

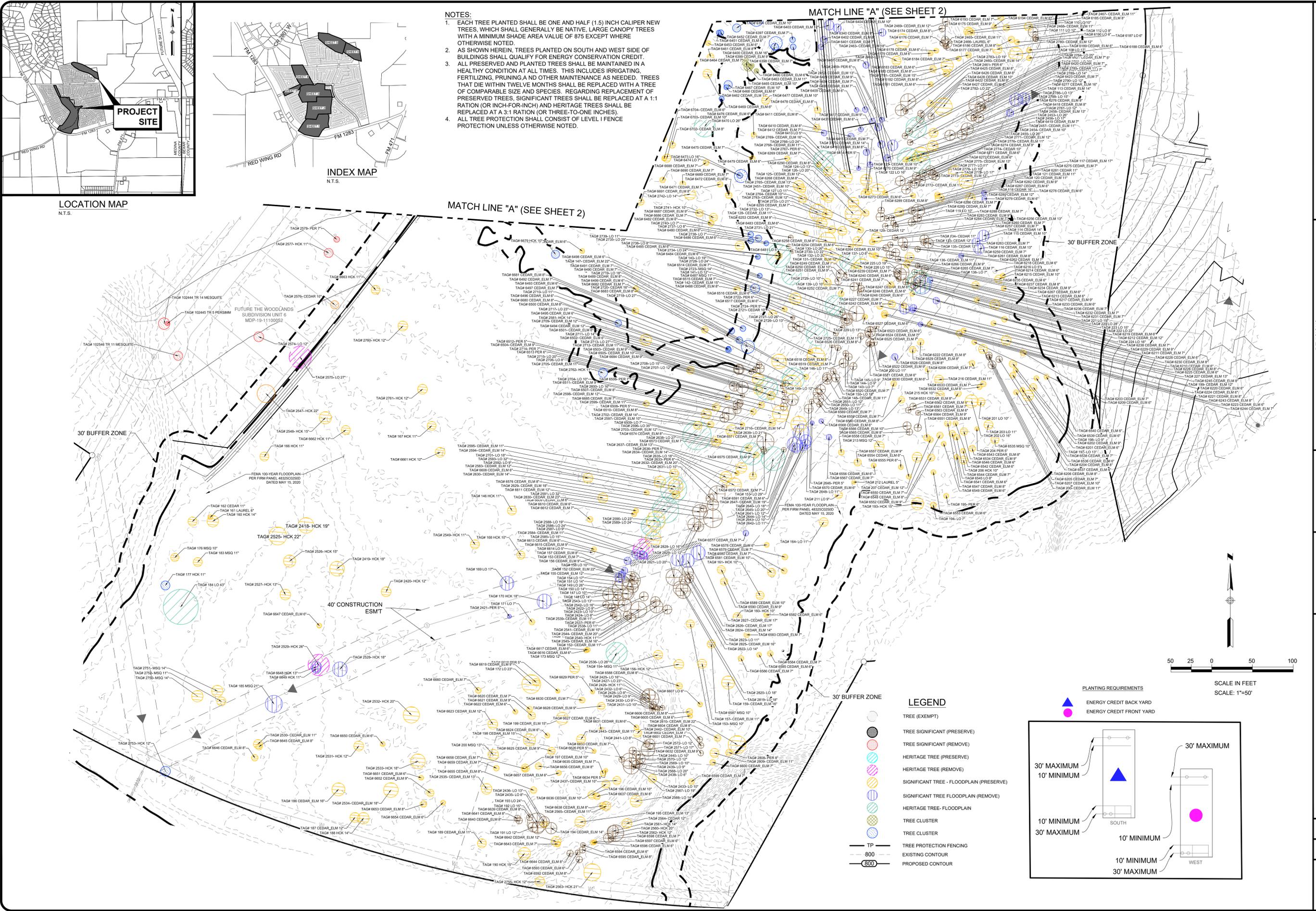
LOCATION MAP  
N.T.S.

INDEX MAP  
N.T.S.

- NOTES:**
- EACH TREE PLANTED SHALL BE ONE AND HALF (1.5) INCH CALIPER NEAR TRUNK, WHICH SHALL GENERALLY BE NATIVE, LARGE CANOPY TREES WITH A MINIMUM SHADE AREA VALUE OF 875 EXCEPT WHERE OTHERWISE NOTED.
  - AS SHOWN HEREIN, TREES PLANTED ON SOUTH AND WEST SIDE OF BUILDINGS SHALL QUALIFY FOR ENERGY CONSERVATION CREDIT.
  - ALL PRESERVED AND PLANTED TREES SHALL BE MAINTAINED IN A HEALTHY CONDITION AT ALL TIMES. THIS INCLUDES IRRIGATING, FERTILIZING, PRUNING AND OTHER MAINTENANCE AS NEEDED. TREES THAT DIE WITHIN TWELVE MONTHS SHALL BE REPLACED WITH A TREE OF COMPARABLE SIZE AND SPECIES. REGARDING REPLACEMENT OF PRESERVED TREES, SIGNIFICANT TREES SHALL BE REPLACED AT A 1:1 RATION (OR INCH-FOR-INCH) AND HERITAGE TREES SHALL BE REPLACED AT A 3:1 RATION (OR THREE-TO-ONE INCHES).
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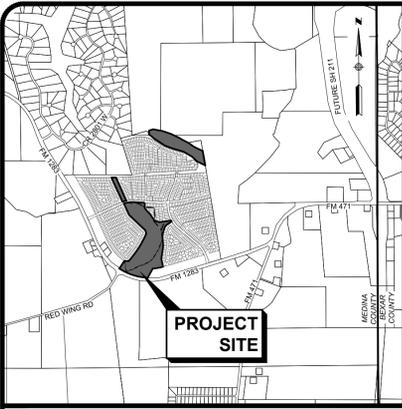
MATCH LINE "A" (SEE SHEET 2)

MATCH LINE "A" (SEE SHEET 2)









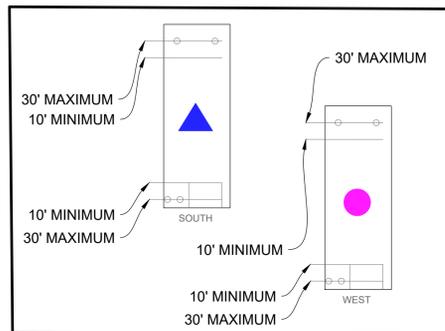
LOCATION MAP  
N.T.S.

