Exhibit E

TREE MITIGATION CALCULATIONS

PROTECTED EXISTING TREES TO REMAIN (996 CAL. INCHES):

QUANT.	TREE TYPE	QUANT.	TREE TYPE
(1)	10" OAK	(1)	17" OAK
(2)	11" OAKS	(1)	18" OAK
(5)	12" OAKS	(4)	19" OAKS
(1)	13" OAKS	(1)	20" OAK
(3)	14" OAKS	(1)	22" OAK
(2)	16" OAKS	(3)	23" OAK
(12)	6" ELMS	(8)	7" ELMS
(6)	8" ELMS	(3)	9" ELMS
(10)	10" ELMS	(1)	11" ELM
(2)	12" ELMS	(1)	13" ELM
(1)	16" ELM	(1)	17" ELM
(1)	7" PECAN	(1)	12" PECAN
(1)	14" PECAN	(1)	15" PECAN
(2)	18" PECANS	(1)	21" PECAN
(1)	22" PECAN	(4)	6" MULBERRY
(1)	12" MULBERRY	(1)	13" HICKORY
(1)	10" HACKBERRY	(1)	10" BOIS D'ARC
(1)	11 BOIS D'ARC		

PROTECTED EXISTING SPECIMEN TREES TO REMAIN (198 CAL. INCHES):

QUANT.	TREE TYPE
(1)	24" ELM
(4)	24" PECANS
(2)	25" OAK
(1)	26" OAK
(1)	27" OAK

NON-PROTECTED EXISTING TREES TO REMAIN (20 CAL. INCHES):

QUANT.	TREE TYPE	QUANT.	TREE TYPE
(1)	6" HACKBERRY	(1)	6" BOIS D'ARC
(1)	8" BOIS D'ARC		

PROTECTED EXISTING TREES REMOVED (1 : 1 RATIO - 543 CAL. INCHES):

QUANT.	TREE TYPE	QUANT.	TREE TYPE
(1)	29" PECAN	(3)	16" OAKS
(1)	18" PECAN	(1)	17" OAK
(1)	21" CHITHAM	(3)	19" OAKS
(1)	9" OAK	(3)	20" OAKS
(2)	11" OAKS	(1)	21" OAK
(5)	12" OAKS	(1)	23" OAK
(3)	13" OAKS	(1)	6" ELM
(2)	14" OAKS	(1)	10" ELM
(7)	15" OAKS		

PROTECTED EXISTING SPECIMENT TREES REMOVED
(10 : 1 RATIO - 1,800 CAL. INCHES):

QUANT.	TREE TYPE
(1)	24" OAK
(1)	29" PECAN
(1)	30" OAK
(1)	31" OAK
(1)	32" OAK
(1)	34" HACKBERRY

TOTAL TREE MITIGATION INCHES (BEING REMOVED)

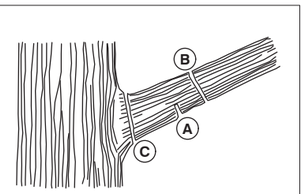
Protected Trees:	543 Inches
Protected Specimen Trees:	1,800 Inches
TOTAL REQUIRED MITIGATION INCHES:	**2,343 Inches**

TOTAL TREE INCHES TO REMAIN:

Non-Protected Trees:	20 Inches
Protected Trees:	996 Inches
Protected Specimen Trees:	198 Inches (10:1 RATIO - 1,980)
TOTAL TREE INCHES REMAINING:	**1,214 Inches (2,996)**

BORING:
Boring of utilities under protected trees shall be required in those circumstances where it is not possible to trench around the critical root zone of the protected tree. When required, the length of the bore shall be the width of the critical root zone at a minimum and shall be a minimum depth of 48 inches.

BORING AND TUNNELING N.T.S.



