRUNING SHALL BE LIMITED TO THE MINIMUM NECESSARY TO REMOVE DEAD OR INJURED TWIGS AND BRANCHES AND TO COMPENSATE FOR THE LOSS OF ROOTS DURING TRANSPLANTING. RETAIN NORMAL SHAPE OF TREE. OWNER'S REPRESENTATIVE WILL DETERMINE AMOUNT OF PRUNING NECESSARY. PLANT TREES AT SAME GRADE AS GROWN IN THE NURSERY.

4 EVERGREEN TREE PLANTING ON A SLOPE
N.T.S.

Loop Bike Rack
Product Drawing
Date: 2/2/2018
www.landscapeforms.com Ph: 800.621.2546

(4) 5/16-18 UNC-2A FULLY THREADED RODS,
4' LENGTH, INCLUDED



landscapeforms
Drawing: AE100-02
Dimensions are in inches (mm)
U.S. Patent No. D754,032

NOTES:
1. BASIS OF DESIGN: LOOP BIKE RACK, SUPPLIED BY: LANDSCAPE FORMS, TEL: (800) 521-2546, WEB: WWW.LANDSCAPEFORMS.COM
2. FINISH: T.B.D. COLOR TO BE SELECTED FROM MANUFACTURER'S FULL RANGE.
3. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL BY OWNER AND LANDSCAPE ARCHITECT.

7 BIKE RACK
N.T.S.

PLANTING NOTES
1. EACH CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES.
2. CONTRACTOR SHALL VERIFY ALL PLANTING CONDITIONS FOR OBSTRUCTIONS, EXISTING TREE CANOPY COVERAGE, AND OVERHEAD ELECTRICAL POWER LINES PRIOR TO PLANTING. IF ADVERSE PLANTING CONDITIONS ARE OBSERVED, CONTACT THE OWNERS REPRESENTATIVE IMMEDIATELY.
3. ALL SHRUB MASSES TO BE INCORPORATED BY A CONTINUOUS MULCH BED TO LIMITS SHOWN AND AS SPECIFIED. MULCH BEDS TO HAVE A NEAT, EDGED APPEARANCE.
4. SUBSURFACE IMPROVEMENTS SHALL BE OBSERVED. THE CONTRACTOR SHALL CONTACT THE OHIO UTILITIES PROTECTION SERVICE (OUPS) 48 HOURS PRIOR TO ANY EXCAVATION OR DIGGING TO ENSURE THE LOCATION OF UNDERGROUND UTILITIES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT SUCH UNDERGROUND UTILITIES.
5. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE FINE GRADED AND SEEDED.
6. ALL TREES WITHIN A SPECIES SHALL HAVE MATCHING FORM.
7. THE CONTRACTOR SHALL ENSURE THAT ALL NEWLY PLANTED TREES ARE PERFECTLY ALIGNED AND SET PLUMB WITH PROPER RELATIONSHIP TO THE SURROUNDING GRADE. CONFIRM FINISHED GRADE PRIOR TO PLANTING.
8. ALL PLANT MATERIAL SHALL BE OF THE SIZE AND TYPE SPECIFIED. IF SUBSTITUTIONS ARE APPROVED BY THE OWNER'S REPRESENTATIVE, THE SIZE AND GRADING STANDARDS SHALL CONFORM TO THOSE OF THE AMERICAN ASSOCIATION OF NURSERYMEN.

LEGEND

PROPERTY LINE

SURFACE ITEMS

STANDARD CONCRETE TYP, SEE CIVIL DRAWINGS

LANDSCAPE ITEMS

BIKE RACK, TYP.

PLANT MATERIAL

DECIDUOUS TREE, TYP.

ORNAMENTAL TREE, TYP.

EVERGREEN TREE, TYP.

SHRUBS, TYP.

EXISTING TREES TO REMAIN, PROTECT IN PLACE

NOT FOR CONSTRUCTION

CITY OF SPRINGDALE LANDSCAPE ZONING REQUIREMENTS (SECTION 153.404)		
BUFFER YARD REQUIREMENT	REQUIRED	PROPOSED
PERIMETER ADJACENT TO RIGHT-OF-WAY	1 TREE (A, 2" MIN. CALIPER) PER 35 LF OF FRONTAGE + 1 SHRUB (D OR E, 6'-0" MIN. HT., 4'-0" MIN. SPREAD) PER 3 LF OF FRONTAGE OR 1 TREE (B, 1-1/2" MIN. CALIPER) PER 25 LF OF FRONTAGE + 1 SHRUB (D OR E, 6'-0" MIN. HT., 4'-0" MIN. SPREAD) PER 3 LF OF FRONTAGE CRESCENTVILLE ROAD: 771 LF = 31 TREES(B) & 257 SHRUBS NORTHWEST BOULEVARD: 630 LF = 7 TREES(A) & 210 SHRUBS	CRESCENTVILLE: 23 TREES + 257 SHRUBS PROVIDED (8 EXISTING TREES TO REMAIN) NORTHWEST BOULEVARD: 7 TREES + 224 SHRUBS PROVIDED (10 TREES TO REMAIN)
PERIMETER ADJACENT TO NON-RESIDENTIAL PROPERTY	1 TREE (A, 2" MIN. CALIPER) PER 35 LF OF SHARED PROPERTY LINE + 1 SHRUB (D OR E, 6'-0" MIN. HT., 4'-0" MIN. SPREAD) PER 3 LF OF FRONTAGE OR DOUBLE ROW, STAGGERED PLANTING OF TREES (C, 6'-0" MIN. HT., 4'-0" MIN. SPREAD) AT 15 FEET O.C. SOUTH PROPERTY LINE: 302 LF = 9 TREES + 101 SHRUBS REQUIRED	2 TREES + 101 SHRUBS PROVIDED (7 EXISTING TREES TO REMAIN)
PERIMETER ADJACENT TO GB ZONING DISTRICT	1 TREE (A) PER 35 LINEAL FEET OF THE SHARED PROPERTY LINE + A DOUBLE ROW 6' HEDGE (D) OR A DOUBLE ROW, STAGGERED PLANTING OF TREES (C) AT 15' O.C. WEST PROPERTY LINE: 804 LF = 23 TREES + 254 SHRUBS REQUIRED SOUTH PROPERTY LINE: 447 LF = 13 TREES + 282 SHRUBS REQUIRED	WEST PROPERTY LINE: 11 TREES + 254 SHRUBS PROVIDED (12 EXISTING TREES TO REMAIN) SOUTH PROPERTY LINE: 13 TREES + 282 SHRUBS PROVIDED
VEHICULAR USE AREAS (VUA)	REQUIRED	PROPOSED
INTERIOR LANDSCAPE AREA	5 SF OF LANDSCAPE AREA FOR EVERY 100 SF OF VUA 229,834 SF OF VUA = 11,492 SF OF LANDSCAPE AREA REQUIRED	26,892 SF PROVIDED
TREES	1 TREE PER EVERY 25 SPACES (2" CAL. MIN.) EACH LANDSCAPE ISLAND SHALL HAVE AT LEAST 1 TREE 228 SPACES = 10 TREES REQUIRED	17 TREES PROVIDED
SHRUBS	6 SHRUBS PER EVERY 25 SPACES EACH LANDSCAPE ISLAND SHALL HAVE AT LEAST 4 SHRUBS 228 SPACES = 55 SHRUBS REQUIRED	58 SHRUBS PROVIDED
SERVICE STRUCTURES	REQUIRED	PROPOSED
SCREENING OF LOADING DOCKS AND TRANSFORMER	A CONTINUOUS PLANTING OF EVERGREEN PLANTS OR FENCE THAT IS 1 FOOT TALLER THAN SERVICE STRUCTURE, BUT SHALL NOT BE REQUIRED TO EXCEED 10 FEET IN HEIGHT	LOADING DOCKS AND TRANSFORMER ARE SCREENED WITH EVERGREEN HEDGE
BIKE CYCLE PARKING	REQUIRED	PROPOSED
BIKE CYCLE PARKING	1 SPACE PER 40,000 SF. 2 MINIMUM REQUIRED 225,000 SF = 6 SPACES REQUIRED	6 SPACES PROVIDED
MONUMENT SIGNAGE	REQUIRED	PROPOSED
GROUND SIGNS	MULCHED AND LANDSCAPED AREA THAT INCLUDES A VARIETY OF PLANT TYPES OR BUSHES AND IS EQUAL TO OR LARGER THAN THE TOTAL SIGN AREA.	PROVIDED
TREE REPLACEMENT	REQUIRED	PROPOSED
TREE REPLACEMENT	REPLACE TREES REMOVED THAT ARE NOT WITHIN THE BUILDING FOOTPRINT AT A RATIO OF 1" CALIPER : 1" CALIPER (DECIDUOUS TREES >6" CALIPER) (EVERGREEN TREES >8" CALIPER) 617 CALIPER INCHES REMOVED = 309 CALIPER INCHES TO BE REPLACED	312 CALIPER INCHES PROPOSED TO BE REPLACED.

PLANTING SCHEDULE					
KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
GROUP A - CANOPY TREES:					
ACE SAC	ACER SACHARUM 'GREEN MOUNTAIN'	GREEN MOUNTAIN SUGAR MAPLE	3" CAL.	B&B	SPACE PER PLAN
GLE TRI	GLEDTISIA TRIACANTHOS 'SHADEMASTER'	SHADEMASTER HONEY LOCUST	3" CAL.	B&B	SPACE PER PLAN
LIQ STY	LIQUIDAMBAR STYRACIFLUA	SWEETGUM	3" CAL.	B&B	SPACE PER PLAN
QUE BIC	QUERCUS BICOLOR 'SWAMP WHITE'	SWAMP WHITE OAK	3" CAL.	B&B	SPACE PER PLAN
QUE PAL	QUERCUS PALUSTRIS 'PIN'	PIN OAK	3" CAL.	B&B	SPACE PER PLAN
QUE RUB	QUERCUS RUBRA	RED OAK	3" CAL.	B&B	SPACE PER PLAN
GROUP B - SMALL/ORNAMENTAL TREES:					
AME CAN	AMELANCHIER CANADENSIS	SHADBLOW SERVICEBERRY	3" CAL.	B&B	SPACE PER PLAN
CER CAN	CERCIS CANADENSIS 'FOREST PANSY'	FOREST PANSY REDBUD	3" CAL.	B&B	SPACE PER PLAN
GROUP C - EVERGREEN TREES:					
PIC ABI	PICEA ABIES	NORWAY SPRUCE	8" HT. MIN.	B&B	SPACE PER PLAN
PIC DEN	PICEA GLAUCA 'DENSATA'	BLACK HILLS SPRUCE	8" HT. MIN.	B&B	SPACE PER PLAN
THU PLI	THUJA PLICATA 'GREEN GIANT'	GREEN GIANT ARBORVITAE	8" HT. MIN.	B&B	SPACE PER PLAN
GROUP D&E - SHRUBS:					
CHA PIS	CHAMAECYPARIS PISIFERA 'GOLDEN MOP'	JAPANESE FALSECYPRESS	36" HT. MIN.	CONT.	SPACE 4' O.C.
FOT GAR	FOTHERGILLA GARDENII	DWARF FOTHERGILLA	36" HT. MIN.	CONT.	SPACE 4' O.C.
ILE CHI	ILEX x MESERVAE 'MESDOB'	CHINA BOY HOLLY	36" HT. MIN.	CONT.	SPACE 6' O.C.
ILE GLA	ILEX GLABRA 'COMPACTA'	COMPACT INKBERRY	36" HT. MIN.	CONT.	SPACE 5' O.C.
ILE MES	ILEX x MESERVAE 'MESOG'	CHINA GIRL HOLLY	36" HT. MIN.	CONT.	SPACE 6' O.C.
PHY OPU	PHYSOCARPUS OPULIFOLIUS	EASTERN NINEBARK	36" HT. MIN.	CONT.	SPACE 5' O.C.
SPI BUM	SPIRAEA x BUMALDA 'ANTHONY WATERER'	ANTHONY WATERER SPIREA	36" HT. MIN.	CONT.	SPACE 4' O.C.
TAX MED	TAXUS x MEDIA 'DENSIFORMIS'	DENSE YEW	36" HT. MIN.	CONT.	SPACE 6' O.C.
VIB BUR	VIBURNUM x BURKWOODI	BURKWOOD VIBURNUM	36" HT. MIN.	CONT.	SPACE 5' O.C.
TURFGRASS SEED: SEE SPECIFICATIONS					

SEAL:

NO. DATE DESCRIPTION
1 06/27/2022 ZONING FINAL DEVELOPMENT PLAN

SPRINGDALE INDUSTRIAL
SPRINGDALE, OHIO

PROJECT NO: 210043.000

DATE: 2022-06-20

SCALE:

SHEET NAME:

LANDSCAPE DETAILS

SHEET NO.

L101

PLANTING SOIL SPECIFICATION

THE ENGINEER SHALL BE NOTIFIED PRIOR TO BEGINNING PLANTING OPERATIONS.

