

TREE NOTES

1. SITE PREPARATION WORK (CLEARING, GRUBBING, OR GRADING) AND/OR ANY CONSTRUCTION/FILLING WORK SHALL NOT BEGIN IN ANY AREA WHERE TREE PRESERVATION MEASURES HAVE NOT BEEN COMPLETED AND APPROVED BY THE DESIGNATED COSA TREE INSPECTOR.

- a. PRIOR TO ANY WORK ONSITE, CONTRACTOR MUST CALL ADRIANA GOETZ AT 210-414-2610 (OR DESIGNEE) AND REQUEST A PRE-MOBILIZATION MEETING TO GO OVER THE TREE PRESERVATION PLAN FOR THE PROJECT AND DISCUSS APPROPRIATE TREE PROTECTION MEASURES AND PLACEMENT.
- b. CONTRACTOR SHALL THEN INSTALL A CONTINUOUS LINE OF TREE FENCING THAT CLEARLY DEFINES THE WORK AREA PER THE PLANS AND GUIDANCE FROM MS. GOETZ AS A RESULT OF THE PRE-MOBILIZATION MEETING.
- c. ONCE THE TREE FENCING IS INSTALLED, CONTRACTOR MUST OBTAIN AN APPROVED TREE FENCING INSPECTION FROM MS. GOETZ AND OWNER REPRESENTATIVE PRIOR TO ANY CONSTRUCTION/GRADING/FILLING ACTIVITY ONSITE.

2. TREES HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES SHALL BE WATERED DEEPLY DURING PERIODS OF HOT/DRY WEATHER.

3. CONTRACTOR WILL PREVENT THE FOLLOWING TYPES OF DAMAGE:

- a. COMPACTION OF ROOT ZONE BY FOOT OR VEHICULAR TRAFFIC, OR MATERIAL STORAGE.
- b. TRUNK DAMAGE FROM EQUIPMENT OPERATIONS, MATERIAL STORAGE, OR FROM NAILING OR BOLTING.
- c. TRUNK AND BRANCH DAMAGE CAUSED BY ROPES AND GUY WIRES.
- d. ROOT POISONING FROM SPILLED SOLVENTS, GASOLINE, PAINT, AND OTHER NOXIOUS MATERIALS.
- e. BRANCH DAMAGE DUE TO IMPROPER PRUNING OR TRIMMING.
- f. DAMAGE FROM LACK OF WATER BY CUTTING OR ALTERING NATURAL WATER MIGRATION PATTERNS NEAR ROOT ZONES.
- g. DAMAGE TO FOLIAGE FROM VEHICULAR EXHAUST AND/OR EXCESSIVE PARTICULATE MATTER OR FUGITIVE DUST.
- h. DAMAGE FROM ALTERATION TO SOIL PH FACTOR CAUSED BY DEPOSITING LIME, CONCRETE, PLASTER, OR OTHER BASE MATERIALS NEAR ROOTS.

PROTECTIVE FENCING NOTES

1. THE PROTECTIVE FENCES SHALL BE PLACED TO PROTECT ROOTS, TRUNKS, BRANCHES, AND FOLIAGE. THE CONTRACTOR SHALL NOT REMOVE OR RELOCATE TREE PROTECTION FENCING WITHOUT APPROVAL FROM MS. GOETZ AND OWNER REPRESENTATIVE.

2. DAMAGE TO TREE FENCES OCCURRING DURING THE PROGRESS OF WORK SHALL BE REPAIRED IMMEDIATELY AT NO ADDITIONAL COST.

3. THE FENCES SHOWN ON THE TREE SURVEY PRESERVATION PLAN SHALL BE INSTALLED AS SPECIFIED IN THE DRAWINGS.

TREE PRUNING NOTES

1. A CERTIFIED ARBORIST WITH A CITY OF SAN ANTONIO ISSUED TREE MAINTENANCE LICENSE SHALL COMPLETE ALL TREE PRUNING, IF NECESSARY.

2. TREE PRUNING IS TO BE COMPLETED PRIOR TO ANY CONSTRUCTION ACTIVITY.

3. CONTRACTOR WILL NOTIFY OWNER PRIOR TO TRIMMING OR PRUNING ANY TREES DAMAGED DURING CONSTRUCTION, IF APPLICABLE.

4. AT ALL TIMES AND IRRESPECTIVE OF LIMB SIZE, ALL CUTS AND WOUNDS TO OAK TREES SHALL BE DRESSED IMMEDIATELY USING A NON-PHYTOTOXIC TREE WOUND DRESSING. STUMP CUTS AND CUT ROOTS (BOTH ABOVE AND BELOW GROUND) SHALL ALSO BE DRESSED.