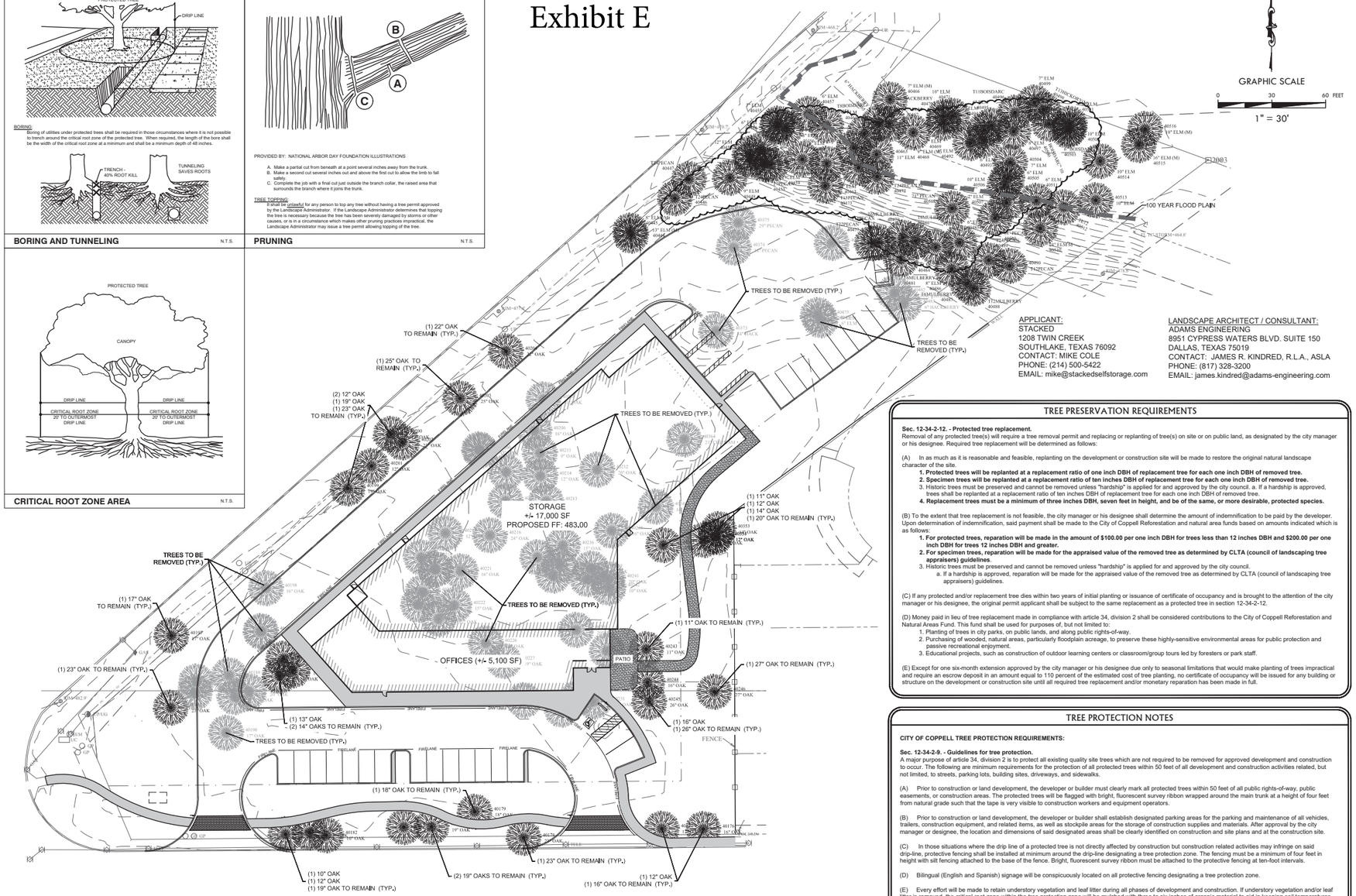
PROVIDED BY: NATIONAL ARBOR DAY FOUNDATION ILLUSTRATIONS

A. Make a partial cut from beneath at a point several inches away from the trunk.
B. Make a second cut several inches out and above the first cut to allow the limb to fall safely.
C. Complete the job with a final cut just outside the branch collar, the raised area that surrounds the branch where it joins the trunk.

TREE TOPPING:
It shall be unlawful for any person to top any tree without having a tree permit approved by the Landscape Administrator. If the Landscape Administrator determines that topping the tree is necessary because the tree has been severely damaged by storms or other causes, or is in a circumstance which makes other pruning practices impractical, the Landscape Administrator may issue a tree permit allowing topping of the tree.

PRUNING N.T.S.

CRITICAL ROOT ZONE AREA N.T.S.



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TREE PRESERVATION REQUIREMENTS

Sec. 12-34-2-12. - Protected tree replacement.
Removal of any protected tree(s) will require a tree removal permit and replacing or replanting of tree(s) on site or on public land, as designated by the city manager or his designee. Required tree replacement will be determined as follows:

(A) In as much as it is reasonable and feasible, replanting on the development or construction site will be made to restore the original natural landscape character of the site.