LEGEND

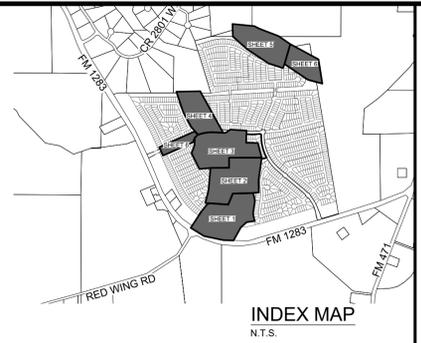
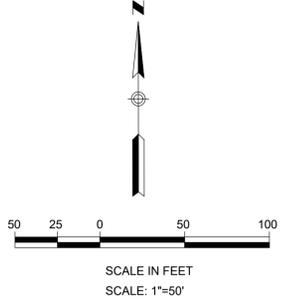
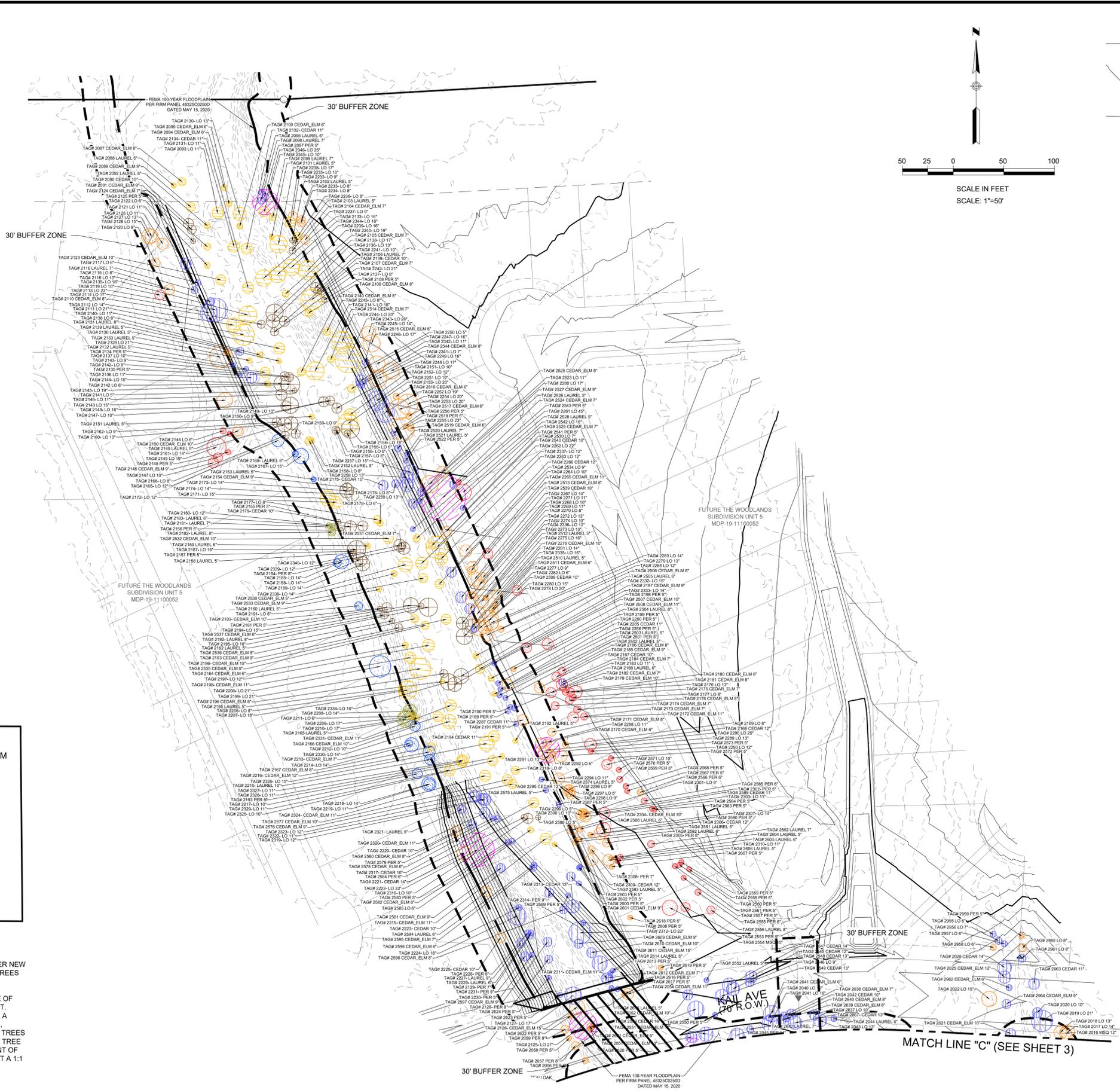
- TREE (EXEMPT)
- TREE SIGNIFICANT (PRESERVE)
- TREE SIGNIFICANT (REMOVE)
- HERITAGE TREE (PRESERVE)
- HERITAGE TREE (REMOVE)
- SIGNIFICANT TREE - FLOODPLAIN (PRESERVE)
- SIGNIFICANT TREE FLOODPLAIN (REMOVE)
- HERITAGE TREE - FLOODPLAIN
- TREE CLUSTER
- TREE CLUSTER
- TP TREE PROTECTION FENCING
- 800 EXISTING CONTOUR
- 800 PROPOSED CONTOUR

PLANTING REQUIREMENTS

- ENERGY CREDIT BACK YARD
- ENERGY CREDIT FRONT YARD



- NOTES:
1. EACH TREE PLANTED SHALL BE ONE AND HALF (1.5) INCH CALIPER NEW TREES, WHICH SHALL GENERALLY BE NATIVE. LARGE CANOPY TREES WITH A MINIMUM SHADE AREA VALUE OF 875 EXCEPT WHERE OTHERWISE NOTED.
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INDEX MAP  
N.T.S.