5. ALL PROTECTED TREES AFFECTED BY CONSTRUCTION SHALL BE PRUNED IN ACCORDANCE WITH THE AMERICAN NATIONAL STANDARD FOR TREE PRUNING ANSI A300 (PART 1) "PRUNING" - LATEST REVISION.

6. TREES SHALL BE PRUNED IN A MANNER THAT WILL NOT DESTROY OR ALTER THE NATURAL SHAPE AND CHARACTER OF THE TREE. PRUNING SHALL PROVIDE THE MINIMUM CLEARANCE NEEDED TO PERFORM THE WORK OR REMOVE A HAZARD.

TREE REMOVAL NOTES

1. NO TREES ARE SCHEDULED TO BE REMOVED IN LANDSCAPE AREA 5. ANY TREE REMOVAL IN THIS AREA SHALL BE IN DIRECT VIOLATION OF THE TREE PERMIT OBTAINED FOR THE PROJECT AND CONTRACTOR SHALL MITIGATE SAID REMOVAL TO OWNER AND CITY ARBORIST SATISFACTION.

CLEARING REQUIREMENTS

THE PURPOSE OF THE ACTIVITY IS TO REMOVE MARKED TREES AT GRADE AND GRIND/CHIP THEM IN PLACE WITH A CEDAR EATER (ALSO CALLED HYDRO AXE) WITH LITTLE TO NO SOIL DISTURBANCE IN EACH OF THE TREE CLEARING AREAS AS DELINEATED ON T1. IN GENERAL, THE CONTRACTOR SHOULD MINIMIZE IMPACTS WHEREVER POSSIBLE.

THE TREE CLEARING AREAS WILL NEED TO HAVE ALL ORANGE SPRAY PAINTED TREES CUT DOWN TO GROUND LEVEL; NO ROOTS WILL BE REMOVED OR DISTURBED. CONTRACTOR WILL MINIMIZE GROUND DISTURBANCE WHILE PERFORMING ACTIVITIES ONSITE.

THE CONTRACTOR WILL ACCESS THE PROJECT AREAS LOCATED ON CITY OF SAN ANTONIO STINSON AIRPORT PROPERTY FROM ASHLEY ROAD AND MISSION ROAD AND ALWAYS COORDINATE WITH STINSON STAFF. CLEARING BOUNDARIES WILL BE FLAGGED AND DIRECTED BY CITY REPRESENTATIVES IN THE FIELD. EQUIPMENT DELIVERY AND STORAGE DURING PROJECT ACTIVITIES MUST BE COORDINATED AND APPROVED WITH THE CITY PRIOR TO PROJECT KICKOFF. TRAFFIC CONTROL WILL BE THE CONTRACTOR'S RESPONSIBILITY AND MUST COMPLY WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS, IF APPLICABLE.

THE CONTRACTOR MUST CHIP ALL ORANGE MARKED TREES TO THE EXISTING GROUND SURFACE. TREES WILL BE FELLED AND CHIPPED ONSITE AND IN PLACE, WHEREVER POSSIBLE (EXCEPT IN TREE CLEARING AREA 1 WHERE ALL TREES MUST BE MOVED TO THE MULCHING AREA TO BE PROCESSED). TREES WILL BE CHIPPED TO THE SMALLEST SIZE SITE CONDITIONS WILL SAFELY ALLOW. CONTRACTOR WILL NOT LEAVE MULCH PILES GREATER THAN 6 INCHES DEEP UNLESS APPROVED BY CITY REPRESENTATIVE.

CONTRACTOR IS NOT RESPONSIBLE FOR RUBBISH OR TRASH REMOVAL.

NO PART OF THE PROJECT AREA SHALL BE BURIED OR BULLDOZED OR IN ANY OTHER WAY PUSHED TO ANY PART OF ANY ADJACENT PARCEL. CONTRACTOR WILL MINIMIZE GROUND DISTURBANCE AND RETURN GROUND TO PRE-EXISTING GRADE, IF APPLICABLE.

CONTRACTOR KEY PROJECT PERSONNEL WILL ATTEND MANDATORY PRE-MOBILIZATION MEETING ONSITE PRIOR TO THE FIRST WORKING DAY TO DISCUSS/RECEIVE TRAINING ON THE FOLLOWING:

1. MINIMIZING PROJECT IMPACTS
2. CULTURAL RESOURCES TO BE AVOIDED
3. FLAGGING/MARKING DESIGNATIONS USED ONSITE (LIMITS OF PROJECT AREA, TREES TO BE REMOVED, ETC.)

CONTRACTOR IS RESPONSIBLE FOR ENSURING ALL PERSONNEL PERFORMING CLEARING ACTIVITIES ONSITE HAVE RECEIVED PROPER TRAINING.

CONTRACTOR MUST CONTACT ALL UTILITIES AND OBTAIN UTILITY LOCATES PRIOR TO STARTING WORK.

