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MEMORANDUM

TO: Mr. James Shieh, Chair
Planning Commissioners

FROM: Keith Mars, AICP, CA, City Arborist
Development Services Department

DATE: October 9, 2018

SITE PLAN: Block 36 (SP-2018-0015C)

REQUEST: The applicant is requesting to remove two heritage trees, each with a single-stem greater than 30 inches as allowed under LDC 25-8-643

Project Description

The subject property is located at 710 E. 3rd Street. The lot size is 1.8 acres and is located within the central business zoning district (CBD) and within the desired development zone. The current use is commercial and the desired use is mixed use – multifamily/retail. The proposed impervious cover is ~69.6% and the maximum allowable impervious cover is 100%. The proposed building height is ~55 feet and the FAR is 3:1. Capitol View Corridor applies to the property. The property is located in the Waller Creek Watershed classified as an urban watershed.

There are two heritage trees onsite, one is a Pecan and one is an American Elm. Both trees have structural health concerns as per onsite evaluations and tree risk assessments. These two trees exceed 30 inches in diameter. Per the Land Development Code a Land Use Commission variance is necessary to remove these trees.

Tree Evaluation

Measurements

The two subject heritage trees are a 37.5” Pecan tree (tree #4008) and a 34” American Elm tree (tree #4009).

Canopy Conditions

Tree #4008 – Has significant dead/dying scaffold limbs and canopy has been improperly pruned at multiple points. (Exhibit 3)

Tree #4009 – Only retains approximately 50% of canopy of similar-sized specimen. Has heavily unbalanced canopy to east/southeast. Tree previously cut back aggressively from power lines. (Exhibit 7)

Trunk/Major stems

Tree #4008 – Trunk splits into four large stems with included bark between the stems. Some old decay/wounds are present higher up on major limbs likely a result of past storm damage. (Exhibit 2)

Tree #4009 – Has multiple codominant (2-3 tightly fused) stems with weak unions (included bark) which could present future structural issues. Some old decay and cavities are present in very brittle branches. (Exhibit 6)

Root System

Tree #4008- Approximately 80% of its roots have been covered by pavement for many years. Poor growing environment and compaction present. (Exhibit 1)

Tree #4009 – This tree is also in a poor location with previous development. Compaction present. (Exhibit 5)

Overall Condition

Tree #4008 – This tree is not an active hazard, but is structural compromised and the branch structure cannot be corrected without significant canopy removal. There is also concern about existing rooting conditions due to the majority of rooting area covered by impervious cover. (Exhibit 4).

Tree #4009 – This tree is not an active hazard, but it is structurally compromised and that structure cannot be corrected. More details on the overall condition can be found in the City Arborist Tree Evaluations (Exhibit 8).

Variance Request

The variance request is to allow removal of two heritage trees, each with one stem greater than 30 inches as allowed under LDC 25-8-643.

Recommendation

The City Arborist recommends removal of both trees due to long-term structural health concerns and public health, safety and welfare. Since both trees are not imminent hazards a Land Use Commission variance is necessary.

On November 30, 2017, the applicant and city arborist staff met onsite for a predevelopment consultation. Subsequent meetings with the City Arborist and city arborist staff were held to discuss both trees. In addition to reviewing the two trees requested for removal, their condition, and their locations in relation to the proposed development onsite, a third party certified arborist report and tree risk assessment for each tree was provided verifying structural health concerns.

The City Arborist recommends it is not reasonable to incorporate the two trees into the design. Both trees are in poor structural condition and that condition is not recoverable. Given the tree

conditions and the proposed use, it is not reasonable to incorporate these trees into the design. The variance request meets approval criteria for the City Arborist per LDC 25-8-624(A) (2).

Supporting Findings of Fact

Section 1 – Approval Criteria for Heritage Tree Review

1) **The requirement for which a variance is requested prevents a reasonable access to the property.**

No.

2) **The requirement for which a variance is requested prevents a reasonable use of the property.**

Yes. The base zoning, height limitations, and most importantly, the poor condition of the subject trees prevent a reasonable use and it is not reasonable to preserve these trees.