THE WOODLANDS AT MEDINA HILLS  
TREE PRESERVATION PLAN  
(SHEET 4 OF 6)

NO.	REVISIONS	DESCRIPTION	DATE	BY

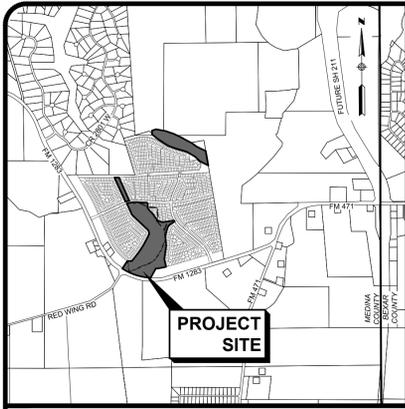
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DESIGNED BY:	JD
DRAWN BY:	JD
CHECKED BY:	JG
PREPARED BY:	JG
DATE:	3/8/2023

DATE:	3/8/2023
DESIGNED BY:	JD
DRAWN BY:	JD
CHECKED BY:	JG
PREPARED BY:	JG
DATE:	3/8/2023

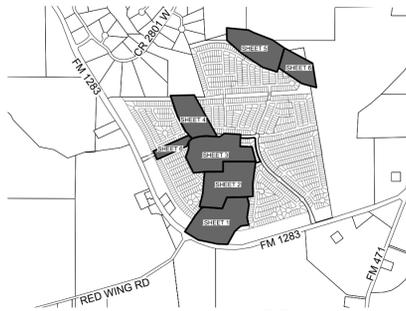
**LJA Engineering, Inc.**  
 1100 NE Loop 410  
 Suite 850  
 San Antonio, Texas 78209  
 Phone: 210.503.2700  
 Fax: 210.503.2749  
 TBP# No. T-1886

JOB NUMBER:	SA190-0401A-426
SHEET NO.	4
OF 16 SHEETS	

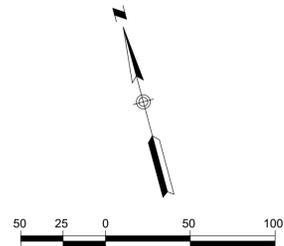
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 User: jbenner  
 Last Modified: Mar 08, 23 - 10:09:09  
 Plot Date/Time: Mar 08, 23 - 10:04:20



LOCATION MAP  
N.T.S.

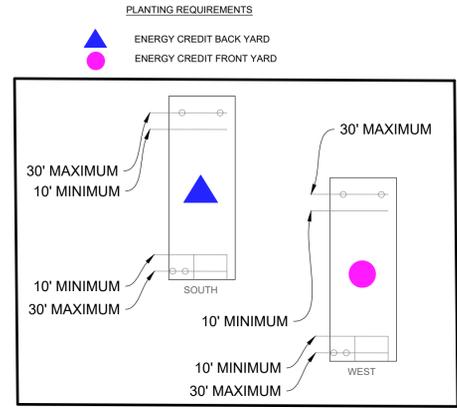


INDEX MAP  
N.T.S.



SCALE IN FEET  
SCALE: 1"=50'

- NOTES:
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THE WOODLANDS AT MEDINA HILLS  
TREE PRESERVATION PLAN  
(SHEET 5 OF 6)

NO.	REVISIONS	DESCRIPTION	BY	DATE

DATE:	3/8/2023
DESIGNED BY:	JD
DRAWN BY:	JD
CHECKED BY:	JG
ISSUING NAME:	JG

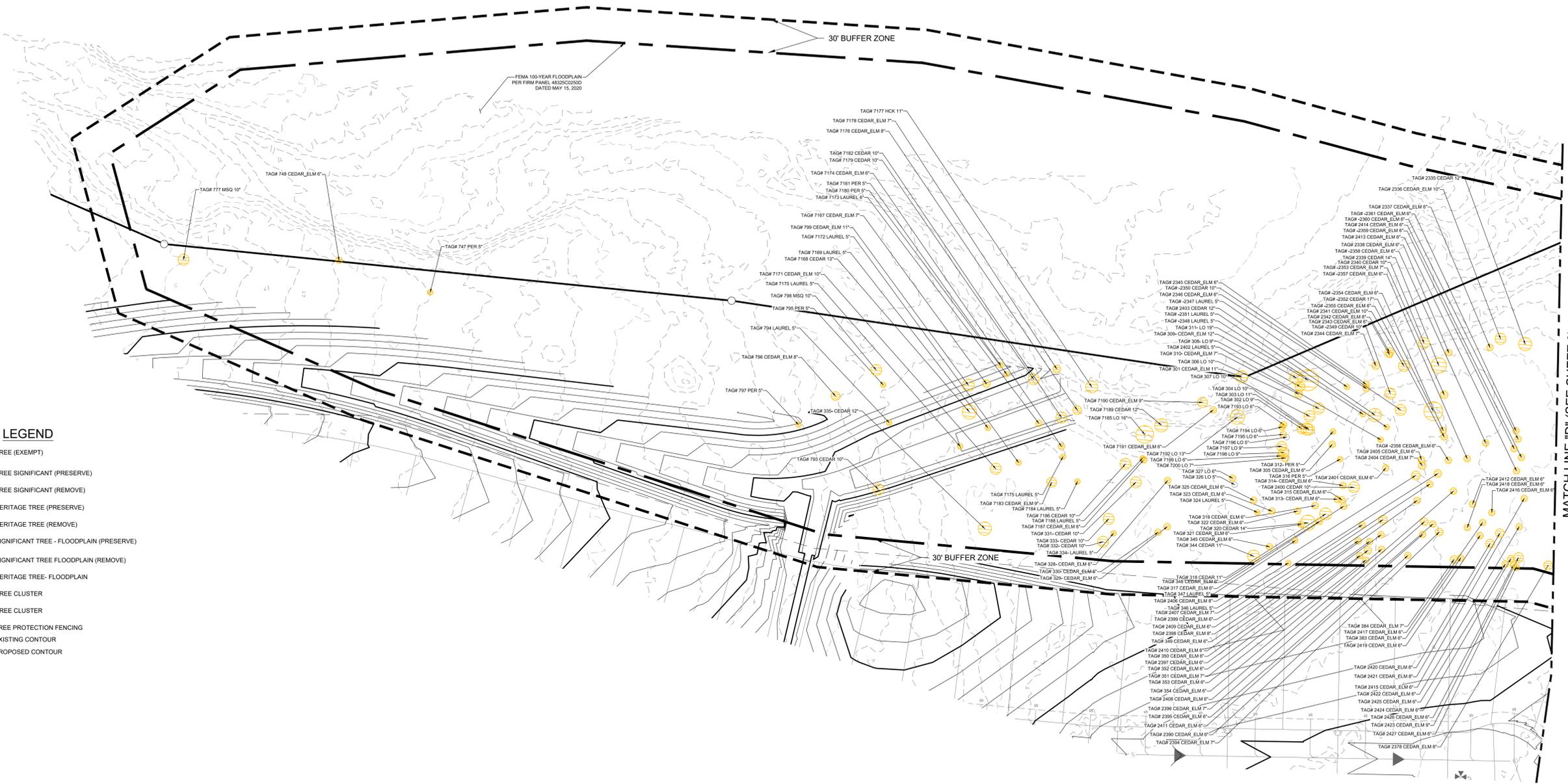
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DESIGNED BY:	JD
DRAWN BY:	JD
CHECKED BY:	JG
ISSUING NAME:	JG

