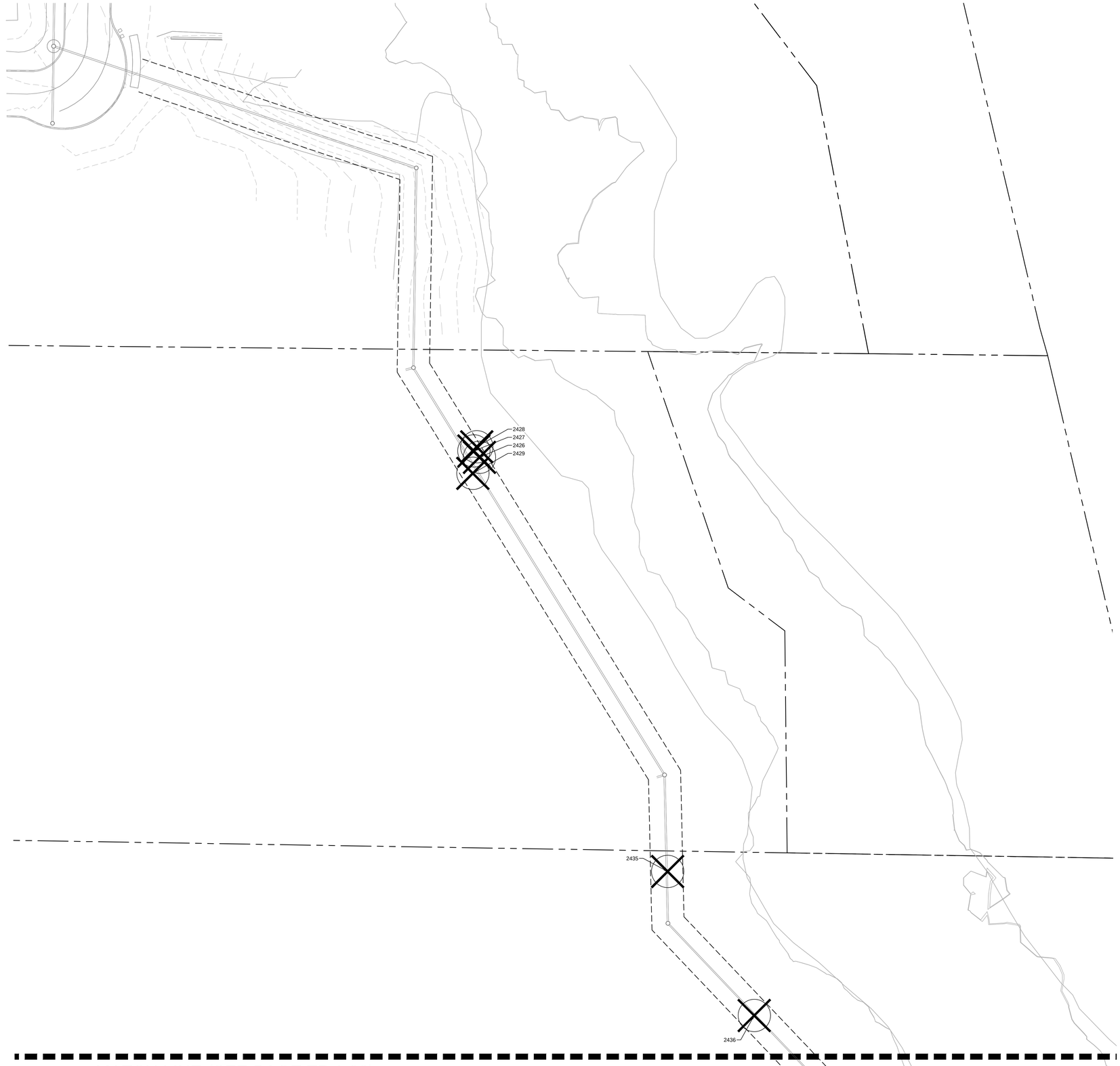

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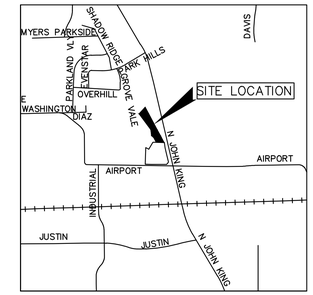

VICINITY MAP
N.T.S.

NORTH

TREE PRESERVATION LEGEND

EXISTING TREE TO BE REMOVED

TREE PRESERVATION AND REMOVAL NOTES

1. CONTRACTOR SHALL COORDINATE WITH ISA CERTIFIED ARBORIST AND PROPERTY OWNERS TO VERIFY OBJECTIVES PRIOR TO COMMENCING ANY PRUNING OR TREE REMOVAL ACTIVITIES.

2. ALL CREW MEMBERS SHOULD BE WEARING THE APPROPRIATE SAFETY GEAR: HARD HATS, EYE PROTECTION, APPROVED BOOTS, HEARING PROTECTION, CHAIN SAW CHAPS FOR GROUNDWORK.

3. ANY TREES REMOVED, AND ALL TREE MATERIALS REMOVED SHALL BE REMOVED FROM THE PROPERTY AT THE CONTRACTOR'S EXPENSE.

4. ALL TRASH AND DEBRIS FROM ANY CONSTRUCTION RELATED ACTIVITIES SHALL BE REMOVED FROM THE SITE AT THE CONTRACTOR'S EXPENSE, FOLLOWING COMPLETION OF THE PROJECT.

5. ANY DAMAGE TO THE EXISTING LANDSCAPE, PAVEMENT, BUILDING, OR ANY OTHER SITE FEATURES SHALL BE REPLACED BY THE CONTRACTOR AND/OR RESTORED TO PRE-CONSTRUCTION CONDITION.

6. CONTRACTOR SHALL PROVIDE REMOVAL, STORAGE, AND TRANSPLANTING OF EXISTING TREES ON SITE. THE CONTRACTOR SHALL REMOVE EACH EXISTING TREE THROUGH THE USE OF HAND DIGGING, OR WITH THE USE OF AN APPROVED MECHANICAL DEVICE. TREES SHALL BE HARVESTED AS BALLED & BURLAPPED TREE SPECIMENS, PER ANSI Z60 STANDARDS, AND TRANSPORTED TO NEW LOCATION ON SITE, OR AT ALTERNATE SITE AS DIRECTED OR APPROVED BY THE OWNER. CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIALS NECESSARY TO PROVIDE FOR REMOVAL, PLACEMENT OF BURLAP, PLACEMENT OF WIRE BASKET OR OTHER APPROVED BALL-SUPPORTING DEVICE, TRANSPORT TO TEMPORARY STORAGE AREA, ONGOING MAINTENANCE AND WATERING DURING CONSTRUCTION, AND RE-PLANTING TO BE PERFORMED UPON COMPLETION OF MAJOR SITE WORK. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE GUIDELINES AND RECOMMENDATIONS SET FORTH IN THE AMERICAN STANDARDS FOR NURSERY STOCK.

NOTE:
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NORTH
GRAPHIC SCALE IN FEET
0 15 30 60

CAUTION
EXISTING UNDERGROUND UTILITIES. CONTRACTOR TO VERIFY EXACT LOCATION PRIOR TO ANY TRENCHING OR EXCAVATION.

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WWW.KIMLEY-HORN.COM TX F-928