TREE FENCING/TREE PROTECTION

THE CONTRACTOR WILL MAINTAIN TREE PROTECTION FENCING PER THE TREE PRESERVATION PLAN AND MAY BE REQUIRED TO INSTALL ADDITIONAL FENCING (AT NO ADDITIONAL COST TO COSA) TO PREVENT/MINIMIZE/RESTRICT HIS ACTIVITIES ONSITE SHOULD PRESERVED TREES OR CULTURAL RESOURCES BE IN DANGER OF IMPACT.

OAK PROTECTION

THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF OAK SPECIES FOUND WITHIN THE PROJECT AREA FROM THE SPREAD OF OAK WILT. ALL WOUNDS TO THE TRUNK, LIMBS AND ROOT SYSTEM OF OAK TREES SHALL BE PAINTED BY THE CONTRACOR WITHIN THIRTY MINUTES OF THE WOUND WITH ASPHALTIC, EXTERIOR OIL, OR LATEX BASED PAINT. PLEASE NOTE THAT TREE PROTECTION MATERIALS (FENCING AND PAINT) ARE SUBSIDIARY TO THE TREE CLEARING BID ITEM.

Tree Preservation Calculations				
	Upland	Floodplain Buffer	FloodPlain	Project Total
Total Canopy (sqft)	131,414	48,953	333,446	513,813
Canopy Preserved (sqft)	108,050	22,001	76,623	206,674
Preserved Canopy Percentage	82%	45%	23%	40%
Removed Canopy Percentage	18%	55%	77%	60%

Tree Canopy Data				
Site	Upland (sqft)	30-Foot Buffer (sqft)	Flood Plain (sqft)	Total Area (sqft)
Tree Clearing Area 1	14,900	5,852	8,226	28,978
Tree Clearing Area 2	3,088	11,545	53,855	68,488
Tree Clearing Area 3	5,376	9,555	9,558	24,489
Tree Clearing Area 4	-	-	42,255	42,255
Tree Clearing Area 5	-	-	22,261	22,261
Tree Clearing Area 6	-	-	82,097	82,097
Tree Clearing Area 7	-	-	22,654	22,654
Tree Clearing Area 8	-	-	15,917	15,917
Preserved Canopy	-	-	19,162	19,162
Tower Property	108,050	22,001	57,461	187,512
Total	131,414	48,953	333,446	513,813

Tree Ordinance Mitigation

Floodplain- Project Tree Canopy Preservation = 23% (76,613 sqft)

- Tree Ordinance requires 80% canopy preservation= 266,757 sqft

Project Mitigation required

1. Canopy Mitigation

- (266,757 - 76,613)= 190,134 sqft canopy mitigation required

- (190,134 sqft) / (875 sqft/tree)= 217 trees x 16.7 inches per tree= 3,624 inches

- 3,624 inches required for canopy mitigation

2. Heritage Tree Mitigation

- All five heritage trees in the project area are being removed

31 inch box elder and 30 inch willow are mitigated 3:1

28 inch, 33 inch, 28 inch mesquites and 24 inch hackberry are mitigated 1:1

- 296 inches required for project heritage tree removal

Total Project Mitigation required:

3,624 canopy mitigation + 296 heritage tree removal mitigation=

3,920 total mitigation inches required

Mitigation provided:

1. 4 new trees x 1.5 inches= 6 inches of mitigation provided

2. Native seeding (Landscape Areas 1 through 5)= 372,891 sqft

- 372,891 sqft x 0.5 credit= 186,446 sqft of mitigation credit

- (186,446 sqft) / 875 sqft/tree)= 213 trees x 16.7 inches per tree

= 3,557 inches of mitigation provided

3. Low Impact Development (LID) for rain garden, grassy swale and vegetated filter strip for parking lot/driveway stormwater runoff -total LID sqft 3,117/875 = 3.56 x 16.7 = 59 inches of mitigation provided

4. Small Tree Species Preservation = Tree Areas 1,4,5,7 and 8= 132,065 sq ft x 0.5 credit=


66,033sqft of mitigation credit/875= 76 x 16.7= 1,269 inches of mitigation provided

Mitigation Summary:

3, 920 inches required for mitigation - 4,891 inches of mitigation provided

= 971excess mitigation inches provided



STINSON MUNICIPAL AIRPORT				
PROPOSED CONTROL TOWER TREE GENERAL NOTES & CALCULATIONS				
	Addendum 1:			
	Added Calculations			
NO.	DATE	DESCRIPTION	DWG	CHK
<i>J&amp;L Consulting</i>				
SUBMITTAL:				
DATE: Oct. 2016				
DRAWN:		STATE:	COUNTY:	SHT. NO.
CHECKED: R.C./L.H.		TEXAS	BEXAR	T6