3) **The tree presents an imminent hazard to life or property and the hazard cannot be reasonably mitigated without removing the tree.**

No. However, both trees have significant structural defects. It is unlikely either tree would survive code-compliant construction.

4) **Is the tree dead?**

No.

5) **Is the tree diseased? If so, is restoration to a sound condition practicable or can the disease be transmitted?**

No. However, substantial canopy loss has occurred likely due to storms and growing conditions.

6) **For a tree located on public property or a public street or easement, the requirement for which a variance is requested prevents:**

a) **the opening of necessary vehicular traffic lanes in a street or ally, or**

b) **the construction of utility or drainage facilities that may not feasibly be rerouted.**

NA.

7) **The applicant has applied for and been denied a variance, waiver, exemption, modification, or alternative compliance from another City Code provision which would eliminate the need to remove the heritage tree, as required in Section 25-8-646 (*Variance Prerequisite*).**

No.

8) **Removal of the heritage tree is not based on a condition caused by the method chosen by the applicant to develop the property, unless removal of the heritage tree will result in a design that will allow for the maximum provision of ecological service and historic and cultural value from the trees preserved on the site.**

No.

Mitigation

The Environmental Criteria Manual prescribes 300% mitigation. Due to the tree condition it is standard practice per the Environmental Criteria Manual to reduce the mitigation. Consequently, the suggested mitigation rates are 150% for each of the trees. That would equate to 107 inches of mitigation. The City Arborist recommends the use of a suspended pavement system for newly planted street trees to be put towards overall mitigation. This suspended pavement system would provide increased soil volume to ensure longevity and healthier street trees. In turn, these new trees will provide maximum long-term shade potential, reducing the heat island effect and creating a more walkable streetscape.

Please contact 512-974-2755 or keith.mars@austintexas.gov if you have questions.

Sincerely,

Keith W. Mars

Keith Mars, City Arborist
Development Services Department



ENVIRONMENTAL COMMISSION MOTION 20180905 008a

Date: September 5, 2018

Subject: Block 36 Site Plan (SP-2018-0015C) variance request to remove two heritage trees (#4008 and #4009)

Motion by: Hank Smith

Seconded by: Mary Ann Neely

RATIONALE:

WHEREAS, tree #4008 is a 37.5" Pecan Tree with significant dead/dying scaffold limbs and the canopy has been improperly pruned at multiple points, has approximately 80 percent of its roots covered by pavement, and since the tree is in the Waller Creek Conservancy area, it will likely be scheduled to be removed with future improvements; and

WHEREAS, tree #4009 is a 34" American Elm tree that only retains approximately 50 percent of canopy of similar sized specimen, has heavily unbalanced canopy and was previously cut back aggressively from power lines, and this tree will likely be removed in the future as part of CapMetro Rail station improvements.

THEREFORE, the Environmental Commission recommends support of the request for removal of tree numbers 4008 and 4009 with the following;

Staff Conditions:

- Per staff recommendations, including suspended pavement for any tree planting in the Right of Way.

Environmental Commission Conditions:

- The street trees be evaluated to provide diversity and an iconic mix of trees;
- Mitigation rate shall be at a rate of 300 percent
- Work with staff to provide additional funding for the Waller Creek Conservancy and Palm Park for improvements on or adjacent to this tract;
- Require increased diameter of mitigation trees up to 8" for a significant number of trees based on staff directive along 3rd Street as well as in Palm Park.

VOTE 6-3

For: B. Smith, Creel, H. Smith, Neely, Gordon, and Coyne

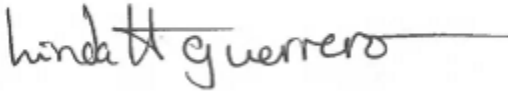
Against: Perales, Guerrero, and Maceo

Abstain: None

Recuse: None

Absent: Thompson

Approved By:

A handwritten signature in black ink that reads "Linda Guerrero". The signature is written in a cursive style with a horizontal line extending from the end of the name.