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REGISTERED LANDSCAPE ARCHITECT
STATE OF TEXAS
02/12/2026

KHA PROJECT	064454302
DATE	FEBRUARY 2026
SCALE	AS SHOWN
DESIGNED BY	ERW
DRAWN BY	ERW
CHECKED BY	NBA

FUEL CITY - ROCKWALL
ROCKWALL, TEXAS, 75087

TREE PERSERVATION PLAN

SHEET NUMBER
TP 1.01

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IMAGES
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PLOTTED BY KICKINER, BRANDON 2/12/2026 11:30 AM
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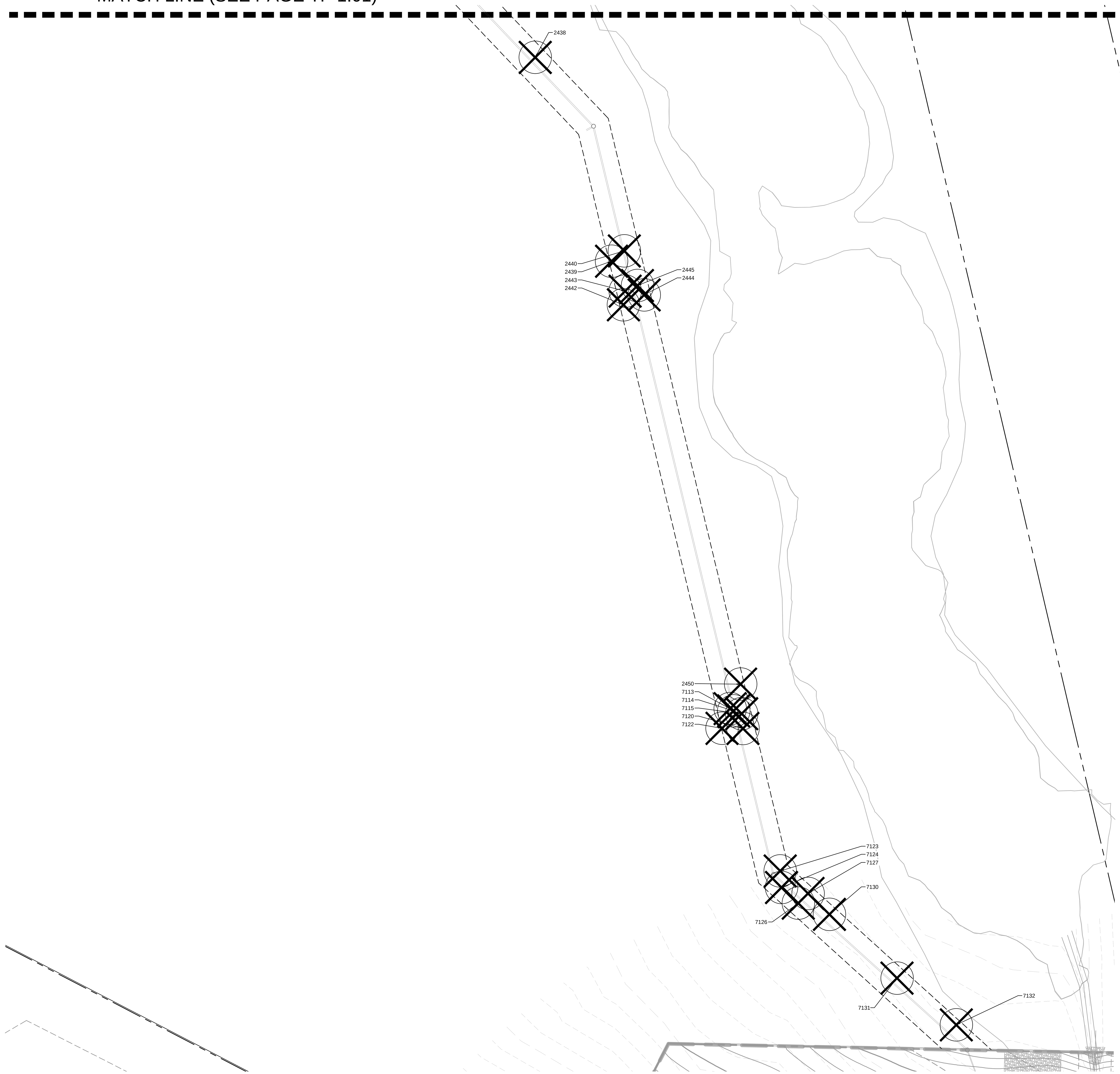
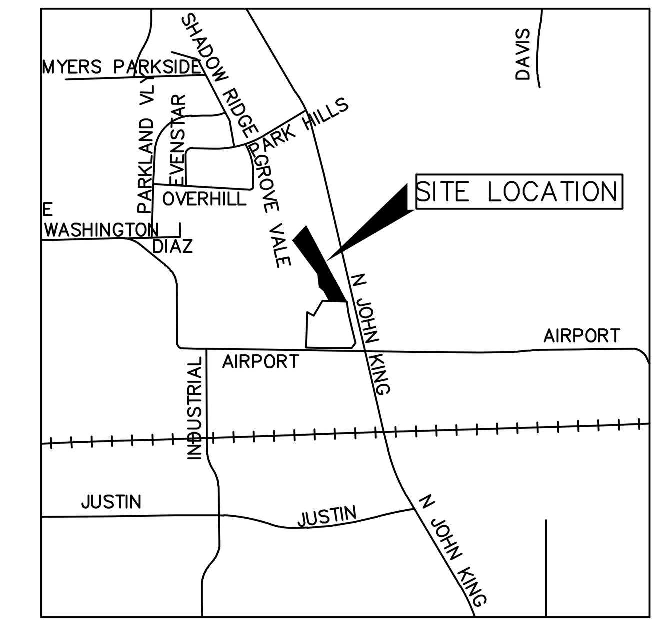
MATCH LINE (SEE PAGE TP 1.01)





VICINITY MAP
N.T.S.

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NORTH
GRAPHIC SCALE IN FEET
0 15 30 60

CAUTION
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REGISTERED LANDSCAPE ARCHITECT
NIKOLAUS B. ADAMS
3404
STATE OF TEXAS
02/12/2026

KHA PROJECT 064454302
DATE FEBRUARY 2026
SCALE AS SHOWN
DESIGNED BY ERW
DRAWN BY ERW
CHECKED BY NBA

FUEL CITY - ROCKWALL
ROCKWALL, TEXAS, 75087

TREE PERSERVATION PLAN

SHEET NUMBER
TP 1.02

TAG#	DBH	COMMON NAME	*SCIENTIFIC NAME*	CONDITION	MULTIPLE-STEMMED	PROTECT OR REMOVE	MITIGATION REQUIRED (IN)
2426	10.2	Shumard oak	*Quercus shumardii*	Healthy	Single	REMOVE	10.2
2427	7.9	Shumard oak	*Quercus shumardii*	Healthy	Single	REMOVE	7.9
2428	9.4	Shumard oak	*Quercus shumardii*	Healthy	Single	REMOVE	9.4
2429	11.1	Shumard oak	*Quercus shumardii*	Healthy	Single	REMOVE	11.1
2435	12.1	eastern redcedar	*Juniperus virginiana*	Healthy	Forked	REMOVE	4
2436	13.5	eastern redcedar	*Juniperus virginiana*	Healthy	Forked	REMOVE	4
2438	5.5	cedar elm	*Ulmus crassifolia*	Healthy	Multi	REMOVE	5.5
2439	4.1	eastern redcedar	*Juniperus virginiana*	Healthy	Single	REMOVE	0
2440	5.0	eastern redcedar	*Juniperus virginiana*	Healthy	Single	REMOVE	0
2442	5.0	eastern redcedar	*Juniperus virginiana*	Healthy	Single	REMOVE	0
2443	4.9	eastern redcedar	*Juniperus virginiana*	Healthy	Single	REMOVE	0
2444	10.4	eastern redcedar	*Juniperus virginiana*	Healthy	Single	REMOVE	0
2445	4.1	eastern redcedar	*Juniperus virginiana*	Healthy	Single	REMOVE	0
2449	6.2	eastern redcedar	*Juniperus virginiana*	Healthy	Single	PROTECT	0
2450	9.1	eastern redcedar	*Juniperus virginiana*	Healthy	Forked	REMOVE	0
Tags 2451-7112 were not used.							
7113	10.2	eastern redcedar	*Juniperus virginiana*	Healthy	Multi	REMOVE	0
7114	7.3	eastern redcedar	*Juniperus virginiana*	Healthy	Single	REMOVE	0
7115	10.1	eastern redcedar	*Juniperus virginiana*	Healthy	Multi	REMOVE	0
7120	4.9	eastern redcedar	*Juniperus virginiana*	Healthy	Single	REMOVE	0
7122	9.5	eastern redcedar	*Juniperus virginiana*	Healthy	Forked	REMOVE	0
7123	24.3	eastern redcedar	*Juniperus virginiana*	Healthy	Multi	REMOVE	0
7124	5.6	eastern redcedar	*Juniperus virginiana*	Healthy	Single	REMOVE	0
7126	6.1	eastern redcedar	*Juniperus virginiana*	Healthy	Single	REMOVE	0
7127	7.1	eastern redcedar	*Juniperus virginiana*	Healthy	Single	REMOVE	0
7130	20.1	eastern redcedar	*Juniperus virginiana*	Healthy	Forked	REMOVE	0
7131	21.3	eastern redcedar	*Juniperus virginiana*	Healthy	Multi	REMOVE	4
7132	15.2	eastern redcedar	*Juniperus virginiana*	Healthy	Forked	REMOVE	0

Kimley-Horn red tag series: 2424-2450; 7113-7138. Protected trees measuring 4-inches and larger DBH were tagged in accordance with the City of Rockwall Ordinance. The remainder of the canopy was composed of unprotected trees.

TREE MITIGATION	
Total Mitigation Required	56.1
Total Provided Inches From On-Site Permit #SP2025-021	36
Total Mitigation Needed	20.1
Total Mitigation Cost	$2,010.00

NOTE:
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CAUTION
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REGISTERED LANDSCAPE ARCHITECT
STATE OF TEXAS
02/12/2026

KHA PROJECT 064454302
DATE FEBRUARY 2026
SCALE AS SHOWN
DESIGNED BY ERW
DRAWN BY ERW
CHECKED BY NBA

FUEL CITY - ROCKWALL
ROCKWALL, TEXAS, 75087

TREE PERSERVATION CHARTS

SHEET NUMBER
TP 1.03

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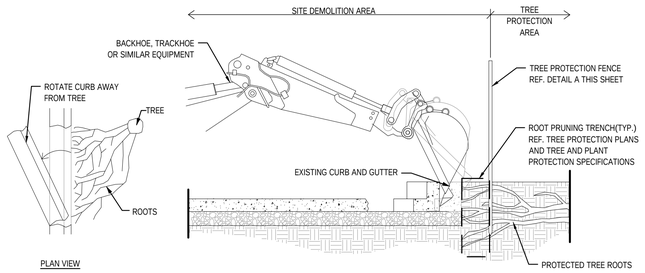
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared.

DEMOLITION SEQUENCE:
1. PERFORM ANY ROOT PRUNING.
2. INSTALL TREE PROTECTION FENCING
3. BREAK OR CUT 6' SECTIONS OF CURB.
4. CAREFULLY ROTATE CURB SECTIONS AWAY FROM ROOTS.
5. COORDINATE ALL DEMOLITION OPERATIONS AROUND PROTECTED TREES WITH ENGINEER AND PROJECT ARBORIST.

NOTES:
1. PRIOR TO DEMOLITION ACTIVITIES, COORDINATE WITH OWNER'S REPRESENTATIVE.
2. ALL TREE PROTECTION MEASURES MUST BE IN PLACE AND APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO DEMOLITION ACTIVITIES.
3. OWNER'S REPRESENTATIVE TO APPROVE ANY CANOPY THINNING AND/OR CANOPY RAISING PRUNING TO ALLOW FOR DEMOLITION ACTIVITIES PRIOR TO CONSTRUCTION.