REFER TO THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS (CURRENT EDITION) AND ALL CONSTRUCTION WORK SHALL BE DONE ACCORDING TO SAID SPECIFICATIONS AND IN ACCORDANCE WITH APPLICABLE STANDARDS OF THE GOVERNING AGENCIES. WHEN IN CONFLICT, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN.

GENERAL: THE CONTRACTOR IS RESPONSIBLE FOR BALANCING THE SITE EARTHWORK BY IMPORTING, EXPORTING, OR AMENDING ONSITE TOPSOIL AS NECESSARY TO ACHIEVE DESIGN GRADES AND SPECIFICATIONS.

SOIL-TESTING LABORATORY QUALIFICATIONS:
AN INDEPENDENT LABORATORY OR UNIVERSITY LABORATORY, RECOGNIZED BY THE STATE DEPARTMENT OF AGRICULTURE, WITH THE EXPERIENCE AND CAPABILITY TO CONDUCT THE TESTING INDICATED AND THAT SPECIALIZES IN TYPES OF TESTS TO BE PERFORMED.

SOIL ANALYSIS:
FOR EACH UNAMENDED SOIL TYPE, FURNISH SOIL ANALYSIS AND A WRITTEN REPORT BY A QUALIFIED SOIL-TESTING LABORATORY STATING PERCENTAGES OF ORGANIC MATTER; GRADATION OF SAND, SILT, AND CLAY CONTENT; CATION EXCHANGE CAPACITY; DELETERIOUS MATERIAL; PH; AND MINERAL AND PLANT-NUTRIENT CONTENT OF THE SOIL. TESTING METHODS AND WRITTEN RECOMMENDATIONS SHALL COMPLY WITH USDA'S HANDBOOK NO. 60. THE SOIL-TESTING LABORATORY SHALL OVERSEE SOIL SAMPLING, WITH DEPTH, LOCATION, AND NUMBER OF SAMPLES TO BE TAKEN PER INSTRUCTIONS FROM ARCHITECT. A MINIMUM OF THREE REPRESENTATIVE SAMPLES SHALL BE TAKEN FROM VARIED LOCATIONS FOR EACH SOIL TO BE USED OR AMENDED FOR PLANTING PURPOSES. REPORT SUITABILITY OF TESTED SOIL FOR PLANT AND TURF GROWTH SPECIFIC TO THIS PROJECT, BASED ON THE TEST RESULTS, STATE RECOMMENDATIONS FOR SOIL TREATMENTS AND SOIL AMENDMENTS TO BE INCORPORATED. STATE RECOMMENDATIONS IN WEIGHT PER 1000 SQ. FT. OR VOLUME PER CU. YD. FOR NITROGEN, PHOSPHORUS, AND POTASH NUTRIENTS AND SOIL AMENDMENTS TO BE ADDED TO PRODUCE SATISFACTORY PLANTING SOIL SUITABLE FOR HEALTHY, VIABLE PLANTS. REPORT PRESENCE OF PROBLEM SALTS, MINERALS, OR HEAVY METALS, INCLUDING ALUMINUM, ARSENIC, BARIUM, CADMIUM, CHROMIUM, COBALT, LEAD, LITHIUM, AND VANADIUM. IF SUCH PROBLEM MATERIALS ARE PRESENT, PROVIDE ADDITIONAL RECOMMENDATIONS FOR CORRECTIVE ACTION.

PLANTING SOIL:
TOPSOIL STOCKPILED FROM ON-SITE STRIPPING SHALL BE UTILIZED FOR REUSE. AMEND ALL TOPSOIL ON-SITE BY MIXING WITH SAND AND COMPOST TO MANUFACTURE SPECIFIED SOIL MIX. IN THE EVENT THAT THERE IS AN INSUFFICIENT AMOUNT OF ON-SITE TOPSOIL TO COMPLETE THE PROJECT, ADDITIONAL TOPSOIL FROM OFF-SITE SOURCES SHALL BE PROVIDED FOR MIXING WITH SAND AND COMPOST TO MANUFACTURE THE SPECIFIED SOIL MIX. ANY AMENDMENTS USED TO MANUFACTURE A SOIL TO BE IMPORTED SHALL MEET THE SPECIFICATIONS DEFINED BELOW.

AMENDED TOPSOIL:
THE ON-SITE SOIL, OR ANY IMPORTED TOPSOIL SHALL BE AMENDED WITH THE SPECIFIED SAND OR COMPOST TO PRODUCE A SOIL MEETING THE FOLLOWING CRITERION, AS DETERMINED BY ASTM F1632 OR D422.

- SAND: (0.05 TO 2.0 MM) 65% - 75%, WITH AT LEAST 50% OF THE TOTAL SAND FALLING INTO THE MEDIUM AND COARSE SAND FRACTIONS AND NO MORE THAN 25% OF THE TOTAL SAND IN THE FIN AND VERY FINE SAND FRACTIONS.
- SILT: (0.002 TO 0.05 MM) 15% - 25%
- CLAY: (<0.002 MM) 0% - 15%
- GRAVEL: (>2.0 MM) <15% MAXIMUM SIZE SHALL BE THREE EIGHTS (3/8") INCHES LARGEST DIAMETER

THE AMENDED SOIL SHALL HAVE AN ORGANIC MATTER CONTENT OF 5 TO 6% (BY WEIGHT) AS DETERMINED BY ASTM F1632. FOR BIDDING PURPOSES, THE AMOUNT OF COMPOST REQUIRED TO INCREASE THE ORGANIC MATTER CONTENT TO MEET THE SPECIFICATIONS CAN RANGE FROM 30 TO 50% BY VOLUME, DEPENDING ON THE QUALITY OF THE COMPOST.

RATIO OF THE PARTICLE SIZE FOR 80% PASSING (D80) TO THE PARTICLE SIZE FOR 30% PASSING (D30) SHALL BE 5.5 OR LESS (D80/D30 <8).

THE AMENDED SOIL SHALL HAVE A MINIMUM PERCOLATION RATE OF 0.50-INCH PER HOUR WITH THE SOIL COMPACTED TO 88% OF MAXIMUM STANDARD PROCTOR DENSITY (ASTM D698).

THE PLANTING SOIL MEETING THIS SPECIFICATION SHALL SERVE AS THE BASELINE FOR SUBSEQUENT QUALITY CONTROL TESTING. SAMPLES SHALL BE TAKEN EVERY 1000 YARDS FOR CONFORMITY TO THE SPECIFICATIONS. QUALITY CONTROL TESTING SHALL INCLUDE ORGANIC MATTER CONTENT AND PARTICLE SIZE ANALYSIS.

THE FINAL SOIL MIX SHALL BE SUBMITTED TO TESTING AGENCY TO DETERMINE THE FERTILITY STATUS OF THE SOIL.

SAND SHALL BE BLENDED INTO THE TOPSOIL IN THE PROPER AMOUNT TO ACHIEVE THE PARTICLE SIZE DISTRIBUTION DESCRIBED IN THESE SPECIFICATIONS. SAND FOR USE AS A SOIL AMENDMENT SHALL BE WASHED NATURAL OR CLASSIFIED SAND MEETING THE FOLLOWING PARTICLE SIZE DISTRIBUTION AS DETERMINED BY ASTM C-136 OR F1632. IN ADDITION, THE SAND SHALL HAVE A COEFFICIENT OF UNIFORMITY (U) OF LESS THAN 4.0.

SIEVE	SIEVE SIZE	% PASSING
NO. 4	4.75 MM	100%
NO. 8	2.38 MM	90 - 100%
NO. 16	1.19 MM	80 - 100%
NO. 30	0.60 MM	25 - 60%
NO. 50	0.30 MM	0 - 25%
NO. 100	0.15 MM	0 - 5%
NO. 270	0.075 MM	0 - 3%

PLANTING SOIL MAY BE ALTERED, UPON APPROVAL OF THE ENGINEER, BY ADDING APPROVED CONDITIONERS. CONDITIONERS SHALL CONFORM TO ODOT ITEM 653 AS DETERMINED BY THE ENGINEER.

MIXING PLANTING SOIL: SOIL ADDITIVES SHALL BE THOROUGHLY INCORPORATED INTO PLANTING SOIL BY HARROWING OR OTHER METHODS STANDARD TO THE INDUSTRY. CORRECT DEFICIENCIES IN SOIL AS DIRECTED BY HORTICULTURAL SOIL TEST RESULTS. THOROUGHLY INCORPORATE AMENDMENTS INTO PLANTING MIXTURE TO ENSURE EVEN DISTRIBUTION.

PREPARATION OF THE SUBGRADE IN LANDSCAPE AREAS:
PRIOR TO THE PLACEMENT OF PLANTING SOIL AND THE ESTABLISHMENT OF THE FINISHED GRADE, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER TO INSPECT THE SUBGRADE FOR SUITABILITY FOR PLANTING. IF SUBSURFACE BEDROCK, SHALE, OR OTHER OBSTRUCTIONS ARE ENCOUNTERED IN THE SUBGRADE, THE ENGINEER MAY SELECT ALTERNATE LOCATIONS FOR PLANT PLACEMENTS. WHERE LOCATIONS CANNOT BE CHANGED, THE UNSUITABLE MATERIAL OR OBSTRUCTION SHALL BE REMOVED TO A DEPTH, NO LESS, THAN 6" BELOW BOTTOM OF THE ROOT BALL WHEN THE PLANT IS PROPERLY SET AT THE REQUIRED GRADE. THE ADDITIONAL EXCAVATION SHALL BE FILLED WITH A SUITABLE CLEAN SOIL MATERIAL FREE OF ROCK AND CONSTRUCTION DEBRIS AND SUITABLE FOR THE PLANTING SUBGRADE AS DETERMINED BY THE ENGINEER.

PLANTING SOIL PLACEMENT: PLACE PLANTING SOIL IN TWO LIFTS. PLACE THE FIRST LIFT TO A DEPTH OF 2 INCHES AND HARROW OR TILL THE LOAM INTO THE UNDERLYING SUBSOIL TO A DEPTH OF 2 INCHES, CREATING A BLENDED INTERFACE OF LOAM AND SUBSOIL APPROXIMATELY 4 INCHES DEEP. THE CONTRACTOR SHALL INSTALL PLANTING SOIL IN SUCCESSIVE HORIZONTAL LIFTS NO THICKER THAN 6 INCHES IN TURF AREAS AND 12 INCHES IN PLANT BED AREAS TO THE DESIRE COMPACTION AS DESCRIBED HEREIN. THE CONTRACTOR SHALL INSTALL THE SOIL AT A HIGHER LEVEL TO ANTICIPATE ANY REDUCTION OF PLANTING SOIL VOLUME DUE TO COMPACTION, SETTLING, EROSION, DECOMPOSITION, AND OTHER SIMILAR PROCESSES DURING THE WARRANTY PERIOD.

PLANTING SOIL DEPTHS: LARGE CANOPY TREES AND EVERGREENS:	
SINGLE TREES:	500 CUBIC FEET PER TREE
TREES IN GROUPS OF 2 OR MORE:	350 CUBIC FEET PER TREE

FLOWERING AND ORNAMENTAL TREES:	
SINGLE TREES:	300 CUBIC FEET PER TREE
TREES IN GROUPS OF 2 OR MORE:	200 CUBIC FEET PER TREE

PLANTING SOIL SHALL BE PLACED TO A DEPTH OF 12 INCHES IN ALL PLANTING BEDS CONTAINING SHRUBS, PERENNIALS, ORNAMENTAL GRASSES AND GROUNDCOVER. PLANTING SOIL SHALL BE A MINIMUM OF 6 INCHES IN DEPTH IN ALL TURF GRASS AREAS.

PREPARATION OF FINISHED GRADE:
THE PREPARATION OF PLANTING AREAS MAY BEGIN PRIOR TO THE SPECIFIED PLANTING SEASON PROVIDED THE FINISHED GRADE HAS BEEN ESTABLISHED BY THE ENGINEER, AND THE CONTRACTOR HAS PROVIDED THAT IN THE JUDGEMENT OF THE ENGINEER, THE GENERAL CONSTRUCTION WORK IS SUFFICIENTLY ADVANCED.