DATE:	3/8/2023
DESIGNED BY:	JD
DRAWN BY:	JD
CHECKED BY:	JG
ISSUING NAME:	JG

DATE:	3/8/2023
DESIGNED BY:	JD
DRAWN BY:	JD
CHECKED BY:	JG
ISSUING NAME:	JG

JOB NUMBER:	SA190-0401A-426
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SHEET NO.	5
OF 16 SHEETS	

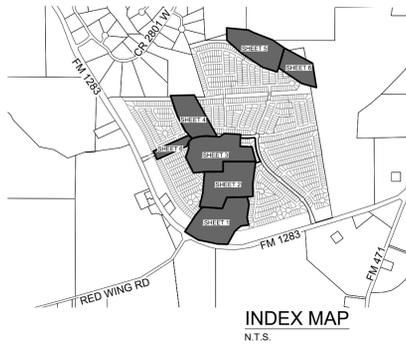
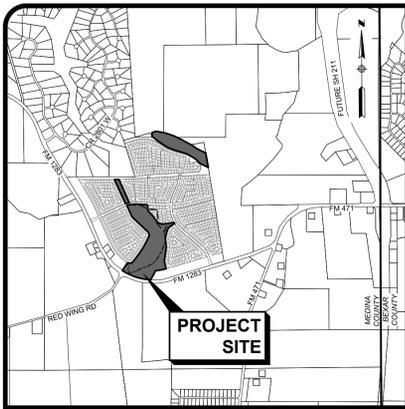


MATCH LINE "D" (SEE SHEET 6)

LEGEND

- TREE (EXEMPT)
- TREE SIGNIFICANT (PRESERVE)
- TREE SIGNIFICANT (REMOVE)
- HERITAGE TREE (PRESERVE)
- HERITAGE TREE (REMOVE)
- SIGNIFICANT TREE - FLOODPLAIN (PRESERVE)
- SIGNIFICANT TREE FLOODPLAIN (REMOVE)
- HERITAGE TREE - FLOODPLAIN
- TREE CLUSTER
- TREE CLUSTER
- TP TREE PROTECTION FENCING
- 800 EXISTING CONTOUR
- 800 PROPOSED CONTOUR

K:\SA190\_0401A\_Terms\_Loc\0401A\_Woodlands at Medina Hills\_Site\_Development\_Plan\0401A-Sheets\05\_Tree\_Preservation\_Plan.dwg  
 User: jbrown  
 Last Modified: Mar 08, 2023 10:05:49 AM  
 Plot Date/Time: Mar 08, 2023 10:05:49 AM



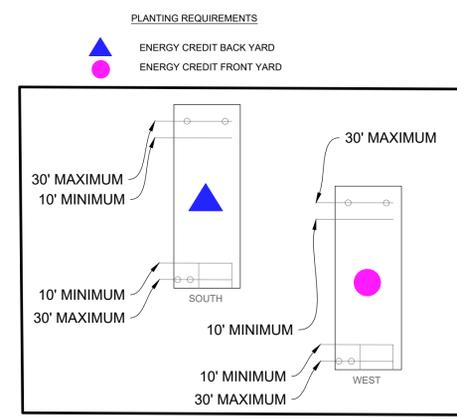
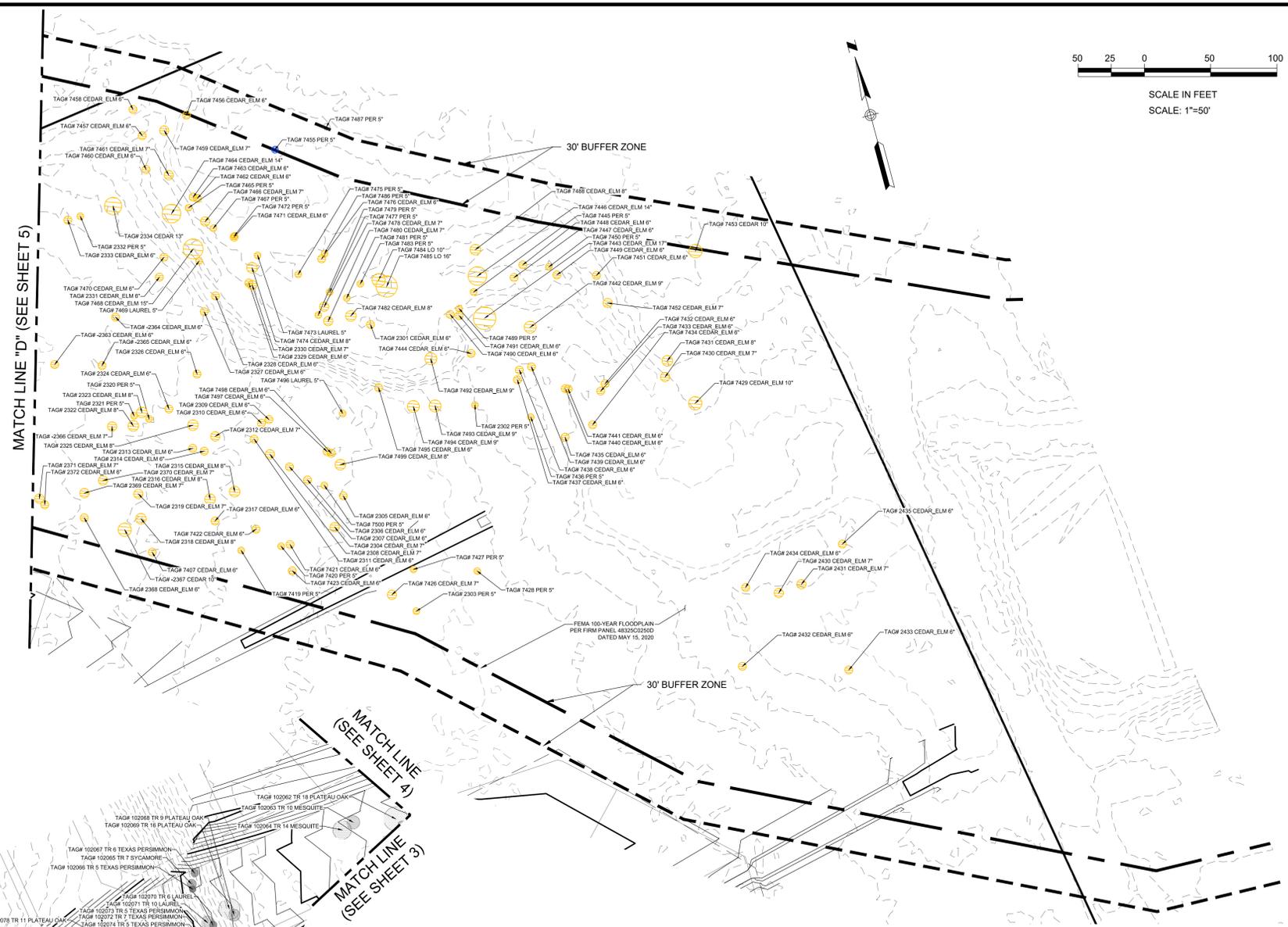
LOCATION MAP  
N.T.S.