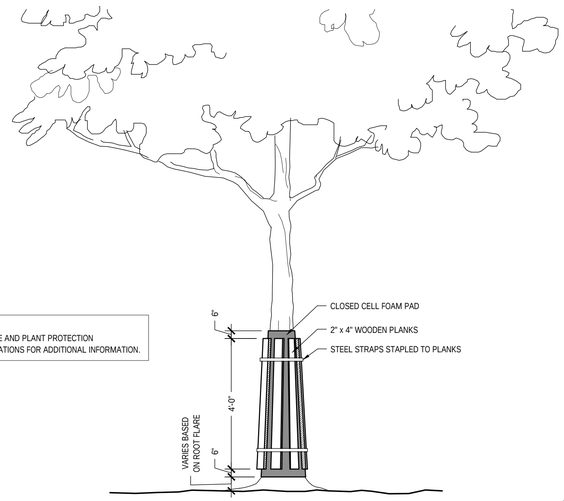
PLAN VIEW

CURB DEMOLITION AROUND EXISTING TREE ROOTS

Scale: NTS

F

NOTES:
1. REF. TREE AND PLANT PROTECTION SPECIFICATIONS FOR ADDITIONAL INFORMATION.

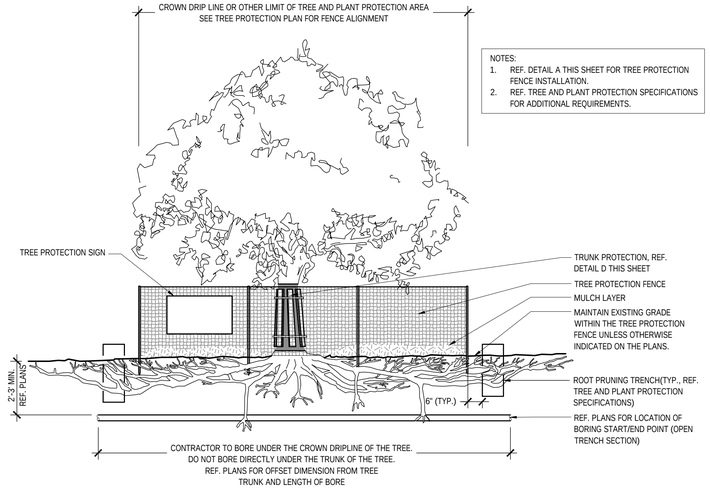


TRUNK PROTECTION

Scale: NTS

D

NOTES:
1. REF. DETAIL A THIS SHEET FOR TREE PROTECTION FENCE INSTALLATION.
2. REF. TREE AND PLANT PROTECTION SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.



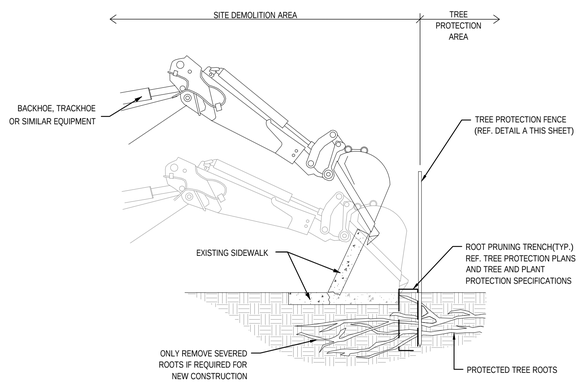
TREE PROTECTION - UTILITY BORING UNDER CROWN DRIPLINE

Scale: NTS

B

DEMOLITION SEQUENCE
1. PERFORM ANY ROOT PRUNING.
2. INSTALL TREE PROTECTION FENCING
3. CAREFULLY REMOVE SIDEWALK AND BASE MATERIAL, COORDINATE ALL DEMOLITION OPERATIONS AROUND PROTECTED TREES WITH ENGINEER AND PROJECT ARBORIST.

NOTES:
1. PRIOR TO DEMOLITION ACTIVITIES, COORDINATE WITH OWNER'S REPRESENTATIVE.
2. ALL TREE PROTECTION MEASURES MUST BE IN PLACE AND APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO DEMOLITION ACTIVITIES.
3. OWNER'S REPRESENTATIVE TO APPROVE ANY CANOPY THINNING AND/OR CANOPY RAISING PRUNING TO ALLOW FOR DEMOLITION ACTIVITIES PRIOR TO CONSTRUCTION.

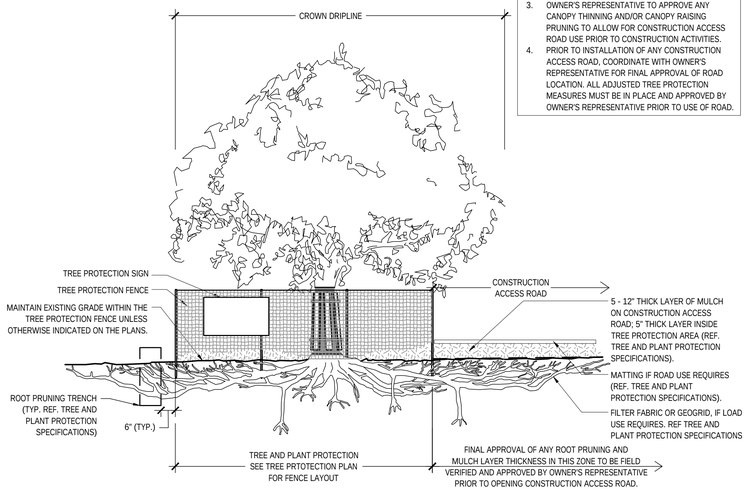


SIDEWALK DEMOLITION AROUND EXISTING TREE ROOTS

Scale: NTS

E

NOTES:
1. REF. DETAIL A THIS SHEET FOR TREE PROTECTION FENCE INSTALLATION.
2. REF. TREE AND PLANT PROTECTION SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
3. OWNER'S REPRESENTATIVE TO APPROVE ANY CANOPY THINNING AND/OR CANOPY RAISING PRUNING TO ALLOW FOR CONSTRUCTION ACCESS ROAD USE PRIOR TO CONSTRUCTION ACTIVITIES.
4. PRIOR TO INSTALLATION OF ANY CONSTRUCTION ACCESS ROAD, COORDINATE WITH OWNER'S REPRESENTATIVE FOR FINAL APPROVAL OF ROAD LOCATION. ALL ADJUSTED TREE PROTECTION MEASURES MUST BE IN PLACE AND APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO USE OF ROAD.



TREE PROTECTION - CONSTRUCTION ACCESS ROAD

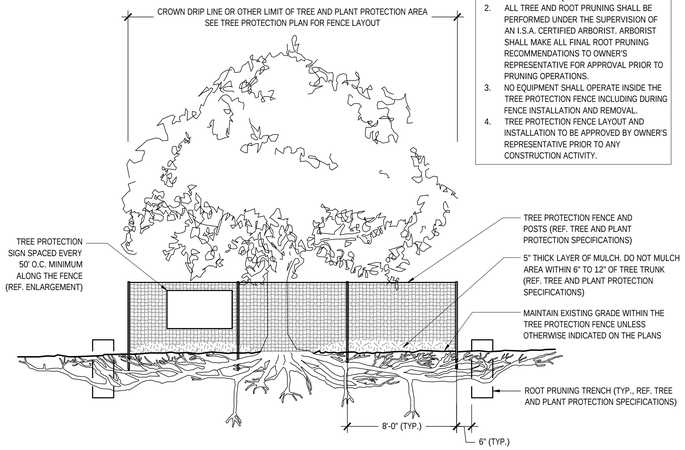
Scale: NTS

C

TREE PROTECTION SIGN ENLARGEMENT

NOTE: CONTRACTOR TO PROVIDE PHONE NUMBER INFORMATION

NOTES:
1. SEE TREE AND PLANT PROTECTION SPECIFICATIONS FOR WATERING AND OTHER ADDITIONAL REQUIREMENTS.
2. ALL TREE AND ROOT PRUNING SHALL BE PERFORMED UNDER THE SUPERVISION OF AN I.S.A. CERTIFIED ARBORIST. ARBORIST SHALL MAKE ALL FINAL ROOT PRUNING RECOMMENDATIONS TO OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO PRUNING OPERATIONS.
3. NO EQUIPMENT SHALL OPERATE INSIDE THE TREE PROTECTION FENCE INCLUDING DURING FENCE INSTALLATION AND REMOVAL.
4. TREE PROTECTION FENCE LAYOUT AND INSTALLATION TO BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO ANY CONSTRUCTION ACTIVITY.



TYPICAL TREE PROTECTION FENCING

Scale: NTS

A

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02/12/2026

KHA PROJECT	064454302
DATE	FEBRUARY 2026
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DESIGNED BY	ERW
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CHECKED BY	NBA

FUEL CITY - ROCKWALL
ROCKWALL, TEXAS, 75087

TREE PRESERVATION DETAILS

SHEET NUMBER
TP 3.01

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DWG NAME TP 3.01 DWG - (TP 3.01 TREE PRESERVATION DETAILS)

SECTION 015639: TREE AND PLANT PROTECTION

PART 1 GENERAL

1.1 SUMMARY

A. THE SCOPE OF WORK INCLUDES ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, FACILITIES, TRANSPORTATION AND SERVICES NECESSARY FOR, AND INCI DENTAL TO PERFORMING ALL OPERATIONS IN CONNECTION WITH PROTECTION OF EXISTING TREES AND OTHER PLANTS AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN.

1. PROVIDE PRECONSTRUCTION EVALUATIONS
2. PROVIDE PROTECTION OF ROOT ZONES AND ABOVE GROUND TREES AND PLANTS
3. PROVIDE PRUNING OF EXISTING TREES AND PLANTS.
4. COORDINATE WITH THE REQUIREMENTS OF THE SPECIFICATIONS FOR MODIFICATIONS TO THE SOIL WITHIN THE ROOT ZONE OF EXISTING TREES AND PLANTS.
5. PROVIDE ALL INSECT AND DISEASE CONTROL.
6. PROVIDE MAINTENANCE OF EXISTING TREES AND PLANTS INCLUDING IRRIGATION DURING THE CONSTRUCTION PERIOD AS RECOMMENDED BY THE ARBORIST REPORT.
7. PROVIDE MAINTENANCE OF EXISTING TREES AND PLANTS INCLUDING IRRIGATION DURING THE POST CONSTRUCTION PLANT MAINTENANCE PERIOD.
8. REMOVE TREE PROTECTION FROM AROUND AND UNDER TREES AND PLANTS.
9. CLEAN UP AND DISPOSAL OF ALL EXCESS AND SURPLUS MATERIAL.