Linda Guerrero, Environmental Commission Chair



Exhibit 1-Tree #4008
Root System



Exhibit 2 -Tree #4008
Trunk/Major stems





Exhibit 3-Tree #4008
Canopy Condition



Exhibit 4-Tree #4008
Overall Condition



Exhibit 5-Tree #4009
Root System



Exhibit 6-Tree #4009
Trunk/Major stems





Exhibit 7-Tree #4009
Canopy Condition



Exhibit 8-Tree #4009
Overall Condition

Division 3. - Heritage Trees.

§ 25-8-641 - REMOVAL PROHIBITED.

- (A) Removal of a heritage tree is prohibited unless the Planning and Development Review Department has issued a permit for the removal under this division.
- (B) A permit to remove a heritage tree may be issued only if a variance is approved under Section 25-8-642 (*Administrative Variance*) or 25-8-643 (*Land Use Commission Variance*).
- (C) The requirements in this division apply to trees on private and public property. To the extent of conflict with another section of the Code, this division applies.
- (D) A person may, without a variance, remove a damaged heritage tree that is an imminent hazard to life or property if the tree is removed within seven days of being damaged. The director may extend this deadline for widespread and extensive storm damage.

Source: Ord. 20100204-038.

§ 25-8-642 - ADMINISTRATIVE VARIANCE.

- (A) The director of the Planning and Development Review Department may grant a variance from Section 25-8-641 (*Removal Prohibited*) to allow removal of a heritage tree only after determining, based on the city arborist's recommendation, that the heritage tree:
 - (1) is dead;
 - (2) is an imminent hazard to life or property, and the hazard cannot reasonably be mitigated without removing the tree; or
 - (3) is diseased and:
 - (a) restoration to sound condition is not practicable; or
 - (b) the disease may be transmitted to other trees and endanger their health.
- (B) No application fee and no mitigation are required for a variance request under subsection (A).
- (C) The director of the Planning and Development Review Department may grant a variance from Section 25-8-641 (*Removal Prohibited*) to allow removal of a heritage tree that does not have at least one stem that is 30 inches in diameter or larger measured four and one-half feet above natural grade only after determining, based on the city arborist's recommendation, that the heritage tree meets the criteria in Section 25-8-624(A) (*Approval Criteria*) and that:
 - (1) the applicant has applied for and been denied a variance, waiver, exemption, modification, or alternative compliance from another City Code provision which would eliminate the need to remove the heritage tree, as required in Section 25-8-646 (*Variance Prerequisite*); and
 - (2) removal of the heritage tree is not based on a condition caused by the method chosen by the applicant to develop the property, unless removal of the heritage tree will result in a design that will allow for the maximum provision of ecological service, historic, and cultural value of the trees on the site.
- (D) A variance granted under this section:
 - (1) shall be the minimum change necessary;
 - (2) shall require mitigation as a condition of variance approval for variances requested under Subsection (C) of this section; and

- (3) may not be issued until the applicant has satisfied the mitigation conditions required under this Subsection (D)(2) or posted fiscal security adequate to ensure performance of the mitigation conditions not later than one year after issuance of the variance.
- (E) The director of the Planning and Development Review Department shall prepare written findings to support the grant or denial of a variance request under Subsection (C) of this Section.

Source: Ord. 20100204-038.

§ 25-8-643 - LAND USE COMMISSION VARIANCE.

- (A) The Land Use Commission may grant a variance from Section 25-8-641 (Removal Prohibited) to allow removal of a heritage tree that has at least one stem that is 30 inches or larger in diameter measured four and one-half feet above natural grade only after determining, based on the city arborist's recommendation, that the heritage tree meets the criteria in Section 25-8-624(A) (*Approval Criteria*), and that:
 - (1) the applicant has applied for and been denied a variance, waiver, exemption, modification, or alternative compliance from another City Code provision which would eliminate the need to remove the heritage tree, as required in Section 25-8-646 (*Variance Prerequisites*); and
 - (2) removal of the heritage tree is not based on a condition caused by the method chosen by the applicant to develop the property, unless removal of the heritage tree will result in a design that will allow for the maximum provision of ecological service, historic, and cultural value of the trees on the site.
- (B) A variance granted under this section:
 - (1) shall be the minimum change necessary;
 - (2) shall require mitigation as a condition of variance approval; and
 - (3) may not be issued until the applicant has satisfied the mitigation conditions required under this Subsection (B)(2) or posted fiscal security adequate to ensure performance of the mitigation conditions not later than one year after issuance of the variance.
- (C) Consideration of a variance under this section requires review by the Environmental Commission.