**LEGEND**

- TREE (EXEMPT)
- TREE SIGNIFICANT (PRESERVE)
- TREE SIGNIFICANT (REMOVE)
- HERITAGE TREE (PRESERVE)
- HERITAGE TREE (REMOVE)
- SIGNIFICANT TREE - FLOODPLAIN (PRESERVE)
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K:\S\190\_Loop\_Terrace\_LCC\04018\_Woodlands at Medina Hills\_Site\_Development\_Plan\04018-Sheets\04-Tree\_Preservation\_Plan\04018.dwg  
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 Last Modified: Mar 06, 2023 10:00:00  
 Plot Date/Time: Mar 06, 2023 10:00:37

**THE WOODLANDS AT MEDINA HILLS  
TREE PRESERVATION PLAN  
(SHEET 6 OF 6)**

NO.	DATE	BY	REVISIONS DESCRIPTION

DATE:	3/6/2023
DESIGNED BY:	JD
DRAWN BY:	JD
CHECKED BY:	JG
ISSUING NAME:	JG
ISSUING TITLE:	sh_Tree Preservation (Floodplain).dwg

**LJA Engineering, Inc.**  
 Phone 210.503.2700  
 Fax 210.503.2749  
 Suite 850  
 San Antonio, Texas 78209

JOB NUMBER:  
SA190-0401A-426

SHEET NO.  
**6**  
OF 16 SHEETS

K:\SA190\_Loop\_Terrace\_LC\04018\_Woodlands at Medina Hills\_Site\05-Tree\_Preservation\_Plan\05-Tree\_Preservation\_Plan.dwg  
 User: jbeninger  
 Last Modified: Mar 06, 2013 10:00:00 AM  
 Plot Date/Time: Mar 06, 2013 10:00:39 AM

Floodplain Tree Inventory Worksheet to Determine Preservation and Canopy Shade Coverage																
Tag #	Species	Exempt	Understory Species* 6.0' - 11.5'		Significant Tree* 6" - 23.5"		Significant Tree** 10.0" - 23.5"		Heritage 1:1 24" + HERITAGE TREES		Heritage 1:1 11.5" + HERITAGE TREES		Heritage 1:1 10.0" - 23.5"		Additional Inches Preserved for Mitigation***	Tree Canopy Cover Shade Value
			Removed	Preserved	Removed	Preserved	Removed	Preserved	Removed	Preserved	Removed	Preserved	Removed	Preserved		
2387	CEDAR 10"															875
2387	LO 12"															875
2395	CEDAR_ELM 6"															875
2395	LO 9"															875
2395	LO 11"															875
2395	LO 12"															875
2395	LO 13"															875
2395	LO 14"															875
2395	LO 15"															875
2395	LO 16"															875
2395	LO 17"															875
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2395	LO 142"															

















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 Last Modified: May 06, 2024 10:00  
 Plot Date/Time: May 06, 2024 10:00:21

**DEVELOPMENT SERVICES DEPARTMENT**  
**WORKSHEET TO DETERMINE IF YOU MEET FINAL TREE CANOPY**  
**REQUIREMENT. COMPLETE INFORMATION HIGHLIGHTED IN YELLOW**

**Woodlands Floodplain Buffer**  
**AP Number:**

**Step 1 - Calculate Final Tree Canopy Cover Requirement**

What is the Size of Lot 454390 sq ft 10.4 ac  
**Final Canopy Required (38% of lot area) 172668 sq ft**

**Step 2 - Determine Minimum Tree Preservation Requirements**

What is the percentage of current canopy coverage to be preserved on the Lot (minimum preservation needs to be 20% without requiring an administrative exception) 20%  
 or 193,375 sq ft  
 Total Square Footage of Existing Canopy 193,375 sq ft  
**Existing Tree Canopy Preservation Requirement (35% Requirement) 67681 sq ft**

**Step 3 - Calculation of Canopy Shade Area of New Tree Plantings (2 Trees Required)**

TREES PLANTED ON NORTH OR EAST SIDE OF HOUSE - NO ENERGY CONSERVATION CREDIT

Shade Value of Tree(s) Selected from San Antonio Recommended Plant List	Number of Trees	Shade Value
Trees with Shade Value of 550 sq ft	0	90% 0 sq ft
Trees with Shade Value of 875 sq ft	0	90% 0 sq ft
Trees with shade value of 1200 sq ft	0	90% 0 sq ft
<b>Total Square Footage of Existing Canopy</b>		<b>0 sq ft</b>