1.2 CONTRACT DOCUMENTS

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

B. IT IS THE INTENT OF THIS SECTION THAT THE REQUIREMENTS APPLY TO ALL OTHER SECTIONS OF THE PROJECT SPECIFICATION SUCH THAT ANY SUBCONTRACTOR MUST COMPLY WITH THE RESTRICTIONS ON WORK WITHIN DESIGNATED TREE AND PLANT PROTECTION AREAS.

1.3 RELATED DOCUMENTS AND REFERENCES

A. RELATED DOCUMENTS:

1. DRAWINGS AND GENERAL PROVISIONS OF CONTRACT INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION I SPECIFICATIONS APPLY TO WORK OF THIS SECTION.
2. IRRIGATION SPECIFICATIONS
3. PLANTING SPECIFICATIONS

B. REFERENCES: THE FOLLOWING SPECIFICATIONS AND STANDARDS OF THE ORGANIZATIONS AND DOCUMENTS LISTED IN THIS PARAGRAPH FORM A PART OF THE SPECIFICATION TO THE EXTENT REQUIRED BY THE REFERENCES THERETO. IN THE EVENT THAT THE REQUIREMENTS OF THE FOLLOWING REFERENCED STANDARDS AND SPECIFICATION CONFLICT WITH THIS SPECIFICATION SECTION, THE REQUIREMENTS OF THIS SPECIFICATION SHALL PREVAIL. IN THE EVENT THAT THE REQUIREMENTS OF ANY OF THE FOLLOWING REFERENCED STANDARDS AND SPECIFICATIONS CONFLICT WITH EACH OTHER, THE MORE STRINGENT REQUIREMENT SHALL PREVAIL.

1. ANSI A300 - STANDARD PRACTICES FOR TREE, SHRUB AND OTHER WOODY PLANT MAINTENANCE (9 PARTS), MOST CURRENT EDITIONS.
2. INTERNATIONAL SOCIETY OF ARBORICULTURE BEST MANAGEMENT PRACTICES (ISA BMP) MOST CURRENT EDITIONS.
   a. TREE PRUNING
   b. SOIL MANAGEMENT FOR URBAN TREES
   c. TREE SUPPORT SYSTEMS: CABLING, BRACING, GUYING, AND PROPPING
   d. TREE LIGHTING PROTECTION SYSTEMS
   e. MANAGING TREES DURING CONSTRUCTION
   f. TREE PLANTING
   g. TREE RISK ASSESSMENT
   h. TREE INVENTORY
   i. INTEGRATED PEST MANAGEMENT
   j. TREE INJECTIONS
   k. TREE AND SHRUB FERTILIZATION
3. PRUNING PRACTICES SHALL CONFORM WITH RECOMMENDATIONS "STRUCTURAL PRUNING: A GUIDE FOR THE GREEN INDUSTRY"; PUBLISHED BY URBAN TREE FOUNDATION, VISALIA, CALIFORNIA; MOST CURRENT EDITION.
4. GLOSSARY OF ARBORICULTURAL TERMS, INTERNATIONAL SOCIETY OF ARBORICULTURE, CHAMPAIGN IL, MOST CURRENT EDITION.

1.4 VERIFICATION

A. ALL SCALED DIMENSIONS ON THE DRAWINGS ARE APPROXIMATE. BEFORE PROCEEDING WITH ANY WORK, THE CONTRACTOR SHALL CAREFULLY CHECK AND VERIFY ALL DIMENSIONS AND QUANTITIES, AND SHALL IMMEDIATELY INFORM THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES BETWEEN THE INFORMATION ON THE DRAWINGS AND THE ACTUAL CONDITIONS, REFRAINING FROM DOING ANY WORK IN SAID AREAS UNTIL GIVEN APPROVAL TO DO SO BY THE OWNER'S REPRESENTATIVE.

1.5 PERMITS AND REGULATIONS

A. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS RELATED TO THIS SECTION OF THE WORK UNLESS PREVIOUSLY EXCLUDED UNDER PROVISION OF THE CONTRACT OR GENERAL CONDITIONS. THE CONTRACTOR SHALL COMPLY WITH ALL LAWS AND ORDINANCES BEARING ON THE OPERATION OR CONDUCT OF THE WORK AS DRAWN AND SPECIFIED. IF THE CONTRACTOR OBSERVES THAT A CONFLICT EXISTS BETWEEN PERMIT REQUIREMENTS AND THE WORK OUTLINED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE OWNER'S REPRESENTATIVE IN WRITING INCLUDING A DESCRIPTION OF ANY NECESSARY CHANGES AND CHANGES TO THE CONTRACT PRICE RESULTING FROM CHANGES IN THE WORK.

B. WHEREVER REFERENCES ARE MADE TO STANDARDS OR CODES IN ACCORDANCE WITH WHICH WORK IS TO BE PERFORMED OR TESTED, THE EDITION OR REVISION OF THE STANDARDS AND CODES CURRENT ON THE EFFECTIVE DATE OF THIS CONTRACT SHALL APPLY, UNLESS OTHERWISE EXPRESSLY SET FORTH.

C. IN CASE OF CONFLICT AMONG ANY REFERENCED STANDARDS OR CODES OR BETWEEN ANY REFERENCED STANDARDS AND CODES AND THE SPECIFICATIONS, THE MORE RESTRICTIVE STANDARD OR CODE SHALL APPLY OR OWNER'S REPRESENTATIVE SHALL DETERMINE WHICH SHALL GOVERN.

1.6 PROTECTION OF WORK, PROPERTY AND PERSON

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

1.7 CHANGES IN THE WORK

A. THE OWNER'S REPRESENTATIVE MAY ORDER CHANGES IN THE WORK, AND THE CONTRACT SUM SHOULD BE ADJUSTED ACCORDINGLY. ALL SUCH ORDERS AND ADJUSTMENTS PLUS CLAIMS BY THE CONTRACTOR FOR EXTRA COMPENSATION MUST BE MADE AND APPROVED IN WRITING BEFORE EXECUTING THE WORK INVOLVED.

1.8 CORRECTION OF WORK

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

1.9 DEFINITIONS

A. ALL TERMS IN THIS SPECIFICATION SHALL BE AS DEFINED IN THE "GLOSSARY OF ARBORICULTURAL TERMS" OR AS MODIFIED BELOW.

1. OWNER'S REPRESENTATIVE: THE PERSON APPOINTED BY THE OWNER TO REPRESENT THEIR INTEREST IN THE REVIEW AND APPROVAL OF THE WORK AND TO SERVE AS THE CONTRACTING AUTHORITY WITH THE CONTRACTOR. THE OWNER'S REPRESENTATIVE MAY APPOINT OTHER PERSONS TO REVIEW AND APPROVE ANY ASPECTS OF THE WORK.
2. REASONABLE AND REASONABLY: WHEN USED IN THIS SPECIFICATION IS INTENDED TO MEAN THAT THE CONDITIONS CITED WILL NOT AFFECT THE ESTABLISHMENT OR LONG TERM STABILITY, HEALTH OR GROWTH OF THE PLANT. THIS SPECIFICATION RECOGNIZES THAT PLANTS ARE NOT FREE OF DEFECTS, AND THAT PLANT CONDITIONS CHANGE WITH TIME. THIS SPECIFICATION ALSO RECOGNIZES THAT SOME DECISIONS CANNOT BE TOTALLY BASED ON MEASURED FINDINGS AND THAT PROFESSION JUDGMENT IS REQUIRED. IN CASES OF DIFFERING OPINION, THE OWNER'S REPRESENTATIVE EXPERT SHALL DETERMINE WHEN CONDITIONS WITHIN THE PLANT ARE JUDGED AS REASONABLE.
3. SHRUB: WOODY PLANTS WITH MATURE HEIGHT APPROXIMATELY LESS THAN 25 FEET.
4. TREE AND PLANT PROTECTION AREA: AREA SURROUNDING INDIVIDUAL TREES, GROUPS OF TREES, SHRUBS, OR OTHER VEGETATION TO BE PROTECTED DURING CONSTRUCTION, AND DEFINED BY A CIRCLE CENTERED ON THE TRUNK WITH EACH TREE WITH A RADIUS EQUAL TO THE CLOWN DRIPLINE UNLESS OTHERWISE INDICATED BY THE OWNER'S REPRESENTATIVE OR THE CONSTRUCTION DRAWINGS.
5. TREE: SINGLE AND MULTI-STEMMED PLANTS, INCLUDING PALMS WITH ANTICIPATED MATURE HEIGHT APPROXIMATELY GREATER THAN 25 FEET OR ANY PLANT IDENTIFIED ON THE PLANS AS A TREE.