1. **Protected trees will be replanted at a replacement ratio of one inch DBH of replacement tree for each one inch DBH of removed tree.**
2. **Specimen trees will be replanted at a replacement ratio of ten inches DBH of replacement tree for each one inch DBH of removed tree.**
3. Historic trees must be preserved and cannot be removed unless "hardship" is applied for and approved by the city council. a. If a hardship is approved, trees shall be replanted at a replacement ratio of ten inches DBH of replacement tree for each one inch DBH of removed tree.
4. **Replacement trees must be a minimum of three inches DBH, seven feet in height, and be of the same, or more desirable, protected species.**

(B) To the extent that tree replacement is not feasible, the city manager or his designee shall determine the amount of indemnification to be paid by the developer. Upon determination of indemnification, said payment shall be made to the City of Coppell Reforestation and natural area funds based on amounts indicated which is as follows:

1. **For protected trees, reparation will be made in the amount of $100.00 per one inch DBH for trees less than 12 inches DBH and $200.00 per one inch DBH for trees 12 inches DBH and greater.**
2. **For specimen trees, reparation will be made for the appraised value of the removed tree as determined by CLTA (council of landscaping tree appraisers) guidelines**.
3. Historic trees must be preserved and cannot be removed unless "hardship" is applied for and approved by the city council.
   a. If a hardship is approved, reparation will be made for the appraised value of the removed tree as determined by CLTA (council of landscaping tree appraisers) guidelines.

(C) If any protected and/or replacement tree dies within two years of initial planting or issuance of certificate of occupancy and is brought to the attention of the city manager or his designee, the original permit applicant shall be subject to the same replacement as a protected tree in section 12-34-2-12.

(D) Money paid in lieu of tree replacement made in compliance with article 34, division 2 shall be considered contributions to the City of Coppell Reforestation and Natural Areas Fund. This fund shall be used for purposes of, but not limited to:

1. Planting of trees in city parks, on public lands, and along public rights-of-way.
2. Purchasing of wooded, natural areas, particularly floodplain acreage, to preserve these highly-sensitive environmental areas for public protection and passive recreational enjoyment.
3. Educational projects, such as construction of outdoor learning centers or classroom/group tours led by foresters or park staff.

(E) Except for one six-month extension approved by the city manager or his designee due only to seasonal limitations that would make planting of trees impractical and require an escrow deposit in an amount equal to 110 percent of the estimated cost of tree planting, no certificate of occupancy will be issued for any building or structure on the development or construction site until all required tree replacement and/or monetary reparation has been made in full.

TREE PROTECTION NOTES

CITY OF COPPELL TREE PROTECTION REQUIREMENTS:

Sec. 12-34-2-9. - Guidelines for tree protection.
A major purpose of article 34, division 2 is to protect all existing quality site trees which are not required to be removed for approved development and construction to occur. The following are minimum requirements for the protection of all protected trees within 50 feet of all development and construction activities related, but not limited, to streets, parking lots, building sites, driveways, and sidewalks.

(A) Prior to construction or land development, the developer or builder must clearly mark all protected trees within 50 feet of all public rights-of-way, public easements, or construction areas. The protected trees will be flagged with bright, fluorescent survey ribbon wrapped around the main trunk at a height of four feet from natural grade such that the tape is very visible to construction workers and equipment operators.

(B) Prior to construction or land development, the developer or builder shall establish designated parking areas for the parking and maintenance of all vehicles, trailers, construction equipment, and related items, as well as stockpile areas for the storage of construction supplies and materials. After approval by the city manager or designee, the location and dimensions of said designated areas shall be clearly identified on construction and site plans and at the construction site.

(C) In those situations where the drip line of a protected tree is not directly affected by construction but construction related activities may infringe on said drip-line, protective fencing shall be installed at minimum around the drip-line designating a tree protection zone. The fencing must be a minimum of four feet in height with silt fencing attached to the base of the fence. Bright, fluorescent survey ribbon must be attached to the protective fencing at ten-foot intervals.

(D) Bilingual (English and Spanish) signage will be conspicuously located on all protective fencing designating a tree protection zone.

(E) Every effort will be made to retain understory vegetation and leaf litter during all phases of development and construction. If understory vegetation and/or leaf litter is removed, the critical root zone within the tree protection zone will be mulched with three to six inches of organic material to aid in keeping soil temperatures down and in the retention of soil moisture.

(F) Underground utilities may be bored if the line of the utility passes within a tree protection or critical root zone.

(G) Grade changes in excess of four inches cut or fill within a tree protection or critical root zone will require a retaining wall or tree well, made of rock or brick, to be constructed around the protected tree no closer than 75 percent of the distance between the trunk and the drip line. The top of the retaining wall should be constructed at the new grade. Additional measures to maintain proper oxygen and water exchange with the protected tree roots may also be required.