TREES PLANTED ON SOUTH OR WEST SIDE OF HOUSE - ENERGY CONSERVATION CREDIT

Shade Value of Tree(s) Selected from San Antonio Recommended Plant List	Number of Trees	Shade Value
Trees with Shade Value of 550 sq ft	0	90% 0 sq ft
Trees with Shade Value of 875 sq ft	0	90% 0 sq ft
Trees with shade value of 1200 sq ft	0	90% 0 sq ft
<b>Total Square Footage of Existing Canopy</b>		<b>0 sq ft</b>
<b>Grand Total Canopy/Shade Area of Trees Planted</b>		<b>0 sq ft</b>

**Step 4 - Determine if you Met Final Tree Canopy Requirement**

Canopy/Shade Area of Preservation & Planted 193,375 sq ft  
**Final Canopy Required (38% of lot area) 172,668 sq ft**  
**Net Canopy 20,707 sq ft**

**Did you meet Tree Canopy Goal? YES, PLEASE SUBMIT THIS WORKSHEET WITH BUILDING PERMIT APPLICATION, TREE AFFIDAVIT AND AERIAL PHOTOGRAPH**

TREE PLANTING:  
 \*ALL MITIGATION WILL BE DONE WITH THE WOODLANDS AT MEDINA HILLS - TRE-PMT-21-38800750  
 1. TOTAL MITIGATION REQUIRED = 656.6" + 501.6 = 1158.2"

	Undersized Diameter			Small Diameter (5-12)			Significant (6-24)			Large Significant (10-24)			Heritage 3:1			Heritage 1:1		
	Total	Preserved	Removed	Total	Preserved	Removed	Total	Preserved	Removed	Total	Preserved	Removed	Total	Preserved	Removed	Total	Preserved	Removed
<b>UPLAND</b>	0	0	0	159	14	145	927	124	803	447	140	307	141	65	76	43	28	15
Total (In)	0	0	0	159	14	145	927	124	803	447	140	307	141	65	76	43	28	15
Required Preservation %							35%											100%
Preservation %							8.8%											50.5%
Preserved Inches	0						159.0											93.0
Required Inches							55.7											243.0
Mitigation Required/(Excess)							41.7											243.0
Combined Mitigation/(Excess)										501.6								
AEVR Required (TRUE/FALSE)							True			True								False
<b>NONFLOODPLAIN (COMBINED)</b>	0	0	0	392	97	295	3727	1782	1945	596	195	401	141	65	76	43	28	15
Total (In)	0	0	0	392	97	295	3727	1782	1945	596	195	401	141	65	76	43	28	15
Required Preservation %							35%											100%
Preservation %							24.7%											50.5%
Preserved Inches	0						392.0											93.0
Required Inches							137.2											466.0
Mitigation Required/(Excess)							40.2											243.0
Combined Mitigation/(Excess)										(180.8)								
AEVR Required (TRUE/FALSE)							False			False								False
<b>ESA</b>	0	0	0	233	83	150	2800	1658	1142	149	55	94	0	0	0	0	0	0
Total (In)	0	0	0	233	83	150	2800	1658	1142	149	55	94	0	0	0	0	0	0
Required Preservation %							80%											100%
Preservation %							59.4%											#DIV/0!
Preserved Inches	93.3						1889.3											0.0
Required Inches							2545.6											0.0
Mitigation Inches							656.3											0.0
Combined Mitigation/(Excess)										563.0								
Variance Required (TRUE/FALSE)							True			False								False
<b>FLOODPLAIN</b>	0	0	0	1488	986	502	18613	16021	2592	987	844	143	1497	1181	316	50	24	26
Total (In)	0	0	0	1488	986	502	18613	16021	2592	987	844	143	1497	1181	316	50	24	26
Required Preservation %							80%											100%
Preservation %							84.7%											78%
Preserved Inches	868						18719.0											1205.0
Required Inches							16870.4											974.0
Mitigation Inches							(1848.6)											974.0
Combined Mitigation/(Excess)										(1742.6)								
Variance Required (TRUE/FALSE)							False			True								True
Mitigation	UPLAND									501.6								
Mitigation	NONFLOODPLAIN - COMBINED									0.0								
Mitigation	ESA									563.0								
Mitigation	FLOODPLAIN									0.0								
Total										0.0								

Note: : \$35-123 No Mitigation Required for municipality tree removal associated with floodplain drainage projects.

NO.	REVISIONS	DESCRIPTION	DATE	BY

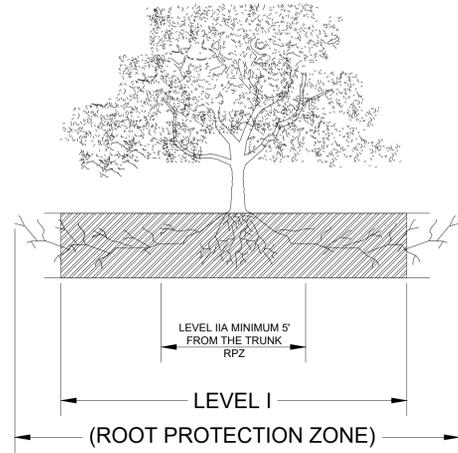
DATE: 3/8/2023  
 DESIGNED BY: JD  
 DRAWN BY: JD  
 CHECKED BY: JG  
 PREPARED BY: JG  
 FILE: 0401A-Tree\_Preservation\_(Floodplain).dwg

**LJA Engineering, Inc.**

1100 NE Loop 410  
 Suite 850  
 San Antonio, Texas 78209

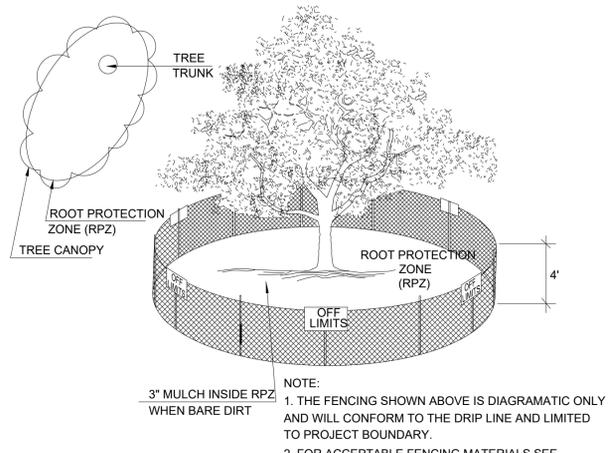
Phone 210-503-2700  
 Fax 210-503-2749  
 TBP# No. F-1386