1.10 SUBMITTALS

A. ARBORIST REPORT

1. PRIOR TO THE START OF CONSTRUCTION, SUBMIT, FOR APPROVAL BY THE OWNER'S REPRESENTATIVE, THE REPORT OF A CONSULTING ARBORIST WHO IS A REGISTERED CONSULTING ARBORIST® (RCA) WITH AMERICAN SOCIETY OF CONSULTING ARBORISTS OR AN ISA BOARD CERTIFIED ARBORIST, WHICH DETAILS THE FOLLOWING INFORMATION FOR ALL TREES TO REMAIN WITHIN THE AREA DESIGNATED ON THE DRAWINGS AS THE TREE AND PLANT PROTECTION AREA. THE REPORT SHALL INCLUDE THE FOLLOWING:
   a. A DESCRIPTION OF EACH TREE TO REMAIN INDICATING ITS GENUS AND SPECIES, CONDITION INCLUDING ANY VISIBLE DAMAGE TO THE ROOT SYSTEM OR SOIL WITHIN THE ROOT ZONE, TREE DIAMETER AT BREAST HEIGHT (DBH) AND APPROXIMATE HEIGHT AND CANOPY SPREAD, SIZE AND ANY VISIBLE DISEASE, INSECT INFESTATIONS AND OR BRANCH AND TRUNK STRUCTURAL DEFICIENCIES.
   b. THE REPORT SHALL NOTE ALL TREES OR PARTS OF TREES, WHICH ARE CONSIDERED A HAZARD OR SIGNIFICANT OR EXTREME RISK LEVEL. INCLUDE THE INTERNATIONAL SOCIETY OF ARBORICULTURE HAZARD EVALUATION SHEET FOR EACH TREE, WHICH MAY REASONABLY BE IDENTIFIED AS A POTENTIAL HAZARD TREE.
   c. RECOMMENDATIONS AS TO TREATMENT OF ALL INSECT, DISEASE AND STRUCTURAL PROBLEMS ENCOUNTERED.
   d. RECOMMENDATIONS FOR FERTILIZER TREATMENTS, IF ANY.
   e. A PLAN OF THE SITE SHOWING THE LOCATION OF ALL TREES INCLUDED IN THE REPORT.

B. PRODUCT DATA

1. SUBMIT MANUFACTURER PRODUCT DATA AND LITERATURE DESCRIBING ALL PRODUCTS REQUIRED BY THIS SECTION TO THE OWNER'S REPRESENTATIVE FOR APPROVAL. PROVIDE SUBMITTAL BEFORE THE START OF ANY WORK AT THE SITE.

C. QUALIFICATIONS SUBMITTAL

1. FOR EACH APPLICABLE PERSON EXPECTED TO WORK ON THE PROJECT, PROVIDE COPIES OF THE QUALIFICATIONS AND EXPERIENCE OF THE CONSULTING ARBORIST, PROOF OF EITHER THE REGISTERED CONSULTING ARBORIST® (RCA) WITH AMERICAN SOCIETY OF CONSULTING ARBORISTS OR AN ISA BOARD CERTIFIED MASTER ARBORIST, ANY ISA CERTIED ARBORISTS, AND ANY REQUIRED HERBICIDE/PESTICIDE LICENSE TO THE OWNER'S REPRESENTATIVE, FOR REVIEW PRIOR TO THE START OF WORK.

1.11 OBSERVATION OF THE WORK

A. THE OWNER'S REPRESENTATIVE MAY INSPECT THE WORK AT ANY TIME.

1.12 PRE-CONSTRUCTION CONFERENCE

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

1. THE FOLLOWING CONTRACTORS SHALL ATTEND THE PRECONSTRUCTION CONFERENCE:
   a. GENERAL CONTRACTOR.
   b. CONSULTING ARBORIST/CERTIFIED ARBORIST
   c. TREE AND PLANT PROTECTION SUB-CONTRACTOR.
   d. EARTHWORK SUB-CONTRACTOR.
   e. ALL SITE UTILITY SUB-CONTRACTORS THAT MAY BE REQUIRED TO DIG OR TRENCH INTO THE SOIL.
   f. LANDSCAPE SUB-CONTRACTOR.
   g. IRRIGATION SUB-CONTRACTOR.
   h. PRIOR TO THIS MEETING, MARK ALL TREES AND PLANTS TO REMAIN AND OR BE REMOVED AS DESCRIBED IN THIS SPECIFICATION FOR REVIEW AND APPROVAL BY THE OWNER'S REPRESENTATIVE.

1.13 QUALITY ASSURANCE

A. CONTRACTOR QUALIFICATIONS:

1. ALL PRUNING, BRANCH TIE BACK, TREE REMOVAL, ROOT PRUNING, AND FERTILIZING REQUIRED BY THIS SECTION SHALL BE PERFORMED BY OR UNDER THE DIRECT SUPERVISION OF ISA CERTIFIED ARBORIST. SUBMIT AFOREMENTIONED INDIVIDUAL'S QUALIFICATIONS FOR APPROVAL BY THE OWNER'S REPRESENTATIVE.
2. ALL APPLICATIONS OF PESTICIDE OR HERBICIDE SHALL BE PERFORMED BY A PERSON MAINTAINING A CURRENT STATE LICENSE TO APPLY CHEMICAL PESTICIDES VALID IN THE JURISDICTION OF THE PROJECT. SUBMIT COPIES OF ALL REQUIRED STATE LICENSING CERTIFICATES INCLUDING APPLICABLE CHEMICAL APPLICATOR LICENSES.

PART 2 PRODUCTS

2.1 TREE PROTECTION SIGN:

A. HEAVY-DUTY PLASTIC LAMINATED OR CORRUGATED PLASTIC SIGNS, 24 INCHES X 36 INCHES, WHITE COLORED BACKGROUND WITH BLACK 2 INCH HIGH OR LARGER LETTERS BLOCK LETTERS. THE SIGNS SHALL BE STAKED ADJACENT TO EXISTING TREEs. THE TREE PROTECTION SIGN SHALL READ "KEEP OUT - TREE AND PLANT PROTECTION AREA" AND OTHER PROJECT INFORMATION AS SHOWN ON DRAWINGS.

2.2 MATTING

A. MATTING FOR VEHICLE AND WORK PROTECTION SHALL BE HEAVY DUTY MATTING DESIGNED FOR VEHICLE LOADING OVER TREE ROOTS, ALTURNAMATS AS MANUFACTURED BY ALTURNAMATS, INC. FRANKLIN, PA 16323 OR APPROVED EQUAL.

B. SUBMIT SUPPLIERS PRODUCT DATA THAT PRODUCT MEETS THE REQUIREMENTS FOR APPROVAL.

2.3 GEOGRID

A. GEOGRID SHALL BE WOVEN POLYESTER FABRIC WITH PVC COATING, UNI-AXIAL OR BIAXIAL GEOGRID, INERT TO BIOLOGICAL DEGRADATION, RESISTANT TO NATURALLY OCCURRING CHEMICALS, ALKALIS, ACIDS.

1. GEOGRID SHALL BE MIRAGRID 2XT AS MANUFACTURED BY TEN CATE NICOLON, NORCROSS, GA. HTTP://WWW.TENCATE.COM OR APPROVED EQUAL.

B. SUBMIT SUPPLIERS PRODUCT DATA THAT PRODUCT MEETS THE REQUIREMENTS FOR APPROVAL.

2.4 FILTER FABRIC

A. FILTER FABRIC SHALL BE NONWOVEN POLYPROPYLENE FIBERS, INERT TO BIOLOGICAL DEGRADATION AND RESISTANT OF NATURALLY OCCURRING CHEMICALS, ALKALIS AND ACIDS.

1. MIRAFI 135 N AS MANUFACTURED BY TEN CATE NICOLON, NORCROSS, GA. HTTP://WWW.TENCATE.COM OR APPROVED EQUAL.

B. SUBMIT SUPPLIERS PRODUCT DATA THAT PRODUCT MEETS THE REQUIREMENTS FOR APPROVAL.

PART 3 EXECUTION

3.1 SITE EXAMINATION

A. EXAMINE THE SITE, TREE, PLANT AND SOIL CONDITIONS. NOTIFY THE OWNER'S REPRESENTATIVE IN WRITING OF ANY CONDITIONS THAT MAY IMPACT THE SUCCESSFUL TREE AND PLANT PROTECTIONS THAT IS THE INTENT OF THIS SECTION.

3.2 COORDINATION WITH PROJECT WORK

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

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

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

3.3 TREE AND PLANT PROTECTION AREA:

A. THE TREE AND PLANT PROTECTION AREA IS DEFINED AS ALL AREAS INDICATED ON THE TREE PROTECTION PLAN.

B. WHERE NO LIMIT OF THE TREE AND PLANT PROTECTION AREA IS DEFINED ON THE DRAWINGS, THE LIMIT SHALL BE THE DRIP LINE (OUTER EDGE OF THE BRANCH CROWN) OF EACH TREE.

3.4 PREPARATION:

A. PRIOR TO THE PRECONSTRUCTION MEETING, LAYOUT THE LIMITS OF THE TREE AND PLANT PROTECTION AREA AND THEN ALIGNMENTS OF REQUIRED TREE AND PLANT PROTECTION FENCING AND ROOT PRUNING. OBTAIN THE OWNER'S REPRESENTATIVE'S APPROVAL OF THE LIMITS OF THE PROTECTION AREA AND THE ALIGNMENT OF ALL FENCING AND ROOT PRUNING.

B. FLAG ALL TREES AND LARGE SHRUBS TO BE REMOVED BY WRAPPING ORANGE PLASTIC RIBBON AROUND THE TRUNK AND OBTAIN THE OWNER'S REPRESENTATIVE'S APPROVAL OF ALL TREES AND LARGE SHRUBS TO BE REMOVED PRIOR TO THE START OF TREE AND SHRUB REMOVAL. AFTER APPROVAL, MARK ALL TREES AND SHRUBS TO BE REMOVED WITH ORANGE PAINT IN A BAND COMPLETELY AROUND THE BASE OF THE TREE OR LARGE SHRUB 4.5 FEET ABOVE THE GROUND.

C. FLAG ALL TREES AND LARGE SHRUBS TO REMAIN WITH WHITE PLASTIC RIBBON TIED COMPLETELY AROUND THE TRUNK OR EACH TREE AND ON A PROMINENT BRANCH FOR EACH SHRUB. OBTAIN THE OWNER'S REPRESENTATIVE'S APPROVAL OF ALL TREES AND SHRUBS TO REMAIN PRIOR TO THE START OF TREE AND SHRUB REMOVAL.

D. PRIOR TO ANY CONSTRUCTION ACTIVITY AT THE SITE INCLUDING UTILITY WORK, GRADING, STORAGE OF MATERIALS, OR INSTALLATION OF TEMPORARY CONSTRUCTION FACILITIES, INSTALL ALL TREE PROTECTION FENCING, FILTER FABRIC, SILT FENCE, TREE PROTECTION SIGNS, GEOGRID, MULCH AND OR WOOD CHIPS AS SHOWN ON THE DRAWINGS.