TURF AND GRASSES SPECIFICATION

- DEFINITIONS
- FINISH GRADE: ELEVATION OF FINISHED SURFACE OF PLANTING SOIL.
 - PESTICIDE: A SUBSTANCE OR MIXTURE INTENDED FOR PREVENTING, DESTROYING, REPELLING, OR MITIGATING A PEST. PESTICIDES INCLUDE INSECTICIDES, MITICIDES, HERBICIDES, FUNGICIDES, RODENTICIDES, AND MOLLUSCICIDES. THEY ALSO INCLUDES SUBSTANCES OR MIXTURES INTENDED FOR USE AS A PLANT REGULATOR, DEFOLIANT, OR DESICCANT.
 - PESTS: LIVING ORGANISMS THAT OCCUR WHERE THEY ARE NOT DESIRED OR THAT CAUSE DAMAGE TO PLANTS, ANIMALS, OR PEOPLE. PESTS INCLUDE INSECTS, MITES, GRUBS, MOLLUSKS (SNAILS AND SLUGS), RODENTS (GOPHERS, MOLES, AND MICE), UNWANTED PLANTS (WEEDS), FUNGI, BACTERIA, AND VIRUSES.
 - PLANTING SOIL: EXISTING, ON-SITE SOIL, IMPORTED SOIL, OR MANUFACTURED SOIL THAT HAS BEEN MODIFIED WITH SOIL AMENDMENTS AND PERHAPS FERTILIZERS TO PRODUCE A SOIL MIXTURE BEST FOR PLANT GROWTH. SEE SECTION 329113 "SOIL PREPARATION."
 - SUBGRADE: THE SURFACE OR ELEVATION OF SUBSOIL REMAINING AFTER EXCAVATION IS COMPLETE, OR THE TOP SURFACE OF A FILL OR BACKFILL BEFORE PLANTING SOIL IS PLACED.

PREINSTALLATION MEETINGS: PREINSTALLATION CONFERENCE: CONDUCT CONFERENCE AT PROJECT SITE.

- SUBMITTALS
- QUALIFICATION DATA: FOR LANDSCAPE INSTALLER.
 - CERTIFICATION OF GRASS SEED: FROM SEED VENDOR FOR EACH GRASS-SEED MONOSTAND OR MIXTURE, STATING THE BOTANICAL AND COMMON NAME, PERCENTAGE BY WEIGHT OF EACH SPECIES AND VARIETY, AND PERCENTAGE OF PURITY, GERMINATION, AND WEED SEED. INCLUDE THE YEAR OF PRODUCTION AND DATE OF PACKAGING.
 - CERTIFICATION OF EACH SEED MIXTURE FOR TURFGRASS SOD, INCLUDE IDENTIFICATION OF SOURCE AND NAME AND TELEPHONE NUMBER OF SUPPLIER.
 - PRODUCT CERTIFICATES: FOR FERTILIZERS, FROM MANUFACTURER.
 - PESTICIDES AND HERBICIDES: PRODUCT LABEL AND MANUFACTURER'S APPLICATION INSTRUCTIONS SPECIFIC TO PROJECT.
 - MAINTENANCE DATA: RECOMMENDED PROCEDURES TO BE ESTABLISHED BY OWNER FOR MAINTENANCE OF TURF DURING A CALENDAR YEAR. SUBMIT BEFORE EXPIRATION OF REQUIRED MAINTENANCE PERIODS.

QUALITY ASSURANCE
INSTALLER QUALIFICATIONS: A QUALIFIED LANDSCAPE INSTALLER WHOSE WORK HAS RESULTED IN SUCCESSFUL TURF ESTABLISHMENT.

- PROFESSIONAL MEMBERSHIP: INSTALLER SHALL BE A MEMBER IN GOOD STANDING OF EITHER THE PROFESSIONAL LANDSCAPE NETWORK OR THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION.
- EXPERIENCE: FIVE YEARS' EXPERIENCE IN TURF INSTALLATION.
- INSTALLER'S FIELD SUPERVISION: REQUIRE INSTALLER TO MAINTAIN AN EXPERIENCED FULL-TIME SUPERVISOR ON PROJECT SITE WHEN WORK IS IN PROGRESS.
- PERSONNEL CERTIFICATIONS: INSTALLER'S FIELD SUPERVISOR SHALL HAVE CERTIFICATION IN ALL OF THE FOLLOWING CATEGORIES FROM THE PROFESSIONAL LANDSCAPE NETWORK:
 - LANDSCAPE INDUSTRY CERTIFIED TECHNICIAN - EXTERIOR,
 - LANDSCAPE INDUSTRY CERTIFIED LAWN CARE MANAGER,
 - LANDSCAPE INDUSTRY CERTIFIED LAWN CARE TECHNICIAN.
- PESTICIDE APPLICATOR: STATE LICENSED, COMMERCIAL.

DELIVERY, STORAGE, AND HANDLING
SEED AND OTHER PACKAGED MATERIALS: DELIVER PACKAGED MATERIALS IN ORIGINAL, UNOPENED CONTAINERS SHOWING WEIGHT, CERTIFIED ANALYSIS, NAME AND ADDRESS OF MANUFACTURER, AND INDICATION OF COMPLIANCE WITH STATE AND FEDERAL LAWS, AS APPLICABLE.

SOD: HARVEST, DELIVER, STORE, AND HANDLE SOD ACCORDING TO REQUIREMENTS IN "SPECIFICATIONS FOR TURFGRASS SOD MATERIALS" AND "SPECIFICATIONS FOR TURFGRASS SOD TRANSPLANTING AND INSTALLATION" SECTIONS IN TPT'S "GUIDELINE SPECIFICATIONS TO TURFGRASS SODS." DELIVER SODS WITHIN 24 HOURS OF HARVESTING AND IN TIME FOR PLANTING PROMPTLY. PROTECT SOD FROM BREAKAGE AND DRYING.

- BULK MATERIALS:
- DO NOT DUMP OR STORE BULK MATERIALS NEAR STURTESS, UTILITIES, WALKWAYS AND PAVEMENTS, OR ON EXISTING TURF AREAS OR PLANTS.
 - PROVIDE EROSION-CONTROL MEASURES TO PREVENT EROSION OR DISPLACEMENT OF BULK MATERIALS, DISCHARGE OF SOIL-BEARING WATER RUNOFF, AND AIRBORNE DUST REACHING ADJACENT PROPERTIES, WATER CONVEYANCE SYSTEMS, OR WALKWAYS.
 - ACCOMPANY EACH DELIVERY OF BULK MATERIALS WITH APPROPRIATE CERTIFICATES.

FIELD CONDITIONS
PLANTING RESTRICTIONS: PLANT DURING ONE OF THE FOLLOWING PERIODS. COORDINATE PLANTING PERIODS WITH INITIAL MAINTENANCE PERIODS TO PROVIDE REQUIRED MAINTENANCE FROM DATE OF SUBSTANTIAL COMPLETION.

- SPRING PLANTING: MARCH 15 TO JUNE 1
- FALL PLANTING: AUGUST 15 TO OCTOBER 15.

WEATHER LIMITATIONS: PROCEED WITH PLANTING ONLY WHEN EXISTING AND FORECASTED WEATHER CONDITIONS PERMIT PLANTING TO BE PERFORMED WHEN BENEFICIAL AND OPTIMUM RESULTS MAY BE OBTAINED. APPLY PRODUCTS DURING FAVORABLE WEATHER CONDITIONS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.

SEED
GRASS SEED: FRESH, CLEAN, DRY, NEW-CROP SEED COMPLYING WITH AOSA'S "RULES FOR TESTING SEEDS" FOR PURITY AND GERMINATION TOLERANCES.

SEED MIX: SEED OF GRASS SPECIES AS FOLLOWS, WITH NOT LESS THAN 95 PERCENT GERMINATION, NOT LESS THAN 100 PERCENT PURE SEED, AND COMPLETELY FREE OF NOXIOUS WEEDS AND GRASSES. THE MIXTURE SHALL BE AS FOLLOWS OR AN APPROVED EQUAL: (MIXTURE SHALL RATE IN NUTRIPS TOP TEN, CONTRACTOR TO PROVIDE INFORMATION ON GRASS SEED STATING IT MEETS NUTRIPS TOP TEN LIST)

- 80-90 PERCENT TURF-TYPE TALL FESCUE, MINIMUM 3 VARIETIES (15 PERCENT MINIMUM FOR ANY VARIETY).
- 5-10 PERCENT PERENNIAL RYEGRASS.
- 5-10 PERCENT KENTUCKY BLUEGRASS.

- FERTILIZERS
- COMMERCIAL FERTILIZER: COMMERCIAL-GRADE COMPLETE FERTILIZER OF NEUTRAL CHARACTER, CONSISTING OF QUICK RELEASE NITROGEN SOURCE, PHOSPHATE, AND POTASH. APPLY NITROGEN, PHOSPHATE, AND POTASH IN THE AMOUNTS RECOMMENDED IN THE SOIL REPORTS FROM A QUALIFIED TESTING AGENCY.
 - SLOW-RELEASE FERTILIZER: GRANULAR FERTILIZER CONSISTING OF A MINIMUM OF 50 PERCENT WATER-INSOLUBLE NITROGEN OR COATED NITROGEN SOURCE, PHOSPHATE, AND POTASH. APPLY NITROGEN, PHOSPHATE AND POTASH IN THE AMOUNTS RECOMMENDED IN THE SOIL REPORTS FROM A QUALIFIED TESTING AGENCY.

MULCHES

- STRAW MULCH: PROVIDE AIR-DRY, CLEAN, MILDEW- AND SEED-FREE, SALT HAY OR THRESHED STRAW OF WHEAT, RYE, OATS, OR BARLEY.

- PESTICIDES
- GENERAL: PESTICIDE, REGISTERED AND APPROVED BY THE EPA, ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, AND OF TYPE RECOMMENDED BY MANUFACTURER FOR EACH SPECIFIC PROBLEM AND AS REQUIRED FOR PRECISE CONDITIONS AND APPLICATION. DO NOT USE RESTRICTED PESTICIDES UNLESS AUTHORIZED IN WRITING BY AUTHORITIES HAVING JURISDICTION.
- PRE-EMERGENT HERBICIDE (SELECTIVE AND NONSELECTIVE): EFFECTIVE FOR CONTROLLING THE GERMINATION OR GROWTH OF WEEDS WITHIN PLANTED AREAS AT THE SOIL LEVEL DIRECTLY BELOW THE MULCH LAYER.
 - POST-EMERGENT HERBICIDE (SELECTIVE AND NONSELECTIVE): EFFECTIVE FOR CONTROLLING WEED GROWTH THAT HAS ALREADY GERMINATED.

- EROSION-CONTROL MATERIALS
- EROSION-CONTROL BLANKETS: BIODEGRADABLE WOOD EXCELISIOR, STRAW, OR COCONUT FIBER MAT ENCLOSED IN A NONDEGRADABLE PLASTIC MESH, INCLUDE MANUFACTURER'S RECOMMENDED STAPLE WIRE STAPLES, 6 INCHES LONG.
 - EROSION-CONTROL FIBER MESH: BIODEGRADABLE BURLAP OR SPUN-COIR MESH; A MINIMUM OF 0.92 LB/SQ. YD., WITH 50 TO 65 PERCENT OPEN AREA. INCLUDE MANUFACTURER'S RECOMMENDED STAPLE WIRE STAPLES, 6 INCHES LONG.

- EXAMINATION
- EXAMINE AREAS TO BE PLANTED FOR COMPLIANCE WITH REQUIREMENTS AND OTHER CONDITIONS AFFECTING INSTALLATION AND PERFORMANCE OF THE WORK.
- VERIFY THAT NO FOREIGN OR DELETERIOUS MATERIAL OR LIQUID SUCH AS PAINT, PAINT WASHOUT, CONCRETE SLURRY, CONCRETE LAYERS OR CHUNKS, CEMENT, PLASTER, OILS, GASOLINE, DIESEL FUEL, PAINT THINNER, TURPENTINE, TAR, ROOFING COMPOUND, OR ACID HAS BEEN DEPOSITED IN SOIL WITHIN A PLANTING AREA.
 - SUSPEND PLANTING OPERATIONS DURING PERIODS OF EXCESSIVE SOIL MOISTURE UNTIL THE MOISTURE CONTENT REACHES ACCEPTABLE LEVELS TO ATTAIN THE REQUIRED RESULTS.
 - UNIFORMLY MOISTEN EXCESSIVELY DRY SOIL THAT IS NOT WORKABLE OR WHICH IS DUSTY.
 - PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
 - IF CONTAMINATION BY FOREIGN OR DELETERIOUS MATERIAL OR LIQUID IS PRESENT IN SOIL WITHIN A PLANTING AREA, REMOVE THE SOIL AND CONTAMINATION AS DIRECTED BY ARCHITECT AND REPLACE WITH NEW PLANTING SOIL.

- PREPARATION
- PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, AND OTHER FACILITIES, TREES, SHRUBS, AND PLANTINGS FROM DAMAGE CAUSED BY PLANTING OPERATIONS.
 - PROTECT ADJACENT AND ADJOINING AREAS FROM HYDROSEEDING AND HYDROMULCHING OVERSPRAY.
 - PROTECT GRADE STAKES SET BY OTHERS UNTIL DIRECTED TO REMOVE THEM.
 - INSTALL 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.

TURF AREA PREPARATION
GENERAL: PREPARE PLANTING AREA FOR SOIL PLACEMENT AND MIX PLANTING SOIL PER "PLANTING SOIL" SPECIFICATION.