JOB NUMBER:  
 SA190-0401A-426



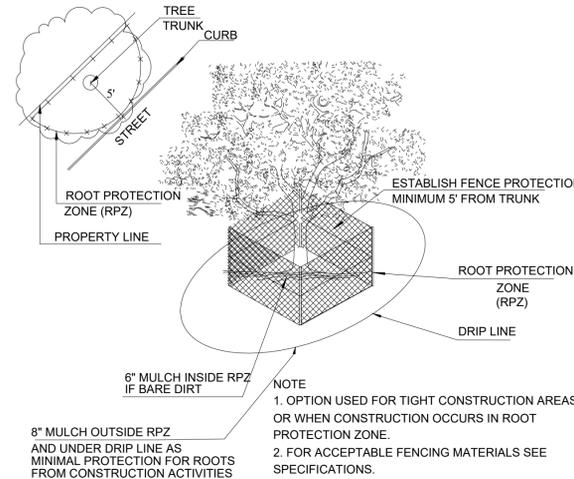
1.1.1 ELEVATION  
N. T. S.

ROOT PROTECTION ZONE-THE ROOT PROTECTION ZONE IS A CIRCULAR AREA AROUND A TREE THAT IS BASED ON THE DIAMETER OF THE TREE. EACH 1 INCH DIAMETER OF THE TREE EQUALS 1 FOOT RADIUS FOR ROOT PROTECTION ZONE.



1.1.2 LEVEL I & FENCE PROTECTION  
N. T. S.

NOTE:  
1. THE FENCING SHOWN ABOVE IS DIAGRAMATIC ONLY AND WILL CONFORM TO THE DRIP LINE AND LIMITED TO PROJECT BOUNDARY.  
2. FOR ACCEPTABLE FENCING MATERIALS SEE SPECIFICATIONS.

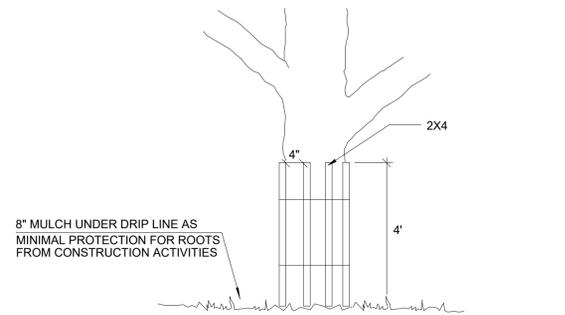


1.1.3 LEVEL II A FENCE PROTECTION  
N. T. S.

NOTE:  
1. OPTION USED FOR TIGHT CONSTRUCTION AREAS OR WHEN CONSTRUCTION OCCURS IN ROOT PROTECTION ZONE.  
2. FOR ACCEPTABLE FENCING MATERIALS SEE SPECIFICATIONS.

GENERAL NOTES

- ALL THE TREES WITH A DIAMETER GREATER THAN 3 INCHES AFFECTED BY CONSTRUCTION SHALL HAVE THE LIMBS AND ROOTS TRIMMED AND PRUNED ACCORDING TO ITEM No. 802. TREE PRUNING, SOIL AMENDING AND FERTILIZATION, UNLESS SPECIFIED, TREES SHALL RECEIVE LEVEL 1 PROTECTION AS PER ITEM No. 802. TREES TO RECEIVE LEVEL 2 A PROTECTION AS PER ITEM No. 802 ARE IDENTIFIED ON THE TREE PROTECTION PLAN.
- ALL TREES SHALL REMAIN UNLESS NOTED ON THE PLANS.
- NO SITE PREPARATION WORK SHALL BEGIN IN AREAS WHERE TREE PRESERVATION AND TREATMENT MEASURES HAVE NOT BEEN COMPLETED AND APPROVED.
- TREE PROTECTION FENCING SHALL BE REQUIRED. TREE PROTECTION FENCING SHALL BE INSTALLED, MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING SITE CONSTRUCTION.
- THE CONTRACTOR SHALL AVOID CUTTING ROOTS LARGER THAN THREE INCHES IN DIAMETER WHEN EXCAVATING NEAR EXISTING TREES. EXCAVATION IN THE VICINITY OF TREES SHALL PROCEED WITH CAUTION. THE CONTRACTOR SHALL CONTACT THE CITY INSPECTOR.
- THE ROOT PROTECTION ZONE IS THAT AREA SURROUNDING A TREE, AS MEASURED BY A RADIUS FROM THE TREE TRUNK, IN WHICH NO EQUIPMENT, VEHICLES OR MATERIALS MAY OPERATE OR BE STORED. THE REQUIRED RADIUS LENGTH IS 1 FOOT PER DIAMETER INCH OF THE TREE. FOR EXAMPLE, A 10-INCH DIAMETER TREE WOULD HAVE A 5-FOOT RADIUS ROOT PROTECTION ZONE AROUND THE TREE. ROOTS OR BRANCHES THAT ARE IN CONFLICT WITH THE CONSTRUCTION SHALL BE CUT CLEARLY ACCORDING TO PROPER PRUNING METHODS. ALL OAK WOUNDS SHALL BE PAINTED OVER, WITHIN 20 MINUTES TO PREVENT OAK WILT.
- ACCESS TO FENCED AREAS WILL BE PERMITTED ONLY WITH THE APPROVAL OF THE ENGINEER OR CITY INSPECTOR.
- GRADING, IF REQUIRED, SHALL BE LIMITED TO A 3 INCH CUT OR FILL WITHIN THE FENCED ROOT ZONE AREAS.
- TREES, SHRUBS OR BUSHES TO BE CLEARED FROM PROTECTED ROOT ZONE AREAS SHALL BE REMOVED BY HAND AS DIRECTED BY THE PROJECT MANAGER OR CITY INSPECTOR.
- TREES DAMAGED OR LOST DUE TO CONTRACTOR'S NEGLIGENCE DURING CONSTRUCTION SHALL BE MITIGATED TO THE ENGINEER'S SATISFACTION.
- EXPOSED ROOTS SHALL BE COVERED AT THE END OF EACH DAY USING TECHNIQUES SUCH AS COVERING WITH SOIL, MULCH OR WET BURLAP.
- ANY TREE REMOVAL SHALL BE APPROVED BY THE CITY ARBORIST PRIOR TO ITS REMOVAL.