Source: Ord. 20100204-038; [Ord. No. 20141211-204, Pt. 24, 7-1-15](#); [Ord. No. 20170615-102](#), Pt. 28, 6-15-17.

§ 25-8-644 - APPEAL.

- (A) An applicant may appeal denial of an administrative variance under Section 25-8-642 to the Land Use Commission.
- (B) An appeal under this section requires review by the Environmental Commission.

Source: Ord. 20100204-038; [Ord. No. 20141211-204, Pt. 24, 7-1-15](#); [Ord. No. 20170615-102](#), Pt. 29, 6-15-17.

§ 25-8-645 - APPLICATION FOR VARIANCE.

- (A) For a heritage tree located on public property or a public street or easement, an application requesting a variance to allow removal of the heritage tree may be filed by:
 - (1) a City department, public utility, or political subdivision with the authority to install utility lines or other public facilities in or above the property, street, or easement; or

- (2) the owner of property adjoining the site of the tree.
- (B) For a heritage tree located on private property, an application requesting a variance to allow removal of the heritage tree may be filed by:
 - (1) the owner of the property on which the tree is located; or
 - (2) the city arborist, if the tree is seriously diseased or is a safety hazard.
- (C) An application requesting a variance to allow removal of a heritage tree must:
 - (1) be filed with the director of the Planning and Development Review Department; and
 - (2) include the fee prescribed by ordinance; and
 - (3) include the information prescribed by the Administrative Criteria Manual.
- (D) The application fee is not required if the application is based solely on the criteria in Subsections 25-8-624(A)(3), (4) or (5).

Source: Ord. 20100204-038.

§ 25-8-646 - VARIANCE PREREQUISITE.

- (A) If a variance, waiver, exemption, modification, or alternative compliance from another City Code provision would eliminate the need for a variance from Section 25-8-641 (*Removal Prohibited*), before requesting a variance to allow removal of a heritage tree on private property the applicant must:
 - (1) request a variance, waiver, exemption, modification or alternative compliance from the Code provisions that would eliminate the need to remove the heritage tree; and
 - (2) obtain a grant or denial of the variance, waiver, exemption, modification or alternative compliance that would eliminate the need to remove the heritage tree.
- (B) The request for a variance to allow removal of a heritage tree may not be considered unless the variance, waiver, exemption, modification or alternative compliance from other City Code provisions is denied.
- (C) The application fee for a variance from another City Code provision required under this section is waived.
- (D) This section does not apply to an application for a variance to remove a heritage tree based on the criteria in Subsections 25-8-624(A)(3), (4) or (5).
- (E) The body considering the variance, waiver, exemption, modification, or alternative compliance will consider the benefit of preserving the heritage tree in determining whether to grant or deny the request for a variance, waiver, exemption, modification or alternative compliance from another City Code provision.
- (F) This subsection does not require an applicant to request a variance, waiver, exemption, modification, or alternative compliance if the director determines that to do so would endanger the public health and safety.

Source: Ord. 20100204-038.

§ 25-8-647 - ACTION ON APPLICATION.

- (A) The director of the Planning and Development Review Department shall take action on a variance request to allow removal of a heritage tree:
 - (1) not later than the 10th working day after the complete application is filed; or

- (2) if a variance, waiver, exemption, modification, or alternative compliance from another City Code provision is required under Subsection 25-8-646 (*Variance Prerequisite*), not later than the 10th working day after the request is denied.
- (B) If the application is based on a damaged heritage tree constituting an immediate hazard to life or property, the application shall be approved or denied within 24 hours and no application fee is required.
- (C) An application to remove a tree that is not associated with a pending subdivision, site plan, or building permit application submitted to the City is automatically granted if the director does not act on the application before the expiration of the applicable deadline.