- PLACING PLANTING SOIL: PLACE AND MIX PLANTING SOIL PER "PLANTING SOIL" SPECIFICATION.
- GRADE PLANTING AREAS TO A SMOOTH, UNIFORM SURFACE PLANE WITH LOOSE, UNIFORMLY FINE TEXTURE. GRADE TO WITHIN PLUS OR MINUS 1/2 INCH OF FINISH ELEVATION. ROLL AND RAKE, REMOVE RIDGES, AND FILL DEPRESSIONS TO MEET FINISH GRADES. LIMIT FINISH GRADING TO AREAS THAT CAN BE PLANTED IN THE IMMEDIATE FUTURE. MOISTEN PREPARED AREA BEFORE PLANTING IF SOIL IS DRY. WATER THOROUGHLY AND ALLOW SURFACE TO DRY BEFORE PLANTING. DO NOT CREATE MUDDY SOIL. BEFORE PLANTING, OBTAIN FIELD ENGINEER'S ACCEPTANCE OF FINISH GRADING; RESTORE PLANTING AREAS IF ERODED OR OTHERWISE DISTURBED AFTER FINISH GRADING.
- BEFORE PLANTING, OBTAIN ARCHITECT'S ACCEPTANCE OF FINISH GRADING; RESTORE PLANTING AREAS IF ERODED OR OTHERWISE DISTURBED AFTER FINISH GRADING.

- PREPARATION FOR EROSION-CONTROL MATERIALS
- PREPARE AREA AS SPECIFIED ABOVE.
 - FOR EROSION-CONTROL BLANKET OR MESH, INSTALL FROM TOP OF SLOPE, WORKING DOWNWARD, AND AS RECOMMENDED BY MATERIAL MANUFACTURER FOR SITE CONDITIONS. FASTEN AS RECOMMENDED BY MATERIAL MANUFACTURER.
 - MOISTEN PREPARED AREA BEFORE PLANTING IF SURFACE IS DRY. WATER THOROUGHLY AND ALLOW SURFACE TO DRY BEFORE PLANTING. DO NOT CREATE MUDDY SOIL.

- SEEDING
- SOW SEED WITH SPREADER OR SEEDING MACHINE. DO NOT BROADCAST OR DROP SEED WHEN WIND VELOCITY EXCEEDS 5 MPH.
 - EVENLY DISTRIBUTE SEED BY SOWING EQUAL QUANTITIES IN TWO DIRECTIONS AT RIGHT ANGLES TO EACH OTHER.
 - DO NOT USE WET SEED OR SEED THAT IS MOLDY OR OTHERWISE DAMAGED.
 - DO NOT SEED AGAINST EXISTING TREES. LIMIT EXTENT OF SEED TO OUTSIDE EDGE OF PLANTING SAUCER.

- SOW SEED AT A TOTAL RATE OF 6 TO 8 LB/1000 SQ. FT..
- RAKE SEED LIGHTLY INTO TOP 1/8 INCH OF SOIL, ROLL LIGHTLY, AND WATER WITH FINE SPRAY.
- PROTECT SEEDS AREAS WITH SLOPES EXCEEDING 1:4 WITH EROSION-CONTROL BLANKETS AND 1:6 WITH EROSION-CONTROL FIBER MESH INSTALLED AND STAPLED ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.
- PROTECT SEEDS AREAS WITH SLOPES NOT EXCEEDING 1:6 BY SPREADING STRAW MULCH, SPREAD UNIFORMLY AT A MINIMUM RATE OF 2 TONS/ACRE TO FORM A CONTINUOUS BLANKET 1-1/2 INCHES IN LOOSE THICKNESS OVER SEEDED AREAS. SPREAD BY HAND, BLOWER, OR OTHER SUITABLE EQUIPMENT.
 - ANCHOR STRAW MULCH BY CRIMPING INTO SOIL WITH SUITABLE MECHANICAL EQUIPMENT.
- OVERSEED TURF AREA EIGHT (8) WEEKS AFTER INITIAL SEEDING OPERATION AT A RATE OF 5 LBS/1000 SQ. FT., IF INITIAL SEEDING HAS NOT PROVIDED A MINIMUM OF 90% COVERAGE OVER ANY 10 SQ. FT., OR IF BARE AREAS GREATER THE 5 BY 5 INCHES ARE PRESENT.

- TURF RENOVATION
- RENOVATE EXISTING TURF WHERE INDICATED.
 - RENOVATE TURF DAMAGED BY CONTRACTOR'S OPERATIONS, SUCH AS STORAGE OF MATERIALS OR EQUIPMENT AND MOVEMENT OF VEHICLES.
 - REESTABLISH TURF WHERE SETTLEMENT OR WASHOUTS OCCUR OR WHERE MINOR REGRADING IS REQUIRED.
 - INSTALL NEW PLANTING SOIL AS REQUIRED.

- REMOVE SOD AND VEGETATION FROM DISEASED OR UNSATISFACTORY TURF AREAS; DO NOT BURY IN SOIL.
- REMOVE TOPSOIL CONTAINING FOREIGN MATERIALS, SUCH AS OIL DRIPPINGS, FUEL SPILLS, STONES, GRAVEL, AND OTHER CONSTRUCTION MATERIALS RESULTING FROM CONTRACTOR'S OPERATIONS; AND REPLACE WITH NEW PLANTING SOIL.
- MOW, DETATCH, CORE AERATE, AND RAKE EXISTING TURF.
- REMOVE WEEDS BEFORE SEEDING. WHERE WEEDS ARE EXTENSIVE, APPLY SELECTIVE HERBICIDES AS REQUIRED. DO NOT USE PRE-EMERGENCE HERBICIDES.
- REMOVE WASTE AND FOREIGN MATERIALS, INCLUDING WEEDS, SOIL CORES, GRASS, VEGETATION, AND TURF, AND LEGALLY DISPOSE OF THEM OFF OWNER'S PROPERTY.
- TILL STRIPPED, BARE, AND COMPACTED AREAS THOROUGHLY TO A SOIL DEPTH OF 6 INCHES.
- APPLY INITIAL FERTILIZER REQUIRED FOR ESTABLISHING NEW TURF AND MIX THOROUGHLY INTO TOP 4 INCHES OF EXISTING SOIL, INSTALL NEW PLANTING SOIL TO FILL LOW SPOTS AND MEET FINISH GRADES.
 - INITIAL FERTILIZER: COMMERCIAL FERTILIZER APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

- APPLY SEED AND PROTECT WITH STRAW MULCH AS REQUIRED FOR NEW TURF.
- WATER NEWLY PLANTED AREAS AND KEEP MOIST UNTIL NEW TURF IS ESTABLISHED.

- TURF MAINTENANCE
- GENERAL: MAINTAIN AND ESTABLISH TURF BY WATERING, FERTILIZING, WEEDING, MOWING, TRIMMING, REPLANTING, AND PERFORMING OTHER OPERATIONS AS REQUIRED TO ESTABLISH HEALTHY, VIABLE TURF. ROLL, REGRADE, AND REPLANT BARE OR ERODED AREAS AND REMULCH TO PRODUCE A UNIFORMLY SMOOTH TURF. PROVIDE MATERIALS AND INSTALLATION THE SAME AS THOSE USED IN THE ORIGINAL INSTALLATION.
- FILL IN AS NECESSARY SOIL SUBSIDENCE THAT MAY OCCUR BECAUSE OF SETTLING OR OTHER PROCESSES. REPLACE MATERIALS AND TURF DAMAGED OR LOST IN AREAS OF SUBSIDENCE.
 - IN AREAS WHERE MULCH HAS BEEN DISTURBED BY WIND OR MAINTENANCE OPERATIONS, ADD NEW MULCH AND ANCHOR AS REQUIRED TO PREVENT DISPLACEMENT.
 - APPLY TREATMENTS AS REQUIRED TO KEEP TURF AND SOIL FREE OF PESTS AND PATHOGENS OR DISEASE. USE INTEGRATED PEST MANAGEMENT PRACTICES WHENEVER POSSIBLE TO MINIMIZE THE USE OF PESTICIDES AND REDUCE HAZARDS.

WATERING: INSTALL AND MAINTAIN TEMPORARY PIPING, HOSES, AND TURF-WATERING EQUIPMENT TO CONVEY WATER FROM SOURCES AND TO KEEP TURF UNIFORMLY MOIST TO A DEPTH OF 4 INCHES.

- SCHEDULE WATERING TO PREVENT WILTING, PUDDLING, EROSION, AND DISPLACEMENT OF SEED OR MULCH. LAY OUT TEMPORARY WATERING SYSTEM TO AVOID WALKING OVER MUDDY OR NEWLY PLANTED AREAS.
- WATER TURF WITH FINE SPRAY AT A MINIMUM RATE OF 1 INCH PER WEEK UNLESS RAINFALL PRECIPITATION IS ADEQUATE.

- MOW TURF AS SOON AS TOP GROWTH IS TALL ENOUGH TO CUT. REPEAT MOWING TO MAINTAIN SPECIFIED HEIGHT WITHOUT CUTTING MORE THAN ONE-THIRD OF GRASS HEIGHT. REMOVE NO MORE THAN ONE-THIRD OF GRASS-LEAF GROWTH IN INITIAL OR SUBSEQUENT MOWINGS. DO NOT DELAY MOWING UNTIL GRASS BLADES BEND OVER AND BECOME MATTED. DO NOT MOW WHEN GRASS IS WET. SCHEDULE INITIAL AND SUBSEQUENT MOWINGS TO MAINTAIN THE FOLLOWING GRASS HEIGHT:
- MOW TURF TO A HEIGHT OF 2 TO 3 INCHES.

- TURF POST-FERTILIZATION: APPLY FERTILIZER AFTER INITIAL MOWING AND WHEN GRASS IS DRY.
- USE FERTILIZER THAT PROVIDES ACTUAL NITROGEN OF 1 LB/1000 SQ. FT. TO TURF AREA.
 - SECOND APPLICATION FERTILIZER: APPLY SIX (6) WEEKS AFTER SEEDING OPERATIONS. PROVIDE A HIGH NITROGEN SLOW RELEASE FERTILIZER WITH AN ANALYSIS OF 30-5-10 OR SIMILAR. APPLY AT A RATE TO PROVIDE ACTUAL NITROGEN OF 1 LB/1000 SQ. FT. TO TURF AREA.

- SATISFACTORY TURF
- TURF INSTALLATIONS SHALL MEET THE FOLLOWING CRITERIA AS DETERMINED BY ARCHITECT:
- SATISFACTORY SEEDS TURF: AT END OF MAINTENANCE PERIOD, A HEALTHY, UNIFORM, CLOSE STAND OF GRASS HAS BEEN ESTABLISHED, FREE OF WEEDS AND SURFACE IRREGULARITIES, WITH COVERAGE EXCEEDING 90 PERCENT OVER ANY 10 SQ. FT. AND BARE SPOTS NOT EXCEEDING 5 BY 5 INCHES.

USE SPECIFIED MATERIALS TO REESTABLISH TURF THAT DOES NOT COMPLY WITH REQUIREMENTS, AND CONTINUE MAINTENANCE UNTIL TURF IS SATISFACTORY.

- PESTICIDE APPLICATION
- APPLY PESTICIDES AND OTHER CHEMICAL PRODUCTS AND BIOLOGICAL CONTROL AGENTS ACCORDING TO REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION AND MANUFACTURER'S WRITTEN RECOMMENDATIONS. COORDINATE APPLICATIONS WITH OWNER'S OPERATIONS AND OTHERS IN PROXIMITY TO THE WORK. NOTIFY OWNER BEFORE EACH APPLICATION IS PERFORMED.
 - POST-EMERGENT HERBICIDES (SELECTIVE AND NONSELECTIVE): APPLY ONLY AS NECESSARY TO TREAT ALREADY-GERMINATED WEEDS AND ACCORDING TO MANUFACTURER'S WRITTEN RECOMMENDATIONS.

- CLEANUP AND PROTECTION
- PROMPTLY REMOVE SOIL AND DEBRIS CREATED BY TURF WORK FROM PAVED AREAS, CLEAN WHEELS OF VEHICLES BEFORE LEAVING SITE TO AVOID TRACKING SOIL ONTO ROADS, WALKS, OR OTHER PAVED AREAS.
 - REMOVE SURPLUS SOIL AND WASTE MATERIAL, INCLUDING EXCESS SUBSOIL, UNSUITABLE SOIL, TRASH, AND DEBRIS TO BE LEGALLY DISPOSE OF THEM OFF OWNER'S PROPERTY.
 - ERECT TEMPORARY FENCING OR BARRICADES AND WARNING SIGNS AS REQUIRED TO PROTECT NEWLY PLANTED AREAS FROM TRAFFIC. MAINTAIN FENCING AND BARRICADES THROUGHOUT INITIAL MAINTENANCE PERIOD AND REMOVE AFTER PLANTINGS ARE ESTABLISHED.
 - REMOVE NONDEGRADABLE EROSION-CONTROL MEASURES AFTER GRASS ESTABLISHMENT PERIOD.