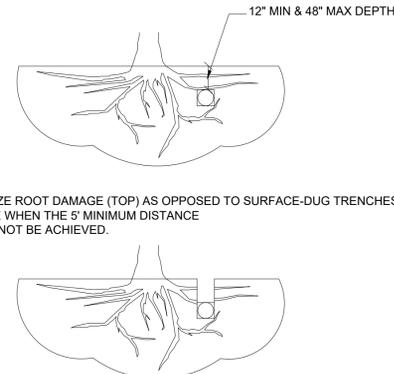


1.1.4 LEVEL II B FENCE PROTECTION  
N. T. S.

NOTE  
WRAP TREE TRUNK WITH 2"x4" STUDS AND ROPE OR BAND IN PLACE AS NEEDED TO PROTECT TREES IN WORK AREAS.

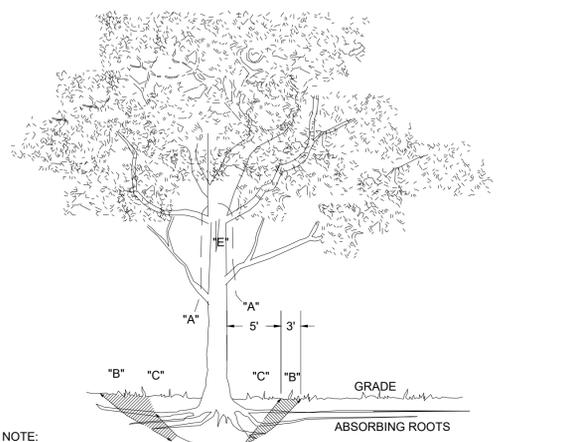
TREES THAT ARE MARKED TO BE PRESERVED ON A SITE PLAN AND FOR WHICH UTILITIES MUST PASS THROUGH THEIR ROOT PROTECTION ZONES MAY REQUIRE TUNNELING AS OPPOSED TO OPEN TRENCHES. THE DECISION TO TUNNEL WILL BE DETERMINED ON A CASE BY CASE BASIS BY THE ENGINEER.

TUNNELS SHALL BE DUG THROUGH THE ROOT PROTECTION ZONE IN ORDER TO MINIMIZE ROOT DAMAGE.



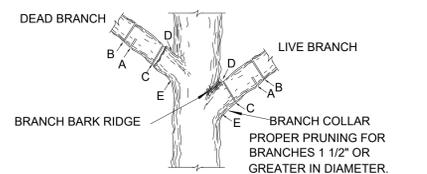
1.2 BORING THRU TREE ROOT ZONE  
N. T. S.

OPEN TRENCHING MAY BE USED IF EXPOSED TREE ROOTS DO NOT EXCEED 3" OR ROOTS CAN BE BENT BACK.



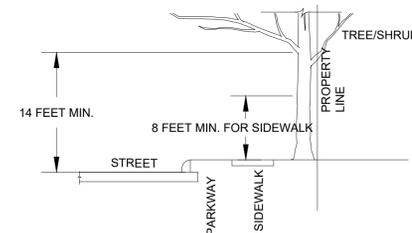
NOTE:  
"A" REMOVE BULKY TREE PARTS "SHRED" AND/OR HAUL SEPARATELY.  
"B" BEGIN EXCAVATION APPROX. 8' FROM THE TRUNK - CUT THRU ANCHOR ROOTS AT AN ANGLE - 3" TO 4" DEEP  
"C" USING TREE TRUNK AS A LEVER PUSH AT POINT "E" TO REMOVE TREE BOLE AND LARGE FEEDER ROOTS (4" TO 10" IN DIAM.)  
"D" BACKFILL HOLE AND CLEAN UP.

1.3 TREE REMOVAL DIAGRAM  
N. T. S.



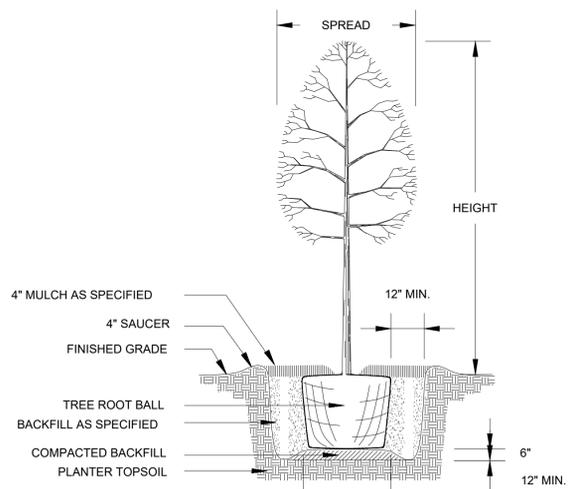
1.4 BRANCH PRUNING DETAIL  
N. T. S.

NOTE: DO NOT CUT FROM D to E.  
A. FIRST CUT - TO PREVENT THE BARK FROM BEING PEELED WHEN THE BRANCH FALLS.  
B. SECOND CUT - TO REDUCE THE WEIGHT OF BRANCH.  
C. FINAL CUT - ALLOW FOR HEALING COLLAR BUT NO STUBS  
D. BRANCH RIDGES - INDENT PROPERLY BRANCH RIDGES WHICH ARE SITE FOR DECAY.  
FOR OAKS ONLY: PAINT ALL WOUNDS OR CUTS WITH PRUNING PAINT WITHIN 20 MIN TO PREVENT THE SPREAD OF OAK WILT.



1.5 BRANCH CLEARANCE DETAIL  
N. T. S.

FIGURE No.2:  
A MINIMUM BRANCH CLEARANCE OF 14 FEET ABOVE STREET ELEVATION MUST BE MAINTAINED FROM THE PROPERTY LINE TO THE CURB LINE AS PRESCRIBED BY PROJECT MANAGER.



1.6 NEW TREE PLANTING DETAIL  
N. T. S.

NO.	DATE	BY	REVISIONS DESCRIPTION

DATE:	3/8/2023
DESIGNED BY:	JD
DRAWN BY:	JD
CHECKED BY:	JG
PREPARED BY:	JG
DATE:	3/8/2023

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 TBP# No. T-1986

JOB NUMBER:  
SA190-0401A-426

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 User: rbrenner  
 Last Modified: Mar 08, 2023 10:00  
 Plot Date/Time: Mar 08, 2023 10:00:23