Source: Ord. 20100204-038.

§ 25-8-648 - VARIANCE EFFECTIVE DATE AND EXPIRATION.

- (A) Approval of a variance request to allow removal of a heritage tree is effective immediately.
- (B) A variance to allow removal of a heritage tree expires:
 - (1) one year after its effective date, provided that the mitigation conditions in the variance remain in effect until the conditions are met; or
 - (2) for an application that is associated with a pending subdivision, site plan, or building permit submitted to the City, when the development permit expires.

Source: Ord. 20100204-038.

Item C-11 ISA Basic Tree Risk Assessment Form 19 of 41

Client _____ Date _____ Time _____
 Address/Tree location _____ Tree no. _____ Sheet _____ of _____
 Tree species _____ dbh _____ Height _____ Crown spread dia. _____
 Assessor(s) _____ Time frame _____ Tools used _____

Target Assessment

Target number	Target description	Target zone			Occupancy rate 1 – rare 2 – occasional 3 – frequent 4 – constant	Practical to move target?	Restriction practical?
		Target within drip line	Target within 1 x Ht.	Target within 1.5 x Ht.			
1							
2							
3							
4							

Site Factors

History of failures _____ **Topography** Flat ☐ Slope ☐ _____ % **Aspect** _____
Site changes None ☐ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____
Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____ % Describe _____
Prevailing wind direction _____ **Common weather** Strong winds ☐ Ice ☐ Snow ☐ Heavy rain ☐ Describe _____

Tree Health and Species Profile

Vigor Low ☐ Normal ☐ High ☐ **Foliage** None (seasonal) ☐ None (dead) ☐ Normal _____ % Chlorotic _____ % Necrotic _____ %
Pests _____ **Abiotic** _____
Species failure profile Branches ☐ Trunk ☐ Roots ☐ Describe _____

Load Factors

Wind exposure Protected ☐ Partial ☐ Full ☐ Wind funneling ☐ _____ **Relative crown size** Small ☐ Medium ☐ Large ☐
Crown density Sparse ☐ Normal ☐ Dense ☐ **Interior branches** Few ☐ Normal ☐ Dense ☐ **Vines/Mistletoe/Moss** ☐ _____
Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR _____ % Cracks ☐ _____ Lightning damage ☐
 Dead twigs/branches ☐ _____ % overall Max. dia. _____ Codominant ☐ _____ Included bark ☐
 Broken/Hangers Number _____ Max. dia. _____ Weak attachments ☐ _____ Cavity/Nest hole _____ % circ.
 Over-extended branches ☐ Previous branch failures ☐ _____ Similar branches present ☐
Pruning history
 Crown cleaned ☐ Thinned ☐ Raised ☐ Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐
 Reduced ☐ Topped ☐ Lion-tailed ☐ Conks ☐ Heartwood decay ☐ _____
 Flush cuts ☐ Other _____ Response growth _____
 Main concern(s) _____

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ☐ _____
Likelihood of failure Improbable ☐ Possible ☐ Probable ☐ Imminent ☐ _____

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐
 Codominant stems ☐ Included bark ☐ Cracks ☐
 Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐
 Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐
 Cavity/Nest hole _____ % circ. Depth _____ Poor taper ☐
 Lean _____ ° Corrected? _____
 Response growth _____
 Main concern(s) _____

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ☐
Likelihood of failure Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐
 Dead ☐ Decay ☐ Conks/Mushrooms ☐
 Ooze ☐ Cavity ☐ _____ % circ.
 Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____
 Root plate lifting ☐ Soil weakness ☐
 Response growth _____
 Main concern(s) _____

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ☐
Likelihood of failure Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization																				
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood								Consequences				Risk rating of part (from Matrix 2)	
							Failure				Impact									Failure & Impact (from Matrix 1)
							Improbable	Possible	Probable	Imminent	Very low	Low	Medium	High	Unlikely	Somewhat	Likely	Very likely		Negligible
1																				
2																				
3																				
4																				