- MAINTENANCE SERVICE
- TURF MAINTENANCE SERVICE: PROVIDE FULL MAINTENANCE BY SKILLED EMPLOYEES OF LANDSCAPE INSTALLER. MAINTAIN AS REQUIRED IN "TURF MAINTENANCE" ARTICLE. BEGIN MAINTENANCE IMMEDIATELY AFTER EACH AREA IS PLANTED AND CONTINUE UNTIL ACCEPTABLE TURF IS ESTABLISHED, BUT FOR NOT LESS THAN THE FOLLOWING PERIODS:
- SEEDS TURF: 90 DAYS FROM DATE OF [PLANTING COMPLETION] [SUBSTANTIAL COMPLETION].
 - WHEN INITIAL MAINTENANCE PERIOD HAS NOT ELAPSED BEFORE END OF PLANTING SEASON, OR IF TURF IS NOT FULLY ESTABLISHED, CONTINUE MAINTENANCE DURING NEXT PLANTING SEASON.

SITE FURNISHINGS
SECTION INCLUDES BICYCLE RACKS.

SUBMITTALS:
PRODUCT DATA: FOR EACH TYPE OF PRODUCT.

SAMPLES FOR VERIFICATION: FOR EACH TYPE OF EXPOSED COLOR, PATTERN, OR TEXTURE INDICATED.

INFORMATIONAL SUBMITTALS
MATERIAL CERTIFICATES: FOR SITE FURNISHINGS.

CLOSEOUT SUBMITTALS
MAINTENANCE DATA: FOR SITE FURNISHINGS TO INCLUDE IN MAINTENANCE MANUALS.

MAINTENANCE MATERIAL SUBMITTALS
FURNISH EXTRA MATERIALS THAT MATCH PRODUCTS INSTALLED AND THAT ARE PACKAGED WITH PROTECTIVE COVERING FOR STORAGE AND IDENTIFIED WITH LABELS DESCRIBING CONTENTS.

- ANCHORS: ONE SET FOR EACH TYPE OF UNIT INDICATED.

- BICYCLE RACK BASIS-OF-DESIGN:
- MANUFACTURER: LANDSCAPE FORMS; (800) 521-2548.
 - STYLE: LOOP BICYCLE RACK.
 - COLOR: SUBMIT MANUFACTURERS FULL COLOR RANGE FOR APPROVAL.
 - INSTALLATION: EMBEDDED
 - PROVIDED ABOVE LISTED ITEM OR APPROVED EQUAL.

MATERIALS
FRAME - ALUMINUM CASTING, ASTM B108.
EMBEDDED HARDWARE PACK - (4) 5/16-18 UNC 2A FULLY THREADED RODS, 4" LENGTH, WITH MAGNI-COAT.

FABRICATION: SHOP ASSEMBLES BICYCLE RACK.

EXPOSED SURFACES: SANDED, OR OTHERWISE FINISHED; ALL SURFACES SMOOTH, FREE OF BURRS, BARBS, AND SHARPNESS; ALL EDGES AND ENDS ROLLED, ROUNDED.

ASSEMBLY: FULLY ASSEMBLE COMPONENTS IN FACTORY.

GENERAL FINISH REQUIREMENTS
APPEARANCE OF FINISHED WORK: NOTICEABLE VARIATIONS IN SAME PIECE ARE NOT ACCEPTABLE. VARIATIONS IN APPEARANCE OF ADJOINING COMPONENTS ARE ACCEPTABLE IF THEY ARE WITHIN THE RANGE OF APPROVED SAMPLES AND ARE ASSEMBLED OR INSTALLED TO MINIMIZE CONTRAST.

- METAL FINISHES:
- PROVIDED ABOVE LISTED ITEM OR APPROVED EQUAL.
 - TOPCOAT: THERMOSETTING TGIC POLYESTER POWDER COAT, UV, CHIP, AND FLAKE RESISTANT; FINISH COMPLYING WITH FINISH MANUFACTURER'S WRITTEN INSTRUCTIONS FOR SURFACE PREPARATION, INCLUDING PRETREATMENT, APPLICATION, BAKING, AND MINIMUM DRY FILM THICKNESS.
 - TEST RESULTS: PANGARD II, MANUFACTURERS STANDARD.

EXAMINATION
EXAMINE AREAS AND CONDITIONS, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR CORRECT AND LEVEL FINISHED GRADE, MOUNTING SURFACES. INSTALLATION TOLERANCE: NO OTHER CONDITIONS AFFECTING PERFORMANCE OF THE WORK. NOTIFY ARCHITECT OF CONDITIONS THAT WOULD ADVERSLEY AFFECT INSTALLATION OR SUBSEQUENT USE.

PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

INSTALLATION, GENERAL
COMPLY WITH MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS UNLESS MORE STRINGENT REQUIREMENTS ARE INDICATED. COMPLETE FIELD ASSEMBLY OF SITE FURNISHINGS WHERE REQUIRED.

UNLESS OTHERWISE INDICATED, INSTALL SITE FURNISHINGS AFTER LANDSCAPING AND PAVING HAVE BEEN COMPLETED.

INSTALL SITE FURNISHINGS LEVEL, PLUMB, TRUE, AND SECURELY ANCHORED AND POSITIONED AT LOCATIONS INDICATED ON DRAWINGS.



THE KLEINGERS GROUP

CIVIL ENGINEERING SURVEYING LANDSCAPE ARCHITECTURE

6219 Centre Park Dr.
West Chester, OH 45069
513.770.7851

www.kleingers.com

SEAL:

NO. DATE DESCRIPTION
1 06/27/2022 ZONING FINAL DEVELOPMENT PLAN

PROJECT NO: 210043.000

DATE: 2022-06-20

SCALE:

SHEET NAME:

LANDSCAPE SPECIFICATIONS

SHEET NO:

L102

PLANT SPECIFICATION

- DEFINITIONS
- BACKFILL: THE EARTH USED TO REPLACE OR THE ACT OF REPLACING EARTH IN AN EXCAVATION.
 - BALLED AND BURLAPPED STOCK: PLANTS DUG WITH FIRM, NATURAL BALLS OF EARTH IN WHICH THEY WERE GROWN, WITH A BALL SIZE NOT LESS THAN DIAMETER AND DEPTH RECOMMENDED BY ANSI Z60.1 FOR TYPE AND SIZE OF PLANT REQUIRED; WRAPPED WITH BURLAP, TIED, RIGIDLY SUPPORTED, AND DRUM LACED WITH TWINE WITH THE ROOT FLARE VISIBLE AT THE SURFACE OF THE BALL AS RECOMMENDED BY ANSI Z60.1.
 - CONTAINER-GROWN STOCK: HEALTHY, VIGOROUS, WELL-ROOTED PLANTS GROWN IN A CONTAINER, WITH A WELL-ESTABLISHED ROOT SYSTEM REACHING SIDES OF CONTAINER AND MAINTAINING A FIRM BALL WHEN REMOVED FROM CONTAINER. CONTAINER SHALL BE RIGID ENOUGH TO HOLD BALL SHAPE AND PROTECT ROOT MASS DURING SHIPPING AND BE SIZED ACCORDING TO ANSI Z60.1 FOR TYPE AND SIZE OF PLANT REQUIRED.
 - FINISH GRADE: ELEVATION OF FINISHED SURFACE OF PLANTING SOIL.
 - PESTICIDE: A SUBSTANCE OR MIXTURE INTENDED FOR PREVENTING, DESTROYING, REPELLING, OR MITIGATING A PEST. PESTICIDES INCLUDE INSECTICIDES, MITICIDES, HERBICIDES, FUNGICIDES, RODENTICIDES, AND MOLLUSCICIDES; THEY ALSO INCLUDE SUBSTANCES OR MIXTURES INTENDED FOR USE AS PLANT REGULATOR, DEFOLIANT, OR DESICCANT. SOME SOURCES CLASSIFY HERBICIDES SEPARATELY FROM PESTICIDES.
 - PESTS: LIVING ORGANISMS THAT OCCUR WHERE THEY ARE NOT DESIRED OR THAT CAUSE DAMAGE TO PLANTS, ANIMALS, OR PEOPLE. PESTS INCLUDE INSECTS, MITES, GRUBS, MOLLUSKS (SNAILS AND SLUGS), RODENTS (GOPHERS, MOLES, AND MICE), UNWANTED PLANTS (WEEDS), FUNGI, BACTERIA, AND VIRUSES.
 - PLANTING AREA: AREAS TO BE PLANTED.
 - PLANTING SOIL: EXISTING, ON-SITE SOIL; IMPORTED SOIL; OR MANUFACTURED SOIL THAT HAS BEEN MODIFIED WITH SOIL AMENDMENTS AND PERHAPS FERTILIZERS TO PRODUCE A SOIL MIXTURE BEST FOR PLANT GROWTH.
 - PLANT, PLANTS: PLANT MATERIAL: THESE TERMS REFER TO VEGETATION IN GENERAL, INCLUDING TREES, SHRUBS, VINES, GROUND COVERS, ORNAMENTAL GRASSES, BULBS, CORMS, TUBERS, OR HERBACEOUS VEGETATION.
 - ROOT FLARE: ALSO CALLED "TRUNK FLARE," THE AREA AT THE BASE OF THE PLANT'S STEM OR TRUNK WHERE THE STEM OR TRUNK BROADENS TO FORM ROOTS; THE AREA OF TRANSITION BETWEEN THE ROOT SYSTEM AND THE STEM OR TRUNK.
 - STEM GIRDLING ROOTS: ROOTS THAT ENIRCLE THE STEMS (TRUNKS) OF TREES BELOW THE SOIL SURFACE.
 - SUBGRADE: THE SURFACE OR ELEVATION OF SUBSOIL REMAINING AFTER EXCAVATION IS COMPLETE, OR THE TOP SURFACE OF A FILL OR BACKFILL BEFORE PLANTING SOIL IS PLACED.

COORDINATION

COORDINATION WITH TURF AREAS (LAWNS): PLANT TREES, SHRUBS, AND OTHER PLANTS AFTER FINISH GRADES ARE ESTABLISHED AND BEFORE PLANTING TURF AREAS UNLESS OTHERWISE INDICATED.

1. WHEN PLANTING TREES, SHRUBS, AND OTHER PLANTS AFTER PLANTING TURF AREAS, PROTECT TURF AREAS, AND PROMPTLY REPAIR DAMAGE CAUSED BY PLANTING OPERATIONS.

PREINSTALLATION CONFERENCE: CONDUCT CONFERENCE AT PROJECT SITE.

- ACTION SUBMITTALS
- PRODUCT DATA: FOR EACH TYPE OF PRODUCT.
- PLANT PHOTOGRAPHS: INCLUDE COLOR PHOTOGRAPHS IN DIGITAL FORMAT OF EACH REQUIRED SPECIES AND SIZE OF PLANT MATERIAL AS IT WILL BE FURNISHED TO PROJECT. TAKE PHOTOGRAPHS FROM AN ANGLE DEPICTING TRUE SIZE AND CONDITION OF THE TYPICAL PLANT TO BE FURNISHED. INCLUDE A SCALE ROD OR OTHER MEASURING DEVICE IN EACH PHOTOGRAPH. FOR SPECIES WHERE MORE THAN 20 PLANTS ARE REQUIRED, INCLUDE A MINIMUM OF THREE PHOTOGRAPHS SHOWING THE AVERAGE PLANT, THE BEST QUALITY PLANT, AND THE WORST QUALITY PLANT. TO BE FURNISHED. IDENTIFY EACH PHOTOGRAPH WITH THE FULL SCIENTIFIC NAME OF THE PLANT, PLANT SIZE, AND NAME OF THE GROWING NURSERY.
 - SAMPLES FOR VERIFICATION: FOR EACH OF THE FOLLOWING:
 - ORGANIC MULCH: 1-QUART VOLUME OF EACH ORGANIC MULCH REQUIRED; IN SEALED PLASTIC BAGS LABELED WITH COMPOSITION OF MATERIALS BY PERCENTAGE OF WEIGHT AND SOURCE OF MULCH. EACH SAMPLE SHALL BE TYPICAL OF THE LOT OF MATERIAL TO BE FURNISHED; PROVIDE AN ACCURATE REPRESENTATION OF COLOR, TEXTURE, AND ORGANIC MAKEUP.
 - SLOW-RELEASE, TREE-WATERING DEVICE: ONE UNIT OF EACH SIZE REQUIRED.

INFORMATIONAL SUBMITTALS

- QUALIFICATION DATA: FOR LANDSCAPE INSTALLER, INCLUDE LIST OF SIMILAR PROJECTS COMPLETED BY INSTALLER DEMONSTRATING INSTALLER'S CAPABILITIES AND EXPERIENCE. INCLUDE PROJECT NAMES, ADDRESSES, AND YEAR COMPLETED, AND INCLUDE NAMES AND ADDRESSES OF OWNERS' CONTACT PERSONS.
- PRODUCT CERTIFICATES: FOR EACH TYPE OF MANUFACTURED PRODUCT, FROM MANUFACTURER, AND COMPLYING WITH THE FOLLOWING:
 - MANUFACTURER'S CERTIFIED ANALYSIS OF STANDARD PRODUCTS.
 - ANALYSIS OF OTHER MATERIALS BY A RECOGNIZED LABORATORY MADE ACCORDING TO METHODS ESTABLISHED BY THE ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTS, WHERE APPLICABLE.
- PESTICIDES AND HERBICIDES: PRODUCT LABEL AND MANUFACTURER'S APPLICATION INSTRUCTIONS SPECIFIC TO PROJECT.
- SAMPLE WARRANTY: FOR SPECIAL WARRANTY.