3.5 SOIL MOISTURE

A. VOLUMETRIC SOIL MOISTURE LEVEL, IN ALL SOILS WITHIN THE TREE AND PLANT PROTECTION AREA SHALL BE MAINTAINED ABOVE PERMANENT WILT POINT TO A DEPTH OF AT LEAST 8 INCHES. NO SOIL WORK OR OTHER ACTIVITY SHALL BE PERMITTED WITHIN THE TREE AND PLANT PROTECTION AREA WHEN THE VOLUMETRIC SOIL MOISTURE IS ABOVE FIELD CAPACITY. THE PERMANENT WILT POINT AND FIELD CAPACITY FOR EACH TYPE OF SOIL TEXTURE SHALL BE DEFINED AS FOLLOWS (NUMBERS INDICATE PERCENTAGE VOLUMETRIC SOIL MOISTURE):

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

B. VOLUMETRIC SOIL MOISTURE SHALL BE MEASURED WITH A DIGITAL, ELECTRIC CONDUCTIVITY METER. THE METER SHALL BE THE DIGITAL SOIL MOISTURE METER, DSMM500 BY GENERAL SPECIALTY TOOLS AND INSTRUMENTS, OR APPROVED EQUIVALENT METER.

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

3.6 ROOT PRUNING:

A. FINAL RECOMMENDATIONS ON ANY ROOT PRUNING REQUIREMENTS AND PROCEDURES ARE TO BE DETERMINED BY THE PROJECT ARBORIST AND PROVIDED IN WRITING TO THE OWNER'S REPRESENTATIVE PRIOR TO ANY ROOT PRUNING.

B. PRIOR TO ANY EXCAVATING INTO THE EXISTING SOIL GRADE WITHIN 25 FEET OF THE LIMIT OF THE TREE AND PLANT PROTECTION AREA OR TREES TO REMAIN, ROOT PRUNE ALL EXISTING TREES TO A DEPTH OF 24 INCHES BELOW EXISTING GRADE IN ALIGNMENTS FOLLOWING THE EDGES OF THE TREE AND PLANT PROTECTION AREA OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE. ROOT PRUNING SHALL BE IN CONFORMANCE WITH ANSI A300 (PART 8) LATEST EDITION.

1. USING A ROCK SAW, CHAIN TRENCHER OR SIMILAR TRENCHING DEVICE, MAKE A VERTICAL CUT WITHIN 2 FEET OF THE LIMIT OF GRADING.
2. AFTER COMPLETION OF THE CUT, MAKE CLEAN CUTS WITH A LOPPER, SAW OR PRUNER TO REMOVE ALL TORN ROOT ENDS ON THE TREE SIDE OF THE EXCAVATION, AND BACKFILL THE TRENCH IMMEDIATELY WITH EXISTING SOIL, FILLING ALL VOIDS.

3.7 INSTALLATION OF GEOGRIDS, FILTER FABRIC, MATTING, AND OR AGGREGATE

A. INSTALL GEOGRIDS, FILTER FABRIC, MATTING, AND/OR AGGREGATE IN AREAS AND DEPTHS SHOWN ON THE PLANS AND DETAILS OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE. IN GENERAL IT IS THE INTENT OF THIS SPECIFICATION TO PROVIDE THE FOLLOWING LEVELS OF PROTECTION:

1. AREAS WHERE FOOT TRAFFIC OR STORAGE OF LIGHTWEIGHT MATERIALS IS ANTICIPATED TO BE UNAVOIDABLE PROVIDE A LAYER OF FILTER FABRIC UNDER THE 6 INCHES OF MULCH.
2. AREAS WHERE OCCASIONAL LIGHT VEHICLE TRAFFIC IS ANTICIPATED TO BE UNAVOIDABLE PROVIDE A LAYER OF GEOGRIDS UNDER 8 INCHES OF MULCH.
3. AREAS WHERE HEAVY VEHICLE TRAFFIC IS UNAVOIDABLE PROVIDE A LAYER OF GEOGRIDS UNDER 8 - 12 INCHES OF MULCH AND A LAYER OF MATTING OVER THE MULCH.

B. THE OWNER'S REPRESENTATIVE SHALL APPROVE THE APPROPRIATE LEVEL OF PROTECTION.

C. IN THE ABOVE REQUIREMENTS, LIGHT VEHICLE IS DEFINED AS A TRACK SKID STEER WITH A GROUND PRESSURE OF 4 PSI OR LIGHTER. A HEAVY VEHICLE IS ANY VEHICLE WITH A TIRE OR TRACK PRESSURE OF GREATER THAN 4 PSI. LIGHTWEIGHT MATERIALS ARE ANY PACKAGED MATERIALS THAT CAN BE PHYSICALLY MOVED BY HAND INTO THE LOCATION. BULK MATERIALS SUCH AS SOIL, OR AGGREGATE SHALL NEVER BE STORED WITHIN THE TREE AND PLANT PROTECTION AREA.

3.8 PROTECTION:

A. PROTECT THE TREE AND PLANT PROTECTION AREA AT ALL TIMES FROM COMPACTION OF THE SOIL; DAMAGE OF ANY KIND TO TRUNKS, BARK, BRANCHES, LEAVES AND ROOTS OF ALL PLANTS; AND CONTAMINATION OF THE SOIL, BARK OR LEAVES WITH CONSTRUCTION MATERIALS, DEBRIS, SILT, FUELS, OILS, AND ANY CHEMICALS SUBSTANCE. NOTIFY THE OWNER'S REPRESENTATIVE OF ANY SPILLS, COMPACTION OR DAMAGE AND TAKE CORRECTIVE ACTION IMMEDIATELY USING METHODS APPROVED BY THE OWNER'S REPRESENTATIVE.

3.9 GENERAL REQUIREMENTS AND LIMITATIONS FOR OPERATIONS WITHIN THE TREE AND PLANT PROTECTION AREA:

A. THE CONTRACTOR SHALL NOT ENGAGE IN ANY CONSTRUCTION ACTIVITY WITHIN THE TREE AND PLANT PROTECTION AREA WITHOUT THE APPROVAL OF THE OWNER'S REPRESENTATIVE INCLUDING: OPERATING, MOVING OR STORING EQUIPMENT; STORING SUPPLIES OR MATERIALS; LOCATING TEMPORARY FACILITIES INCLUDING TRAILERS OR PORTABLE TOILETS AND SHALL NOT PERMIT EMPLOYEES TO TRAVERSE THE AREA TO ACCESS ADJACENT AREAS OF THE PROJECT OR USE THE AREA ANY REASON. PERMITTED ACTIVITY, IF ANY, WITHIN THE TREE AND PLANT PROTECTION AREA MAY BE INDICATED ON THE DRAWINGS ALONG WITH ANY REQUIRED REMEDIAL ACTIVITY AS LISTED BELOW.

B. IN THE EVENT THAT CONSTRUCTION/VEHICULAR ACTIVITY IS UNAVOIDABLE WITHIN THE TREE AND PLANT PROTECTION AREA, NOTIFY THE OWNER'S REPRESENTATIVE AND SUBMIT A DETAILED WRITTEN PLAN OF ACTION FOR APPROVAL. THE PLAN SHALL INCLUDE: A STATEMENT DETAILING THE REASON FOR THE ACTIVITY INCLUDING WHY OTHER AREAS ARE NOT SUITED; A DESCRIPTION OF THE PROPOSED ACTIVITY; THE TIME PERIOD FOR THE ACTIVITY, AND A LIST OF REMEDIAL ACTIONS THAT WILL REDUCE THE IMPACT ON THE TREE AND PLANT PROTECTION AREA FROM THE ACTIVITY. TREE PROTECTION FOR THE REMEDIAL ACTIONS SHALL INCLUDE BUT SHALL NOT BE LIMITED TO THE FOLLOWING:

1. IN GENERAL, DEMOLITION AND EXCAVATION WITHIN THE DRIP LINE OF TREES AND SHRUBS SHALL PROCEED WITH EXTREME CARE EITHER BY THE USE OF HAND TOOLS, DIRECTIONAL BORING AND OR AIR KNIFE EXCAVATION WHERE INDICATED OR WITH OTHER LOW IMPACT EQUIPMENT THAT WILL NOT CAUSE DAMAGE TO THE TREE, ROOTS OR SOIL.
2. WHEN ENCOUNTERED, EXPOSED ROOTS, 1 INCHES AND LARGER IN DIAMETER SHALL BE WORKED AROUND IN A MANNER THAT DOES NOT BREAK THE OUTER LAYER OF THE ROOT SURFACE (BARK). THESE ROOTS SHALL BE COVERED IN MULCH AND SHALL BE MAINTAINED ABOVE PERMANENT WILT POINT AT ALL TIMES. ROOTS ONE INCH AND LARGER IN DIAMETER SHALL NOT BE CUT WITHOUT THE APPROVAL OF THE OWNERS REPRESENTATIVE AND PROJECT ARBORIST. EXCAVATION SHALL BE TUNNELED UNDER THESE ROOTS WITHOUT CUTTING THEM. IN THE AREAS WHERE ROOTS ARE ENCOUNTERED, WORK SHALL BE PERFORMED AND SCHEDULED TO CLOSE EXCAVATIONS AS QUICKLY AS POSSIBLE OVER EXPOSED ROOTS.
3. TREE BRANCHES THAT INTERFERE WITH THE CONSTRUCTION MAY BE TIED BACK OR PRUNED TO CLEAR ONLY TO THE POINT NECESSARY TO COMPLETE THE WORK. OTHER BRANCHES SHALL ONLY BE REMOVED WHEN SPECIFICALLY INDICATED BY THE OWNER'S REPRESENTATIVE. TYING BACK OR TRIMMING OF ALL BRANCHES AND THE CUTTING OF ROOTS SHALL BE IN ACCORDANCE WITH ACCEPTED ARBORICULTURAL PRACTICES (ANSI A300, PARTS 1 AND 8) AND BE PERFORMED UNDER SUPERVISION OF THE I.S.A. CERTIFIED ARBORIST.
4. MATTING: INSTALL TEMPORARY MATTING OR AN ADDITIONAL 12 INCH MULCH LAYER OVER THE MULCH SPECIFIED HEREFORD WITHIN THESE SPECIFICATIONS TO THE EXTENT INDICATED. DO NOT PERMIT FOOT TRAFFIC, SCAFFOLDING, VEHICULAR TRAFFIC, OR THE STORAGE OF MATERIALS WITHIN THE TREE AND PLANT PROTECTION AREA TO OCCUR OFF OF THE TEMPORARY MATTING.
5. TRUNK PROTECTION: PROTECT THE TRUNK OF EACH TREE TO REMAIN BY COVERING IT WITH A CLOSED CELL FOAM PAD AND A RING OF 2" x 4" x 4'-0" PLANKS LOOSELY BANDED ONTO THE TREE WITH 3 STEEL BANDS. STAPLE THE BANDS TO THE PLANKS AS NECESSARY TO HOLD THEM SECURELY IN PLACE. TRUNK PROTECTION MUST BY KEPT IN PLACE NO LONGER THAN 12 MONTHS. IF CONSTRUCTION REQUIRES WORK NEAR A PARTICULAR TREE TO CONTINUE LONGER THAN 12 MONTHS, THE STEEL BANDS SHALL BE INSPECTED EVERY SIX MONTHS AND LOOSENED IF THEY ARE FOUND TO HAVE BECOME TIGHT.
6. AIR EXCAVATION TOOL: IF EXCAVATION FOR FOOTINGS OR UTILITIES IS REQUIRED WITHIN THE TREE AND PLANT PROTECTION AREA, AIR EXCAVATION TOOL TECHNIQUES SHALL BE USED WHERE PRACTICAL OR AS DESIGNED ON THE DRAWINGS.
   a. REMOVE THE MULCH FROM AN AREA APPROXIMATELY 18 INCHES BEYOND THE LIMITS OF THE HOLE OR TRENCH TO BE EXCAVATED. COVER THE MULCH FOR A DISTANCE OF NOT LESS THAN 15 FEET AROUND THE LIMIT OF THE EXCAVATION AREA WITH FILTER FABRIC OR PLASTIC SHEETING TO PROTECT THE MULCH FROM SILT. MOUND THE MULCH SO THAT THE PLASTIC SLOPES TOWARDS THE EXCAVATION.
   b. USING A SPRINKLER OR SOAKER HOSE, APPLY WATER SLOWLY TO THE AREA OF THE EXCAVATION FOR A PERIOD OF AT LEAST 4 HOURS, APPROXIMATELY 12 HOURS PRIOR TO THE WORK SO THAT THE GROUND WATER LEVEL IS AT OR NEAR FIELD CAPACITY AT THE BEGINNING OF THE WORK. FOR EXCAVATIONS THAT GO BEYOND THE DAMP SOIL, REWET THE SOIL AS NECESSARY TO KEEP SOIL MOISTURE NEAR FIELD CAPACITY.
   c. USING AN AIR EXCAVATION TOOL SPECIFICALLY DESIGNED AND MANUFACTURED FOR THE INTENDED PURPOSE, AND AT PRESSURES RECOMMENDED BY THE MANUFACTURER OF THE EQUIPMENT, FRACTURE THE EXISTING SOIL TO THE SHAPE AND THE DEPTHS REQUIRED. WORK AT RATES AND USING TECHNIQUES THAT DO NOT HARM TREE ROOTS. AIR PRESSURE SHALL BE A MAXIMUM OF 90-100 PSI.
      1.) THE AIR EXCAVATION TOOL SHALL BE "AIR-SPADE" AS MANUFACTURED BY CONCEPT ENGINEERING GROUP, INC., VERONA, PA (412) 826-8800, OR AIR KNIFE AS MANUFACTURED BY EASY USE AIR TOOLS, INC. ALLISON PARK, PA (866) 328-5723 OR APPROVED EQUAL.
   d. USING A COMMERCIAL, HIGH-POWERED VACUUM TRUCK IF REQUIRED, REMOVE THE SOIL FROM THE EXCAVATION PRODUCED BY THE AIR KNIFE EXCAVATION. THE VACUUM TRUCK SHOULD GENERALLY OPERATE SIMULTANEOUSLY WITH THE HOSE OPERATOR, SUCH THAT THE SOIL PRODUCED IS PICKED UP FROM THE EXCAVATION HOLE, AND THE EXPOSED ROOTS CAN BE OBSERVED AND NOT DAMAGED BY THE ONGOING OPERATION. DO NOT DRIVE THE VACUUM TRUCK INTO THE TREE AND PLANT PROTECTION AREA UNLESS THE AREA IS PROTECTED FROM COMPACTION AS APPROVED IN ADVANCE BY THE OWNER'S REPRESENTATIVE.
   e. REMOVE ALL EXCAVATED SOIL AND EXCAVATED MULCH, AND CONTAMINATED SOIL AT THE END OF THE EXCAVATION.
   f. SCHEDULE THE WORK SO THAT FOUNDATIONS OR UTILITY WORK IS COMPLETED IMMEDIATELY AFTER THE EXCAVATION. DO NOT LET THE ROOTS DRY OUT. MIST THE ROOTS SEVERAL TIMES DURING THE DAY. IF THE EXCAVATED AREA MUST REMAIN OPEN OVER NIGHT, MIST THE ROOTS AND COVER THE EXCAVATION WITH BLACK PLASTIC.
   g. DISPOSE OF ALL SOIL IN A MANNER THAT MEETS LOCAL LAWS AND REGULATIONS.
   h. RESTORE SOIL WITHIN THE TRENCH AS SOON AS THE WORK IS COMPLETED. UTILIZE SOIL OF SIMILAR TEXTURE TO THE REMOVED SOIL AND LIGHTLY COMPACT WITH HAND TOOLS. LEAVE SOIL MOUNDED OVER THE TRENCH TO A HEIGHT OF APPROXIMATELY 10% OF THE TRENCH DEPTH TO ACCOUNT FOR SETTLEMENT.
   i. RESTORE ANY GEOGRIDS, FILTER FABRIC, OR MULCH AND OR MATTING THAT WAS PREVIOUSLY REQUIRED FOR THE AREA.

3.10 TREE REMOVAL:

A. REMOVE ALL TREES INDICATED BY THE DRAWINGS AND SPECIFICATIONS, AS REQUIRING REMOVAL, IN A MANNER THAT WILL NOT DAMAGE ADJACENT TREES OR STRUCTURES OR COMPACTS THE SOIL.

B. REMOVE TREES THAT ARE ADJACENT TO TREES OR STRUCTURES TO REMAIN, IN SECTIONS, TO LIMIT THE OPPORTUNITY OF DAMAGE TO ADJACENT CROWNS, TRUNKS, GROUND PLANE ELEMENTS AND STRUCTURES.

C. DO NOT DROP TREES WITH A SINGLE CUT UNLESS THE TREE WILL FALL IN AN AREA NOT INCLUDED IN THE TREE AND PLANT PROTECTION AREA. NO TREE TO BE REMOVED WITHIN 50 FEET OF THE TREE AND PLANT PROTECTION AREA SHALL BE PUSHED OVER OR UP-ROOTED USING A PIECE OF GRADING EQUIPMENT.

D. PROTECT ADJACENT PAVING, SOIL, TREES, SHRUBS, GROUND COVER PLANTINGS AND UNDERSTORY PLANTS TO REMAIN FROM DAMAGE DURING ALL TREE REMOVAL OPERATIONS, AND FROM CONSTRUCTION OPERATIONS. PROTECTION SHALL INCLUDE THE ROOT SYSTEM, TRUNK, LIMBS, AND CROWN FROM BREAKAGE OR SCARRING, AND THE SOIL FROM COMPACTION.

E. REMOVE STUMPS AND IMMEDIATE ROOT PLATE FROM EXISTING TREES TO BE REMOVED. GRIND TRUNK BASES AND LARGE BUTTRESS ROOTS TO A DEPTH OF THE LARGEST BUTTRESS ROOT OR AT LEAST 18 INCHES BELOW THE TOP MOST ROOTS WHICH EVER IS LESS AND OVER THE AREA OF THREE TIMES THE DIAMETER OF THE TRUNK (DBH).

1. FOR TREES WHERE THE STUMP WILL FALL UNDER NEW PAVED AREAS, GRIND ROOTS TO A TOTAL DEPTH OF 18 INCHES BELOW THE EXISTING GRADE. IF THE SIDES OF THE STUMP HOLE STILL HAVE GREATER THAN APPROXIMATELY 20% WOOD VISIBLE, CONTINUE GRINDING OPERATION DEEPER AND OR WIDER UNTIL THE RESULTING HOLE HAS LESS THAN 20% WOOD. REMOVE ALL WOOD CHIPS PRODUCED BY THE GRINDING OPERATION AND BACK FILL IN 8 INCH LAYERS WITH CONTROLLED FILL OF A QUALITY ACCEPTABLE TO THE SITE ENGINEER FOR FILL MATERIAL UNDER STRUCTURES, COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY STANDARD PROCTOR. THE OWNER'S REPRESENTATIVE SHALL APPROVE EACH HOLE AT THE END OF THE GRINDING OPERATION.
2. IN AREAS WHERE THE TREE LOCATION IS TO BE A PLANTING BED OR LAWN, REMOVE ALL WOODCHIPS AND BACKFILL STUMP HOLES WITH PLANTING SOIL AS DEFINED IN THE SOIL MANAGEMENT SPECIFICATIONS, IN MAXIMUM OF 12 INCH LAYERS AND COMPACT TO 80 - 85% OF THE MAXIMUM DRY DENSITY STANDARD PROCTOR.