(H) All protected trees shall be provided with a permeable surface under a minimum of 75 percent of the existing drip line of the tree(s).

Sec. 12-34-2-10. - Prohibited activities.
The following activities shall be prohibited on any development or construction site within a tree protection zone or the drip line of any protected tree:

(A) No construction vehicle or equipment traffic or parking shall take place.

(B) No materials intended for use in development or construction, or waste materials accumulated due to excavation or demolition, shall be placed or stored.

(C) No equipment shall be cleaned or liquids deposited or allowed to flow overland. This includes, but is not limited to, paint, oil, solvents, asphalt, concrete, mortar, and similar materials.

(D) Grade changes in excess of four inches shall not be made unless properly protected by a retaining wall or tree well as described in section 12-34-2-9.

(E) No water, which accumulates due to construction-related activities, shall be permitted to remain around any protected tree.

(F) No signs, wires, or other attachments, other than those of a protective nature, shall be attached to any protected tree.

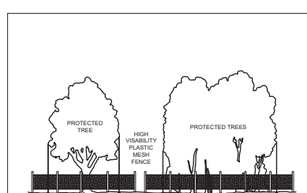
(G) Except for these aforesaid exemptions in section 12-34-2-6, under no circumstances shall there be a clear cutting of trees on a property for any purpose at any time.

(H) No person, directly or indirectly, shall cut down, destroy, effectively destroy through damaging, remove, or move any tree, protected tree, specimen tree, or historic tree without a tree removal permit at any time unless exempted by section 12-34-2-6.

(I) No person, directly or indirectly, shall act in concert with an owner, occupant, lessor, lessee or any person claiming an interest in property to enter into any agreement, contract, negotiation, letter of intent or any other type of arrangement to circumvent the prohibitions contained herein or to otherwise qualify for an exemption from the provisions of this ordinance.