CLOSEOUT SUBMITTALS

- MAINTENANCE DATA: RECOMMENDED PROCEDURES TO BE ESTABLISHED BY OWNER FOR MAINTENANCE OF PLANTS DURING A CALENDAR YEAR. SUBMIT BEFORE EXPIRATION OF REQUIRED MAINTENANCE PERIODS.

QUALITY ASSURANCE

INSTALLER QUALIFICATIONS: A QUALIFIED LANDSCAPE INSTALLER WHOSE WORK HAS RESULTED IN SUCCESSFUL ESTABLISHMENT OF PLANTS.

- PROFESSIONAL MEMBERSHIP: INSTALLER SHALL BE A MEMBER IN GOOD STANDING OF EITHER THE PROFESSIONAL LANDSCAPE NETWORK OR THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION.
- EXPERIENCE: FIVE YEARS' EXPERIENCE IN LANDSCAPE INSTALLATION IN ADDITION TO REQUIREMENTS IN SECTION 014000 "QUALITY REQUIREMENTS".
- INSTALLER'S FIELD SUPERVISION: REQUIRE INSTALLER TO MAINTAIN AN EXPERIENCED FULL-TIME SUPERVISOR ON PROJECT SITE WHEN WORK IS IN PROGRESS.
- PERSONNEL CERTIFICATIONS: INSTALLER'S FIELD SUPERVISOR SHALL HAVE CERTIFICATION IN ALL OF THE FOLLOWING CATEGORIES FROM THE PROFESSIONAL LANDSCAPE NETWORK:
 - LANDSCAPE INDUSTRY CERTIFIED TECHNICIAN - EXTERIOR.
 - LANDSCAPE INDUSTRY CERTIFIED HORTICULTURAL TECHNICIAN.
- PESTICIDE APPLICATOR: STATE LICENSED, COMMERCIAL.

PROVIDE QUALITY, SIZE, GENUS, SPECIES, AND VARIETY OF PLANTS INDICATED, COMPLYING WITH APPLICABLE REQUIREMENTS IN ANSI Z60.1.

MEASUREMENTS: MEASURE ACCORDING TO ANSI Z60.1. DO NOT PRUNE TO OBTAIN REQUIRED SIZES.

- TREES AND SHRUBS: MEASURE WITH BRANCHES AND TRUNKS OR CANES IN THEIR NORMAL POSITION. TAKE HEIGHT MEASUREMENTS FROM OR NEAR THE TOP OF THE ROOT FLARE FOR FIELD-GROWN STOCK AND CONTAINER-GROWN STOCK. MEASURE MAIN BODY OF TREE OR SHRUB FOR HEIGHT AND SPREAD. DO NOT MEASURE BRANCHES OR ROOTS TIP TO TIP. TAKE CALIPER MEASUREMENTS 6 INCHES ABOVE THE ROOT FLARE FOR TREES UP TO 4-INCH CALIPER SIZE, AND 12 INCHES ABOVE THE ROOT FLARE FOR LARGER SIZES.
- OTHER PLANTS: MEASURE WITH STEMS, PETIOLES, AND FOLIAGE IN THEIR NORMAL POSITION.

PLANT MATERIAL OBSERVATION: ARCHITECT MAY OBSERVE PLANT MATERIAL EITHER AT PLACE OF GROWTH OR AT SITE BEFORE PLANTING FOR COMPLIANCE WITH REQUIREMENTS FOR GENUS, SPECIES, VARIETY, CULTIVAR, SIZE, AND QUALITY. ARCHITECT MAY ALSO OBSERVE TREES AND SHRUBS FURTHER FOR SIZE AND CONDITION OF BALLS AND ROOT SYSTEMS, PESTS, DISEASE SYMPTOMS, INJURIES, AND LATENT DEFECTS AND MAY REJECT UNSATISFACTORY OR DEFECTIVE MATERIAL AT ANY TIME DURING PROGRESS OF WORK. REMOVE REJECTED TREES OR SHRUBS IMMEDIATELY FROM PROJECT SITE.

1. NOTIFY ARCHITECT OF SOURCES OF PLANTING MATERIALS SEVEN DAYS IN ADVANCE OF DELIVERY TO SITE.

DELIVERY, STORAGE, AND HANDLING

PACKAGED MATERIALS: DELIVER PACKAGED MATERIALS IN ORIGINAL, UNOPENED CONTAINERS SHOWING WEIGHT, CERTIFIED ANALYSIS, NAME AND ADDRESS OF MANUFACTURER, AND INDICATION OF COMPLIANCE WITH STATE AND FEDERAL LAWS IF APPLICABLE.

BULK MATERIALS:

- DO NOT DUMP OR STORE BULK MATERIALS NEAR STRUCTURES, UTILITIES, WALKWAYS AND PAVEMENTS, OR EXISTING TURF AREAS OR PLANTS.
- PROVIDE EROSION-CONTROL MEASURES TO PREVENT EROSION OR DISPLACEMENT OF BULK MATERIALS; DISCHARGE OF SOIL-BEARING WATER RUNOFF; AND AIRBORNE DUST REACHING ADJACENT PROPERTIES, WATER CONVEYANCE SYSTEMS, OR WALKWAYS.

3. ACCOMPANY EACH DELIVERY OF BULK MATERIALS WITH APPROPRIATE CERTIFICATES.

DO NOT PRUNE TREES AND SHRUBS BEFORE DELIVERY. PROTECT BARK, BRANCHES, AND ROOT SYSTEMS FROM SUN SCALD, DRYING, WIND BURN, SWEATING, WHIPPING, AND OTHER HANDLING AND TYING DAMAGE. DO NOT BEND OR BIND-TIE TREES OR SHRUBS IN A MANNER AS TO DESTROY THEIR NATURAL SHAPE. PROVIDE PROTECTIVE COVERING OF PLANTS DURING SHIPPING AND DELIVERY. DO NOT DROP PLANTS DURING DELIVERY AND HANDLING.

HANDLE PLANTING STOCK BY ROOT BALL.

WRAP TREES AND SHRUBS WITH BURLAP FABRIC OVER TRUNKS, BRANCHES, STEMS, TWIGS, AND FOLIAGE TO PROTECT FROM WIND AND OTHER DAMAGE DURING DIGGING, HANDLING, AND TRANSPORTATION.

DELIVER PLANTS AFTER PREPARATIONS FOR PLANTING HAVE BEEN COMPLETED, AND INSTALL IMMEDIATELY. IF PLANTING IS DELAYED MORE THAN SIX HOURS AFTER DELIVERY, SET PLANTS AND TREES IN THEIR APPROPRIATE ASPECT (SUN, FILTERED SUN, OR SHADE), PROTECT FROM WEATHER AND MECHANICAL DAMAGE, AND KEEP ROOTS MOIST.

- SET BALLED STOCK ON GROUND AND COVER BALL WITH SOIL, PEAT MOSS, SAWDUST, OR OTHER ACCEPTABLE MATERIAL.
- DO NOT REMOVE CONTAINER-GROWN STOCK FROM CONTAINERS BEFORE TIME OF PLANTING.
- WATER ROOT SYSTEMS OF PLANTS STORED ON-SITE DEEPLY AND THOROUGHLY WITH A FINE-MIST SPRAY. WATER AS OFTEN AS NECESSARY TO MAINTAIN ROOT SYSTEMS IN A MOIST, BUT NOT OVERLY WET CONDITION.

FIELD CONDITIONS

FIELD MEASUREMENTS: VERIFY ACTUAL GRADE ELEVATIONS, SERVICE AND UTILITY LOCATIONS, IRRIGATION SYSTEM COMPONENTS, AND DIMENSIONS OF PLANTINGS AND CONSTRUCTION CONTIGUOUS WITH NEW PLANTINGS BY FIELD MEASUREMENTS BEFORE PROCEEDING WITH PLANTING WORK.

PLANTING RESTRICTIONS: PLANT DURING ONE OF THE FOLLOWING PERIODS. COORDINATE PLANTING PERIODS WITH MAINTENANCE PERIODS TO PROVIDE REQUIRED MAINTENANCE FROM DATE OF SUBSTANTIAL COMPLETION.

- SPRING PLANTING: MARCH 15 TO JUNE 1.
- FALL PLANTING: SEPTEMBER 1 TO NOVEMBER 1.

WEATHER LIMITATIONS: PROCEED WITH PLANTING ONLY WHEN EXISTING AND FORECASTED WEATHER CONDITIONS PERMIT PLANTING TO BE PERFORMED WHEN BENEFICIAL AND OPTIMUM RESULTS MAY BE OBTAINED, APPLY PRODUCTS DURING FAVORABLE WEATHER CONDITIONS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS AND WARRANTY REQUIREMENTS.

WARRANTY

SPECIAL WARRANTY: INSTALLER AGREES TO REPAIR OR REPLACE PLANTINGS AND ACCESSORIES THAT FAIL IN MATERIALS, WORKMANSHIP, OR GROWTH WITHIN SPECIFIED WARRANTY PERIOD.

- FAILURES INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
 - DEATH AND UNSATISFACTORY GROWTH, EXCEPT FOR DEFECTS RESULTING FROM ABUSE, LACK OF ADEQUATE MAINTENANCE, OR NEGLECT BY OWNER.
 - STRUCTURAL FAILURES INCLUDING PLANTINGS FALLING OR BLOWING OVER.
 - FAULTY PERFORMANCE OF TREE STABILIZATION.
 - DETERIORATION OF METALS, METAL FINISHES, AND OTHER MATERIALS BEYOND NORMAL WEATHERING.
- WARRANTY PERIODS: FROM DATE OF SUBSTANTIAL COMPLETION.
 - TREES, SHRUBS, VINES, AND ORNAMENTAL GRASSES: 12 MONTHS.
 - GROUND COVERS, BIENNIALS, PERENNIALS, AND OTHER PLANTS: 12 MONTHS.
 - ANNUALS: THREE MONTHS.
- INCLUDE THE FOLLOWING REMEDIAL ACTIONS AS A MINIMUM:
 - IMMEDIATELY REMOVE DEAD PLANTS AND REPLACE UNLESS REQUIRED TO PLANT IN THE SUCCEEDING PLANTING SEASON.
 - REPLACE PLANTS THAT ARE MORE THAN 25 PERCENT DEAD OR IN AN UNHEALTHY CONDITION AT END OF WARRANTY PERIOD.
 - A LIMIT OF ONE REPLACEMENT OF EACH PLANT IS REQUIRED EXCEPT FOR LOSSES OR REPLACEMENTS DUE TO FAILURE TO COMPLY WITH REQUIREMENTS.
 - PROVIDE EXTENDED WARRANTY FOR PERIOD EQUAL TO ORIGINAL WARRANTY PERIOD, FOR REPLACED PLANT MATERIAL.

PLANT MATERIAL

GENERAL: FURNISH NURSERY-GROWN PLANTS TRUE TO GENUS, SPECIES, VARIETY, CULTIVAR, STEM FORM, SHEARING, AND OTHER FEATURES INDICATED IN PLANT LIST, PLANT SCHEDULE, OR PLANT LEGEND INDICATED ON DRAWINGS AND COMPLYING WITH ANSI Z60.1, AND WITH HEALTHY ROOT SYSTEMS DEVELOPED BY TRANSPORTING OR ROOT PRUNING. PROVIDE WELL-SHAPED, FULLY BRANCHED, HEALTHY, VIGOROUS STOCK, DENSELY FOLIATED WHEN IN LEAF AND FREE OF DISEASE, PESTS, EGGS, LARVAE, AND DEFECTS SUCH AS KNOTS, SUN SCALD, INJURIES, ABRASIONS, AND DISFIGUREMENT.

- TREES WITH DAMAGED, CROOKED, OR MULTIPLE LEADERS: TIGHT VERTICAL BRANCHES WHERE BARK IS SQUEEZED BETWEEN TWO BRANCHES OR BETWEEN BRANCH AND TRUNK ("INCLUDED BARK"); CROSSING TRUNKS; CUT-OFF LIMBS MORE THAN 3/4 INCH IN DIAMETER, OR WITH STEM GIRDLING ROOTS ARE UNACCEPTABLE.
- COLLECTED STOCK: DO NOT USE PLANTS HARVESTED FROM THE WILD, FROM NATURE STANDS, FROM AN ESTABLISHED LANDSCAPE PLANTING, OR NOT GROWN IN A NURSERY UNLESS OTHERWISE INDICATED.