3.11 PRUNING:

A. WITHIN SIX MONTHS OF THE ESTIMATED DATE OF SUBSTANTIAL COMPLETION, PRUNE ALL DEAD OR HAZARDOUS BRANCHES LARGER THAN 2 INCH IN DIAMETER FROM ALL TREES TO REMAIN.

B. IMPLEMENT ALL PRUNING RECOMMENDATIONS FOUND IN THE ARBORIST REPORT.

C. PRUNE ANY LOW, HANGING BRANCHES AND VINES FROM EXISTING TREES AND SHRUBS THAT OVERHANG WALKS, STREETS AND DRIVES, OR PARKING AREAS AS FOLLOWS:

1. WALKS - WITHIN 8 FEET VERTICALLY OF THE PROPOSED WALK ELEVATION.
2. PARKING AREAS - WITHIN 12 FEET VERTICALLY OF THE PROPOSED PARKING SURFACE ELEVATION.
3. STREETS AND DRIVES - WITHIN 14 FEET VERTICALLY OF THE PROPOSED DRIVING SURFACE ELEVATION.

D. ALL PRUNING SHALL BE DONE IN ACCORDANCE WITH ANSI A300 (PART 1 - PRUNING), ISA BMP: TREE PRUNING AND THE "STRUCTURAL PRUNING: A GUIDE FOR THE GREEN INDUSTRY."

E. PERFORM OTHER PRUNING TASK AS INDICATED ON THE DRAWINGS OR REQUESTED BY THE OWNER'S REPRESENTATIVE.

F. WHERE TREE SPECIFIC DISEASE VECTORS REQUIRE, STERILIZE ALL PRUNING TOOLS BETWEEN THE WORK IN INDIVIDUAL TREES.

3.12 WATERING

A. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE TO ENSURE THAT ADEQUATE WATER IS PROVIDED TO ALL PLANTS AND TREES TO BE PRESERVED DURING THE ENTIRE CONSTRUCTION PERIOD. ADEQUATE WATER IS DEFINED TO BE MAINTAINING SOIL MOISTURE ABOVE THE PERMANENT WILT POINT TO A DEPTH OF 8 INCHES OR GREATER.

B. THE CONTRACTOR SHALL ADJUST THE AUTOMATIC IRRIGATION SYSTEM, IF AVAILABLE, AND APPLY ADDITIONAL WATER, USING HOSES OR WATER TANKS AS REQUIRED.

C. PERIODICALLY TEST THE MOISTURE CONTENT IN THE SOIL WITHIN THE ROOT ZONE TO DETERMINE THE WATER CONTENT.

3.13 WEED REMOVAL

A. DURING THE CONSTRUCTION PERIOD, CONTROL ANY PLANTS THAT SEED IN AND AROUND THE FENCED TREE AND PLANT PROTECTION AREA AT LEAST THREE TIMES A YEAR.

1. ALL PLANTS THAT ARE NOT SHOWN ON THE PLANTING PLAN OR ON THE TREE AND PLANT PROTECTION PLAN TO REMAIN SHALL BE CONSIDERED AS WEEDS.

B. AT THE END OF THE CONSTRUCTION PERIOD PROVIDE ONE FINAL WEEDING OF THE TREE AND PLANT PROTECTION AREA.

3.14 INSECT AND DISEASE CONTROLLER

A. MONITOR ALL PLANTS TO REMAIN FOR DISEASE AND INSECT INFESTATIONS DURING THE ENTIRE CONSTRUCTION PERIOD. PROVIDE ALL DISEASE AND INSECT CONTROL REQUIRED TO KEEP THE PLANTS IN A HEALTHY STATE USING THE PRINCIPLES OF INTEGRATED PEST MANAGEMENT (IPM). ALL PESTICIDES SHALL BE APPLIED BY A CERTIFIED PESTICIDE APPLICATOR.

3.15 CLEAN-UP

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

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

B. ONCE TREE PROTECTION WORK IS COMPLETE, WASH ALL SOIL FROM PAVEMENTS AND OTHER STRUCTURES. ENSURE THAT MULCH IS CONFINED TO PLANTING BEDS.

C. MAKE ALL REPAIRS TO GRADES, RUTS, AND DAMAGE TO THE WORK OR OTHER WORK AT THE SITE.

D. REMOVE AND DISPOSE OF ALL EXCESS MULCH, WOOD CHIPS, PACKAGING, AND OTHER MATERIAL BROUGHT TO THE SITE BY THE CONTRACTOR.

3.16 REMOVAL OF TREE AND PLANT PROTECTION

A. AT THE END OF THE CONSTRUCTION PERIOD OR WHEN REQUESTED BY THE OWNER'S REPRESENTATIVE REMOVE ALL FENCING, GEOGRIDS AND FILTER FABRIC, TRUNK PROTECTION AND OR ANY OTHER TREE AND PLANT PROTECTION MATERIAL.

3.17 DAMAGE OR LOSS TO EXISTING PLANTS TO REMAIN

A. ANY TREES OR PLANTS DESIGNATED TO REMAIN AND WHICH ARE DAMAGED BY THE CONTRACTOR SHALL BE REPLACED IN KIND BY THE CONTRACTOR AT THEIR OWN EXPENSE. TREES SHALL BE REPLACED WITH A TREE OF SIMILAR SPECIES AND 3 INCH CALIPER. SHRUBS SHALL BE REPLACED WITH A PLANT OF SIMILAR SPECIES AND EQUAL SIZE OR THE LARGEST SIZE PLANTS REASONABLY AVAILABLE WHICH EVER IS LESS. WHERE REPLACEMENT PLANTS ARE TO BE LESS THAN THE SIZE OF THE PLANT THAT IS DAMAGED, THE OWNER'S REPRESENTATIVE SHALL APPROVE THE SIZE AND QUALITY OF THE REPLACEMENT PLANT.

1. ALL TREES AND PLANTS SHALL BE INSTALLED PER THE REQUIREMENTS OF PLANTING SPECIFICATIONS.

B. PLANTS THAT ARE DAMAGED SHALL BE CONSIDERED AS REQUIRING REPLACEMENT OR APPRAISAL IN THE EVENT THAT THE DAMAGE AFFECTS MORE THAN 25% OF THE CROWN, 25% OF THE TRUNK CIRCUMFERENCE, OR ROOT PROTECTION AREA, OR THE TREE IS DAMAGED IN SUCH A MANNER THAT THE TREE COULD DEVELOP INTO A POTENTIAL HAZARD. TREES AND SHRUBS TO BE REPLACED SHALL BE REMOVED BY THE CONTRACTOR AT HIS OWN EXPENSE.

1. THE OWNER'S REPRESENTATIVE MAY ENGAGE AN INDEPENDENT CONSULTING ARBORIST TO ASSESS ANY TREE OR PLANT THAT APPEARS TO HAVE BEEN DAMAGED TO DETERMINE THEIR HEALTH OR CONDITION.
2. CONTRACTOR SHALL PAY ALL FINES AND MITIGATION COSTS ASSOCIATED WITH LOSS OF PROTECTED TREES DAMAGED BY CONTRACTOR'S FORCES.

C. ANY TREE THAT IS DETERMINED TO BE DEAD, DAMAGED OR POTENTIALLY HAZARDOUS BY THE OWNER'S ARBORIST AND UPON THE REQUEST OF THE OWNER'S REPRESENTATIVE SHALL BE IMMEDIATELY REMOVED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. TREE REMOVAL SHALL INCLUDE ALL CLEAN UP OF ALL WOOD PARTS AND GRINDING OF THE STUMP TO A DEPTH SUFFICIENT TO PLANT THE REPLACEMENT TREE OR PLANT, REMOVAL OF ALL CHIPS FROM THE STUMP SITE AND FILLING THE RESULTING HOLE WITH TOPSOIL.

D. ANY REMEDIAL WORK ON DAMAGED EXISTING PLANTS RECOMMENDED BY THE CONSULTING ARBORIST SHALL BE COMPLETED BY THE CONTRACTOR AT NO COST TO THE OWNER. REMEDIAL WORK SHALL INCLUDE BUT IS NOT LIMITED TO: SOIL COMPACTION REMEDIATION AND VERTICAL MULCHING, PRUNING AND OR CABLING, INSECT AND DISEASE CONTROL INCLUDING INJECTIONS, COMPENSATORY WATERING, ADDITIONAL MULCHING, AND COULD INCLUDE APPLICATION TREE GROWTH REGULATORS (TGR).

E. REMEDIAL WORK MAY EXTEND UP TO TWO YEARS FOLLOWING THE COMPLETION OF CONSTRUCTION TO ALLOW FOR ANY REQUIREMENTS OF MULTIPLE APPLICATIONS OR THE NEED TO UNDERTAKE APPLICATIONS AT REQUIRED SEASONS OF THE YEAR.

END OF SECTION 015639

CAUTION
EXISTING UNDERGROUND UTILITIES. CONTRACTOR TO VERIFY EXACT LOCATION PRIOR TO ANY TRENCHING OR EXCAVATION.

Know what's **below.**
Call before you dig.

No.	REVISIONS	DATE	BY

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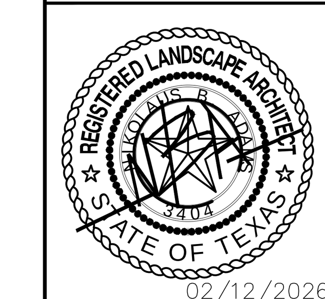

02/12/2026

KHA PROJECT	DATE	SCALE	DESIGNED BY	DRAWN BY	CHECKED BY
064454302	FEBRUARY 2026	AS SHOWN	ERW	ERW	NBA

FUEL CITY - ROCKWALL
ROCKWALL, TEXAS, 75087

TREE PRESERVATION SPECIFICATIONS

SHEET NUMBER
TP 3.02

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