SITE TREE INVENTORY

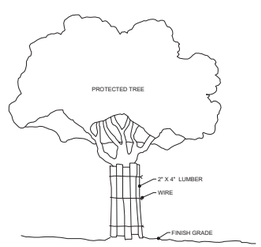
Tree Number (Tag)	Size (DBH) & Type	Condition													
40176	16" OAK	Good	40213	11" Elm	Good	40247	20" Oak	Good	40469	7" Elm	Good	40505	6" Elm	Good
40177	12" Oak	Good	40214	12" Oak	Good	40248	14" Oak	Good	40470	10" Hackberry	Good	40506	10" Elm	Good
40178	23" Oak	Good	40215	15" Oak	Good	40249	11" Oak	Good	40471	10" Elm	Good	40507	7" Elm	Good
40179	18" Oak	Good	40216	24" Oak	Good	40353	14" Oak	Good	40472	24" Pecan (Multiple Trunk	Good	40508	21" PECAN	Good
40180	19" Oak	Good	40217	17" Oak	Good	40354	12" Oak	Good	40473	15" Pecan	Good	40509	18" PECAN	Good
40181	19" Oak	Good	40218	13" Oak	Good	40355	12" Oak	Good	40474	30" Elm	Good	40510	24" Elm (Multiple Trunks)	Good
40182	10" Oak	Good	40219	13" Oak	Good	40364	21" Elm	Good	40475	10" Elm	Good	40511	6" Elm	Good
40183	12" Oak	Good	40220	12" Oak	Good	40373	34" Hackberry	Good	40476	6" Elm	Good	40512	12" Elm	Good
40184	19" Oak	Good	40221	16" Oak	Good	40374	18" Pecan	Good	40477	22" Pecan	Good	40513	10" Elm	Good
40185	23" Oak	Good	40222	15" Oak	Good	40375	29" Pecan	Good	40478	14" Pecan	Good	40514	10" Elm	Good
40186	15" Oak	Good	40223	14" Oak	Good	40444	13" Elm (Multiple Trunks)	Good	40479	6" Mulberry	Good	40515	16" Elm (Multiple Trunks)	Good
40187	20" Oak	Good	40224	12" Oak	Good	40445	8" Elm (Multiple Trunks)	Good	40480	6" Mulberry	Good	40516	10" Elm (Multiple Trunks)	Good
40188	12" Oak	Good	40225	21" Oak	Good	40446	24" Pecan	Good	40481	6" Mulberry	Good			
40189	15" Oak	Good	40226	18" Oak	Good	40447	24" Pecan	Good	40482	6" Hackberry	Good			
40190	17" Oak	Good	40227	19" Oak	Good	40448	9" Elm	Good	40483	6" Hackberry	Good			
40191	20" Oak	Good	40228	32" Oak	Good	40449	10" Elm	Good	40484	6" Elm	Good			
40193	13" Oak	Good	40229	23" Oak	Good	40450	12" Elm	Good	40485	6" Elm	Good			
40194	14" Oak	Good	40230	15" Oak	Good	40451	8" Elm	Good	40486	8" Elm	Good			
40195	14" Oak	Good	40231	15" Oak	Good	40452	10" Elm	Good	40487	6" Mulberry	Good			
40196	19" Oak	Good	40232	13" Oak	Good	40453	7" Pecan	Good	40488	12" Mulberry	Good			
40197	17" Oak	Good	40233	20" Oak	Good	40454	6" Elm	Good	40489	24" Pecan	Good			
40198	16" Oak	Good	40234	15" Oak	Good	40455	7" Elm	Good	40490	12" Pecan	Good			
40199	19" Oak	Good	40235	13" Oak	Good	40456	8" Elm	Good	40492	6" Elm	Good			
40200	12" Oak	Good	40236	15" Oak	Good	40457	8" Elm	Good	40493	6" Elm	Good			
40201	12" Oak	Good	40237	10" Oak	Good	40458	8" Bois-D'arc	Good	40494	7" Elm	Good			
40202	23" Oak	Good	40238	16" Oak	Good	40459	17" Elm	Good	40495	6" Elm	Good			
40203	25" Oak	Good	40239	8" Oak	Good	40460	6" Elm	Good	40496	11" Bois-D'arc	Good			
40204	22" Oak	Good	40240	9" Oak	Good	40461	9" Elm	Good	40497	8" Elm	Good			
40205	11" Oak	Good	40241	20" Oak	Good	40462	10" Elm	Good	40498	13" Hickory (Multiple Trun	Good			
40206	16" Oak	Good	40242	10" Oak	Good	40463	11" Elm	Good	40499	7" Elm	Good			
40207	15" Oak	Good	40243	11" Oak	Good	40464	6" Elm	Good	40500	10" Bois-D'arc	Good			
40209	11" Oak	Good	40244	16" Oak	Good	40465	6" Hackberry	Good	40501	8" Elm	Good			
40210	12" Oak	Good	40245	26" Oak	Good	40466	7" Elm (Multiple Trunks)	Good	40502	10" Elm	Good			
40211	9" Oak	Good	40246	27" Oak	Good	40467	7" Elm	Good	40503	6" Bois-D'arc	Good			
						40468	9" Elm (Multiple Trunks)	Good	40504	7" Elm	Good			



PROTECTIVE FENCING:
Orange vinyl construction fencing, chain link fencing, snow fencing, or other similar fencing at least four feet (4') high and supported at a maximum of ten (10') foot intervals by approved methods sufficient enough to keep the fence upright and in place. The fencing shall be of a highly visible material.

PRIOR TO CONSTRUCTION:
The Contractor or Subcontractor shall construct and maintain, for each protected tree or group of trees on a construction site, a protective fencing which encircles the outer limits of the critical root zone of the trees to protect it from construction activity. All protective fencing shall be in place prior to commencement of any site work, and remain in place until all exterior work has been completed.

TREE PROTECTION FENCING N.T.S.



In situations where a protected tree remains in the immediate area of intended construction, and the tree may be in danger of being damaged by construction equipment or other activity, the Contractor or Subcontractor shall protect the tree with 2" x 4" lumber encircled with wire or other means that do not damage the tree. The intent is to protect the trunk of the tree against incidental contact by large construction equipment.

BARK PROTECTION N.T.S.

DATE	BY	REVISIONS

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STACKED OFFICE & STORAGE
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TREE MITIGATION PLAN

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW, AGENCY APPROVAL, AND COMMENT UNDER THE AUTHORITY OF JAMES R. KINDRED, ASLA
LANDSCAPE ARCHITECT No. 2255, ON 06/10/19
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TBPE Registration #: F-1002

JOB NUMBER:	2018-107
DESIGNED BY:	JRK
DRAWN BY:	JRK
CHECKED BY:	JF
DATE:	06/11/2019
SHEET:	L0.0

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FULL PATH: I:\Projects\2018\2018.107 Stacked Self Storage - Coppell, TX\Drawings\03-Production\1-Projects\2018.107 Stacked Self Storage - Coppell, TX\Drawings\03-Production\L0.0 TREE MITIGATION PLAN

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PLOTTED ON: Monday, June 10, 2019
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