PROVIDE PLANTS OF SIZES, GRADES, AND BALL OR CONTAINER SIZES COMPLYING WITH ANSI Z60.1 FOR TYPES AND FORMS OF PLANTS REQUIRED. PLANTS OF A LARGER SIZE MAY BE USED IF ACCEPTABLE TO ARCHITECT, WITH A PROPORTIONATE INCREASE IN SIZE OF ROOTS OR BALLS.

ROOT-BALL DEPTH: FURNISH TREES AND SHRUBS WITH ROOT BALLS MEASURED FROM TOP OF ROOT BALL, WHICH BEGINS AT ROOT FLARE ACCORDING TO ANSI Z60.1. ROOT FLARE SHALL BE VISIBLE BEFORE PLANTING.

LABELING: LABEL EACH PLANT OF EACH VARIETY, SIZE, AND CALIPER WITH A SECURELY ATTACHED, WATERPROOF TAG BEARING LEGIBLE DESIGNATION OF COMMON NAME AND FULL SCIENTIFIC NAME, INCLUDING GENUS AND SPECIES, INCLUDE NOMENCLATURE FOR HYBRID, VARIETY, OR CULTIVAR, IF APPLICABLE FOR THE PLANT.

IF FORMAL ARRANGEMENTS OR CONSECUTIVE ORDER OF PLANTS IS INDICATED ON DRAWINGS, SELECT STOCK FOR UNIFORM HEIGHT AND SPREAD, AND NUMBER THE LABELS TO ASSURE SYMMETRY IN PLANTING.

FERTILIZERS: REFER TO PLANTING SOIL SPECIFICATION.

MULCHES

ORGANIC MULCH: FREE FROM DELETERIOUS MATERIALS AND SUITABLE AS A TOP DRESSING OF TREES AND SHRUBS, CONSISTING OF ONE OF THE FOLLOWING:

- TYPE: DOUBLE-SHREDDED HARDWOOD.
- SIZE RANGE: 3 INCHES MAXIMUM, 1/2 INCH MINIMUM.
- COLOR: NATURAL.

PESTICIDES

GENERAL: PESTICIDE REGISTERED AND APPROVED BY THE EPA, ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, AND OF TYPE RECOMMENDED BY MANUFACTURER FOR EACH SPECIFIC PROBLEM AND AS REQUIRED FOR PROJECT CONDITION AND APPLICATION. DO NOT USE RESTRICTED PESTICIDES UNLESS AUTHORIZED IN WRITING BY AUTHORITIES HAVING JURISDICTION.

PRE-EMERGENT HERBICIDE (SELECTIVE AND NONSELECTIVE): EFFECTIVE FOR CONTROLLING THE GERMINATION OR GROWTH OF WEEDS WITHIN PLANTING AREAS AT THE SOIL LEVEL DIRECTLY BELOW THE MULCH LAYER.

POST-EMERGENT HERBICIDE (SELECTIVE AND NONSELECTIVE): EFFECTIVE FOR CONTROLLING WEED GROWTH THAT HAS ALREADY GERMINATED.

TREE-STABILIZATION MATERIALS

TRUNK-STABILIZATION MATERIALS:

- UPRIGHT AND GUY STAKES: ROUGH-SAWN, SOUND, NEW HARDWOOD, FREE OF KNOTS, HOLES, CROSS GRAIN, AND OTHER DEFECTS, 2-BY-2-INCH NOMINAL BY LENGTH INDICATED, POINTED AT ONE END.
- FLEXIBLE TIES: WIDE RUBBER OR ELASTIC BANDS OR STRAPS OF LENGTH REQUIRED TO REACH STAKES OR TURNBUCKLES.
- GUYS AND TIE WIRES: ASTM A 641/A 641M, CLASS 1, GALVANIZED-STEEL WIRE, TWO-STRAND, TWISTED, 0.106 INCH IN DIAMETER.
- TREE-TIE WEBBING: UV-RESISTANT POLYPROPYLENE OR NYLON WEBBING WITH BRASS GROMMETS.
- GUY CABLES: FIVE-STRAND, 3/16-INCH-DIAMETER, GALVANIZED-STEEL CABLE, WITH ZINC-COATED TURNBUCKLES, A MINIMUM OF 3 INCHES LONG, WITH TWO 3/8-INCH GALVANIZED EYEBOLTS.
- FLAGS: STANDARD SURVEYOR'S PLASTIC FLAGGING TAPE, WHITE, 6 INCHES LONG.

SLOW-RELEASE WATERING DEVICE: STANDARD PRODUCT MANUFACTURED FOR DRIP IRRIGATION OF PLANTS AND EMPTIFYING ITS WATER CONTENTS OVER AN EXTENDED TIME PERIOD, MANUFACTURED FROM UV-LIGHT-STABILIZED NYLON-REINFORCED POLYETHYLENE SHEET, PVC, OR HDPE PLASTIC.

1. PRODUCT: TREGGATOR ORIGINAL SLOW RELEASE WATERING BAG

a. COLOR: GREEN.

MISCELLANEOUS PRODUCTS

BURLAP: NON-SYNTHETIC, BIODEGRADABLE.

EXAMINATION

EXAMINE AREAS TO RECEIVE PLANTS, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS AND CONDITIONS AFFECTING INSTALLATION AND PERFORMANCE OF THE WORK.

- VERIFY THAT NO FOREIGN OR DELETERIOUS MATERIAL OR LIQUID SUCH AS PAINT, PAINT WASHOUT, CONCRETE SLURRY, CONCRETE LAYERS OR CHUNKS, CEMENT, PLASTER, OILS, GASOLINE, DIESEL FUEL, PAINT THINNER, TURPENTINE, TAR, ROOFING COMPOUND, OR ACID HAS BEEN DEPOSITED IN SOIL WITHIN A PLANTING AREA.
- VERIFY THAT PLANTS AND VEHICLES LOADED WITH PLANTS CAN TRAVEL TO PLANTING LOCATIONS WITH ADEQUATE OVERHEAD CLEARANCE.
- SUSPEND PLANTING OPERATIONS DURING PERIODS OF EXCESSIVE SOIL MOISTURE UNTIL THE MOISTURE CONTENT REACHES ACCEPTABLE LEVELS TO ATTAIN THE REQUIRED RESULTS.
- UNIFORMLY MOISTEN EXCESSIVELY DRY SOIL THAT IS NOT WORKABLE OR WHICH IS DUSTY.

IF CONTAMINATION BY FOREIGN OR DELETERIOUS MATERIAL OR LIQUID IS PRESENT IN SOIL WITHIN A PLANTING AREA, REMOVE THE SOIL AND CONTAMINATION AS DIRECTED BY ARCHITECT AND REPLACE WITH NEW PLANTING SOIL.

PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

PREPARATION

PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, AND OTHER FACILITIES AND TURF AREAS AND EXISTING PLANTS FROM DAMAGE CAUSED BY PLANTING OPERATIONS.

INSTALL 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.

PLANTING AREA ESTABLISHMENT

GENERAL: PREPARE PLANTING AREA FOR SOIL PLACEMENT AND MIX PLANTING SOIL ACCORDING TO PLANTING SOIL SPECIFICATIONS.

PLACING PLANTING SOIL: PLACE AND MIX PLANTING SOIL ACCORDING TO PLANTING SOIL SPECIFICATION

BEFORE PLANTING, OBTAIN ARCHITECT'S ACCEPTANCE OF FINISH GRADING; RESTORE PLANTING AREAS IF ERODED OR OTHERWISE DISTURBED AFTER FINISH GRADING.

EXCAVATION FOR TREES AND SHRUBS

PLANTING PITS AND TRENCHES: EXCAVATE CIRCULAR PLANTING PITS.

- EXCAVATE PLANTING PITS WITH SIDES SLOPING INWARD AT A 45-DEGREE ANGLE. EXCAVATIONS WITH VERTICAL SIDES ARE UNACCEPTABLE. TRIM PERIMETER OF BOTTOM LEAVING CENTER AREA OF BOTTOM RAISED SLIGHTLY TO SUPPORT ROOT BALL AND ASSIST IN DRAINAGE AWAY FROM CENTER. DO NOT FURTHER DISTURB BASE. ENSURE THAT ROOT BALL WILL SIT ON UNDISTURBED BASE SOIL TO PREVENT SETTLING. SCARIFY SIDES OF PLANTING PIT SMEARED OR SMOOTHED DURING EXCAVATION.
- EXCAVATE APPROXIMATELY THREE TIMES AS WIDE AS BALL DIAMETER FOR BALLED AND BURLAPPED AND CONTAINER-GROWN STOCK.
- DO NOT EXCAVATE DEEPER THAN DEPTH OF THE ROOT BALL, MEASURED FROM THE ROOT FLARE TO THE BOTTOM OF THE ROOT BALL.
- IF AREA UNDER THE PLANT WAS INITIALLY DUG TOO DEEP, ADD SOIL TO RAISE IT TO THE CORRECT LEVEL AND THOROUGHLY TAMP THE ADDED SOIL TO PREVENT SETTLING.
- MAINTAIN ANGLES OF REPOSE OF ADJACENT MATERIALS TO ENSURE STABILITY. DO NOT EXCAVATE SUBGRADES OF ADJACENT PAVING, STRUCTURES, HARDCAPES, OR OTHER NEW OR EXISTING IMPROVEMENTS.
- MAINTAIN SUPERVISION OF EXCAVATIONS DURING WORKING HOURS.
- KEEP EXCAVATIONS COVERED OR OTHERWISE PROTECTED WHEN UNATTENDED BY INSTALLER'S PERSONNEL.

BACKFILL SOIL: SUBSOIL AND TOPSOIL REMOVED FROM EXCAVATIONS MAY NOT BE USED AS BACKFILL SOIL UNLESS OTHERWISE INDICATED.

OBSTRUCTIONS: NOTIFY ARCHITECT IF UNEXPECTED ROCK OR OBSTRUCTIONS DETRIMENTAL TO TREES OR SHRUBS ARE ENCOUNTERED IN EXCAVATIONS.

- HARDPAN LAYER: DRILL 6-INCH-DIAMETER HOLES, 24 INCHES APART, INTO FREE-DRAINING STRATA OR TO A DEPTH OF 10 FEET, WHICHEVER IS LESS, AND BACKFILL WITH FREE-DRAINING MATERIAL.

DRAINAGE: NOTIFY ARCHITECT IF SUBSOIL CONDITIONS EVIDENCE UNEXPECTED WATER SEEPAGE OR RETENTION IN TREE OR SHRUB PLANTING PITS.

TREE, SHRUB, AND VINE PLANTING

INSPECTION: AT TIME OF PLANTING, VERIFY THAT ROOT FLARE IS VISIBLE AT TOP OF ROOT BALL ACCORDING TO ANSI Z60.1. IF ROOT FLARE IS NOT VISIBLE, REMOVE SOIL IN A LEVEL MANNER FROM THE ROOT BALL TO WHERE THE TOP-MOST ROOT EMERGES FROM THE TRUNK. AFTER SOIL REMOVAL TO EXPOSE THE ROOT FLARE, VERIFY THAT ROOT BALL STILL MEETS SIZE REQUIREMENTS.

ROOTS: REMOVE STEM GIRDLING ROOTS AND KINKED ROOTS. REMOVE INJURED ROOTS BY CUTTING CLEANLY; DO NOT BREAK.

BALLED AND BURLAPPED STOCK: SET EACH PLANT PLUMB AND IN CENTER OF PLANTING PIT OR TRENCH WITH ROOT FLARE 1 INCH ABOVE ADJACENT FINISH GRADES.

- BACKFILL: PLANTING SOIL PER PLANTING SOILS SPECIFICATION.
- AFTER PLACING SOME BACKFILL AROUND ROOT BALL TO STABILIZE PLANT, CAREFULLY CUT AND REMOVE BURLAP, ROPE, AND WIRE BASKETS FROM TOPS OF ROOT BALLS AND FROM SIDES, BUT DO NOT REMOVE FROM UNDER ROOT BALLS. REMOVE PALETTES, IF ANY, BEFORE SETTING. DO NOT USE PLANTING STOCK IF ROOT BALL IS CRACKED OR BROKEN BEFORE OR DURING PLANTING OPERATION.
- BACKFILL AROUND ROOT BALL IN LAYERS, TAMPING TO SETTLE SOIL AND ELIMINATE VOIDS AND AIR POCKETS. WHEN PLANTING PIT IS APPROXIMATELY ONE-HALF FILLED, WATER THOROUGHLY BEFORE PLACING REMAINDER OF BACKFILL. REPEAT WATERING UNTIL NO MORE WATER IS ABSORBED.
- CONTINUE BACKFILLING PROCESS. WATER AGAIN AFTER PLACING AND TAMPING FINAL LAYER OF SOIL.

CONTAINER-GROWN STOCK: SET EACH PLANT PLUMB AND IN CENTER OF PLANTING PIT OR TRENCH WITH ROOT FLARE 1 INCH ABOVE ADJACENT FINISH GRADES.

- BACKFILL: PLANTING SOIL PER PLANTING SOILS SPECIFICATION.
- CAREFULLY REMOVE ROOT BALL FROM CONTAINER WITHOUT DAMAGING ROOT BALL OR PLANT.
- BACKFILL AROUND ROOT BALL IN LAYERS, TAMPING TO SETTLE SOIL AND ELIMINATE VOIDS AND AIR POCKETS. WHEN PLANTING PIT IS APPROXIMATELY ONE-HALF FILLED, WATER THOROUGHLY BEFORE PLACING REMAINDER OF BACKFILL. REPEAT WATERING UNTIL NO MORE WATER IS ABSORBED.
- CONTINUE BACKFILLING PROCESS. WATER AGAIN AFTER PLACING AND TAMPING FINAL LAYER OF SOIL.

SLOPES: WHEN PLANTING ON SLOPES, SET THE PLANT SO THE ROOT FLARE ON THE UPHILL SIDE IS FLUSH WITH THE SURROUNDING SOIL ON THE SLOPE; THE EDGE OF THE ROOT BALL ON THE DOWNHILL SIDE WILL BE ABOVE THE SURROUNDING SOIL. APPLY ENOUGH SOIL TO COVER THE DOWNHILL SIDE OF THE ROOT BALL.

MECHANIZED TREE-SPADE PLANTING

- TREES MAY BE PLANTED WITH AN APPROVED MECHANIZED TREE SPADE AT THE DESIGNATED LOCATIONS. DO NOT USE TREE SPADE TO MOVE TREES LARGER THAN THE MAXIMUM SIZE ALLOWED FOR A SIMILAR FIELD-GROWN, BALLED-AND-BURLAPPED ROOT-BALL DIAMETER ACCORDING TO ANSI Z60.1, OR LARGER THAN MANUFACTURER'S MAXIMUM SIZE RECOMMENDATIONS FOR THE TREE SPADE BEING USED, WHICHEVER IS SMALLER.
- USE THE SAME TREE SPADE TO EXCAVATE THE PLANTING HOLES AS WILL BE USED TO EXTRACT AND TRANSPORT THE TREE.
- WHEN EXTRACTING THE TREE, CENTER THE TRUNK WITHIN THE TREE SPADE AND MOVE TREE WITH A SOLID BALL OF EARTH.
- EXPOSED ROOTS CLEANLY DURING TRANSPANTING OPERATIONS.
- PLANT TREES FOLLOWING PROCEDURES IN "TREE, SHRUB, AND VINE PLANTING" ARTICLE.
- WHERE POSSIBLE, ORIENT THE TREE IN THE SAME DIRECTION AS IN ITS ORIGINAL LOCATION.

TREE, SHRUB, AND VINE PRUNING

- REMOVE ONLY DEAD, DYING, OR BROKEN BRANCHES. DO NOT PRUNE FOR SHAPE.
- DO NOT APPLY PRUNING PAINT TO WOUNDS.

TREE STABILIZATION

TRUNK STABILIZATION BY STAKING AND GUYING: INSTALL TRUNK STABILIZATION AS FOLLOWS UNLESS OTHERWISE INDICATED ON DRAWINGS. STAKE AND GUY TREES MORE THAN 12 FEET IN HEIGHT AND MORE THAN 3 INCHES IN CALIPER UNLESS OTHERWISE INDICATED.

- SITE-FABRICATED, STAKING-AND-GUYING METHOD: INSTALL NO FEWER THAN THREE GUYS SPACED EQUALLY AROUND TREE.
 - SECURELY ATTACH GUYS TO STAKES 36 INCHES LONG, DRIVEN TO GRADE. ADJUST SPACING TO AVOID PENETRATING ROOT BALLS OR ROOT MASSES. PROVIDE TURNBUCKLE FOR EACH GUY WIRE AND TIGHTEN SECURELY.
 - SUPPORT TREES WITH BANDS OF FLEXIBLE TIES AT CONTACT POINTS WITH TREE TRUNK AND REACHING TO TURNBUCKLE. ALLOW ENOUGH SLACK TO AVOID RIGID RESTRAINT OF TREE.
 - SUPPORT TREES WITH GUY CABLE OR MULTIPLE STRANDS OF TIE WIRE, CONNECTED TO THE BRASS GROMMETS OF TREE-TIE WEBBING AT CONTACT POINTS WITH TREE TRUNK AND REACHING TO TURNBUCKLE. ALLOW ENOUGH SLACK TO AVOID RIGID RESTRAINT OF TREE.
 - ATTACH FLAGS TO EACH GUY WIRE, 30 INCHES ABOVE FINISH GRADE.

GROUND COVER AND PLANT PLANTING

- SET OUT AND SPACE GROUND COVER AND PLANTS OTHER THAN TREES, SHRUBS, AND VINES AS INDICATED ON DRAWINGS IN EVEN ROWS WITH TRIANGULAR SPACING.
- USE PLANTING SOIL PER PLANTING SOIL SPECIFICATION FOR BACKFILL.
- DIG HOLES LARGE ENOUGH TO ALLOW SPREADING OF ROOTS.
- FOR ROOTED CUTTING PLANTS SUPPLIED IN PLATS, PLANT EACH IN A MANNER THAT MINIMALLY DISTURBS THE ROOT SYSTEM BUT TO A DEPTH NOT LESS THAN TWO NODES.
- WORK SOIL AROUND ROOTS TO ELIMINATE AIR POCKETS AND LEAVE A SLIGHT SAUCER INDENTATION AROUND PLANTS TO HOLD WATER.
- WATER THOROUGHLY AFTER PLANTING, TAKING CARE NOT TO COVER PLANT CROWNS WITH WET SOIL.
- PROTECT PLANTS FROM HOT SUN AND WIND; REMOVE PROTECTION IF PLANTS SHOW EVIDENCE OF RECOVERY FROM TRANSPANTING SHOCK.

PLANTING AREA MULCHING

MULCH BACKFILLED SURFACES OF PLANTING AREAS AND OTHER AREAS INDICATED.

- TREES IN TURF AREAS: APPLY ORGANIC MULCH RING OF 3-INCH AVERAGE THICKNESS, WITH 18-INCH RADIUS AROUND TRUNKS OR STEMS, DO NOT PLACE MULCH WITHIN 3 INCHES OF TRUNKS OR STEMS.
- ORGANIC MULCH IN PLANTING AREAS: APPLY 2-INCH AVERAGE THICKNESS OF ORGANIC MULCH OVER WHOLE SURFACE OF PLANTING AREA, AND FINISH LEVEL WITH ADJACENT FINISH GRADES. DO NOT PLACE MULCH WITHIN 3 INCHES OF TRUNKS OR STEMS.

EDGING INSTALLATION

SHOVEL-CUT EDGING, SEPARATE MULCHED AREAS FROM TURF AREAS, CURBS, AND PAVING WITH A 45-DEGREE, 4- TO 6-INCH-DEEP, SHOVEL-CUT EDGE.

INSTALLING SLOW-RELEASE WATERING DEVICE

- PROVIDE ONE DEVICE FOR EACH TREE.
- PLACE DEVICE ON TOP OF THE MULCH AT BASE OF TREE STEM AND FILL WITH WATER ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.

PLANT MAINTENANCE

- MAINTAIN PLANTINGS BY PRUNING, CULTIVATING, WATERING, WEEDING, FERTILIZING, MULCHING, RESTORING PLANTING SAUCERS, ADJUSTING AND REPAIRING TREE-STABILIZATION DEVICES, RESETTling TO PROPER GRADES OR VERTICAL POSITION, AND PERFORMING OTHER OPERATIONS AS REQUIRED TO ESTABLISH HEALTHY, VIABLE PLANTINGS.
- FILL IN, AS NECESSARY, SOIL SUBSIDENCE THAT MAY OCCUR BECAUSE OF SETTLING OR OTHER PROCESSES. REPLACE MULCH MATERIALS DAMAGED OR LOST IN AREAS OF SUBSIDENCE.
- APPLY TREATMENTS AS REQUIRED TO KEEP PLANT MATERIALS, PLANTED AREAS, AND SOILS FREE OF PESTS AND PATHOGENS OR DISEASE. USE INTEGRATED PEST MANAGEMENT PRACTICES WHEN POSSIBLE TO MINIMIZE USE OF PESTICIDES AND REDUCE HAZARDS. TREATMENTS INCLUDE PHYSICAL CONTROLS SUCH AS HOISING OFF FOLIAGE, MECHANICAL CONTROLS SUCH AS TRAPS, AND BIOLOGICAL CONTROL AGENTS.

PESTICIDE APPLICATION

- APPLY PESTICIDES AND OTHER CHEMICAL PRODUCTS AND BIOLOGICAL CONTROL AGENTS ACCORDING TO AUTHORITIES HAVING JURISDICTION AND MANUFACTURER'S WRITTEN RECOMMENDATIONS. COORDINATE APPLICATIONS WITH OWNER'S OPERATIONS AND OTHERS IN PROXIMITY TO THE WORK. NOTIFY OWNER BEFORE EACH APPLICATION IS PERFORMED.
- PRE-EMERGENT HERBICIDES (SELECTIVE AND NONSELECTIVE): APPLY TO TREE, SHRUB, AND GROUND-COVER AREAS ACCORDING TO MANUFACTURER'S WRITTEN RECOMMENDATIONS. DO NOT APPLY TO SEEDED AREAS.
- POST-EMERGENT HERBICIDES (SELECTIVE AND NONSELECTIVE): APPLY ONLY AS NECESSARY TO TREAT ALREADY-GERMINATED WEEDS AND ACCORDING TO MANUFACTURER'S WRITTEN RECOMMENDATIONS.

REPAIR AND REPLACEMENT

GENERAL: REPAIR OR REPLACE EXISTING OR NEW TREES AND OTHER PLANTS THAT ARE DAMAGED BY CONSTRUCTION OPERATIONS, IN A MANNER APPROVED BY ARCHITECT.

- SUBMIT DETAILS OF PROPOSED PRUNING AND REPAIRS.
- PERFORM REPAIRS OF DAMAGED TRUNKS, BRANCHES, AND ROOTS WITHIN 24 HOURS, IF APPROVED.
- REPLACE TREES AND OTHER PLANTS THAT CANNOT BE REPAIRED AND RESTORED TO FULL-GROWTH STATUS, AS DETERMINED BY ARCHITECT.

REMOVE AND REPLACE TREES THAT ARE MORE THAN 25 PERCENT DEAD OR IN AN UNHEALTHY CONDITION BEFORE THE END OF THE CORRECTIONS PERIOD OR ARE DAMAGED DURING CONSTRUCTION OPERATIONS THAT ARCHITECT DETERMINES ARE INCAPABLE OF RESTORING TO NORMAL GROWTH PATTERN.

- PROVIDE NEW PLANTS OF SAME SIZE AND SPECIES AS THOSE BEING REPLACED.

CLEANING AND PROTECTION

- DURING PLANTING, KEEP ADJACENT PAVING AND CONSTRUCTION CLEAN AND WORK AREA IN AN ORDERLY CONDITION. CLEAN WHEELS OF VEHICLES BEFORE LEAVING SITE TO AVOID TRACKING SOIL ONTO ROADS, WALKS, OR OTHER PAVED AREAS.
- REMOVE SURPLUS SOIL AND WASTE MATERIAL, INCLUDING EXCESS SUBSOIL, UNSUITABLE SOIL, TRASH, AND DEBRIS AND LEGALLY DISPOSE OF THEM OFF OWNER'S PROPERTY.
- PROTECT PLANTS FROM DAMAGE DUE TO LANDSCAPE OPERATIONS AND OPERATIONS OF OTHER CONTRACTORS AND TRADES. MAINTAIN PROTECTION DURING INSTALLATION AND MAINTENANCE PERIODS. TREAT, REPAIR, OR REPLACE DAMAGED PLANTINGS.
- AFTER INSTALLATION AND BEFORE PROJECT COMPLETION, REMOVE NURSERY TAGS, NURSERY STAKES, TIE TAPE, LABELS, WIRE, BURLAP, AND OTHER DEBRIS FROM PLANT MATERIAL, PLANTING AREAS, AND PROJECT SITE.
- AT TIME OF SUBSTANTIAL COMPLETION, VERIFY THAT TREE-WATERING DEVICES ARE IN GOOD WORKING ORDER AND LEAVE THEM IN PLACE. REPLACE IMPROPERLY FUNCTIONING DEVICES.

MAINTENANCE SERVICE

MAINTENANCE SERVICE FOR PLANTS: PROVIDE MAINTENANCE BY SKILLED EMPLOYEES OF LANDSCAPE INSTALLER. MAINTAIN AS REQUIRED IN "PLANT MAINTENANCE" ARTICLE. BEGIN MAINTENANCE IMMEDIATELY AFTER PLANTS ARE INSTALLED AND CONTINUE UNTIL PLANTINGS ARE ACCEPTABLY HEALTHY AND WELL ESTABLISHED, BUT FOR NOT LESS THAN MAINTENANCE PERIOD BELOW.

1. MAINTENANCE PERIOD: 12 MONTHS FROM DATE OF SUBSTANTIAL COMPLETION.