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

Notes, explanations, descriptions _____

Mitigation options _____ Residual risk _____

Overall tree risk rating Low ☐ Moderate ☐ High ☐ Extreme ☐Work priority 1 ☐ 2 ☐ 3 ☐ 4 ☐Overall residual risk Low ☐ Moderate ☐ High ☐ Extreme ☐

Recommended inspection interval _____

Data ☐ Final ☐ Preliminary Advanced assessment needed ☐ No ☐ Yes-Type/Reason _____Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Item C-11 ISA Basic Tree Risk Assessment Form 21 of 41

Client _____ Date _____ Time _____
 Address/Tree location _____ Tree no. _____ Sheet _____ of _____
 Tree species _____ dbh _____ Height _____ Crown spread dia. _____
 Assessor(s) _____ Time frame _____ Tools used _____

Target Assessment

Target number	Target description	Target zone			Occupancy rate 1 – rare 2 – occasional 3 – frequent 4 – constant	Practical to move target?	Restriction practical?
		Target within drip line	Target within 1 x Ht.	Target within 1.5 x Ht.			
1							
2							
3							
4							

Site Factors

History of failures _____ **Topography** Flat ☐ Slope ☐ _____ % **Aspect** _____
Site changes None ☐ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____
Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____ % Describe _____
Prevailing wind direction _____ **Common weather** Strong winds ☐ Ice ☐ Snow ☐ Heavy rain ☐ Describe _____

Tree Health and Species Profile

Vigor Low ☐ Normal ☐ High ☐ **Foliage** None (seasonal) ☐ None (dead) ☐ Normal _____ % Chlorotic _____ % Necrotic _____ %
Pests _____ **Abiotic** _____
Species failure profile Branches ☐ Trunk ☐ Roots ☐ Describe _____

Load Factors

Wind exposure Protected ☐ Partial ☐ Full ☐ Wind funneling ☐ _____ **Relative crown size** Small ☐ Medium ☐ Large ☐
Crown density Sparse ☐ Normal ☐ Dense ☐ **Interior branches** Few ☐ Normal ☐ Dense ☐ **Vines/Mistletoe/Moss** ☐ _____
Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR _____ % Cracks ☐ _____ Lightning damage ☐
 Dead twigs/branches ☐ _____ % overall Max. dia. _____ Codominant ☐ _____ Included bark ☐
 Broken/Hangers Number _____ Max. dia. _____ Weak attachments ☐ _____ Cavity/Nest hole _____ % circ.
 Over-extended branches ☐ Previous branch failures ☐ _____ Similar branches present ☐
Pruning history
 Crown cleaned ☐ Thinned ☐ Raised ☐ Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐
 Reduced ☐ Topped ☐ Lion-tailed ☐ Conks ☐ Heartwood decay ☐ _____
 Flush cuts ☐ Other _____ Response growth _____
 Main concern(s) _____

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ☐ _____
Likelihood of failure Improbable ☐ Possible ☐ Probable ☐ Imminent ☐ _____

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐
 Codominant stems ☐ Included bark ☐ Cracks ☐
 Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐
 Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐
 Cavity/Nest hole _____ % circ. Depth _____ Poor taper ☐
 Lean _____ ° Corrected? _____
 Response growth _____
 Main concern(s) _____

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ☐
Likelihood of failure Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐
 Dead ☐ Decay ☐ Conks/Mushrooms ☐
 Ooze ☐ Cavity ☐ _____ % circ.
 Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____
 Root plate lifting ☐ Soil weakness ☐
 Response growth _____
 Main concern(s) _____

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ☐
Likelihood of failure Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization																							
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood												Consequences				Risk rating of part (from Matrix 2)
							Failure				Impact				Failure & Impact (from Matrix 1)								
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1																							
2																							
3																							
4																							

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

Notes, explanations, descriptions _____

Mitigation options _____ Residual risk _____

Overall tree risk rating Low ☐ Moderate ☐ High ☐ Extreme ☐Work priority 1 ☐ 2 ☐ 3 ☐ 4 ☐Overall residual risk Low ☐ Moderate ☐ High ☐ Extreme ☐

Recommended inspection interval _____

Data ☐ Final ☐ Preliminary Advanced assessment needed ☐ No ☐ Yes-Type/Reason _____Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Memo

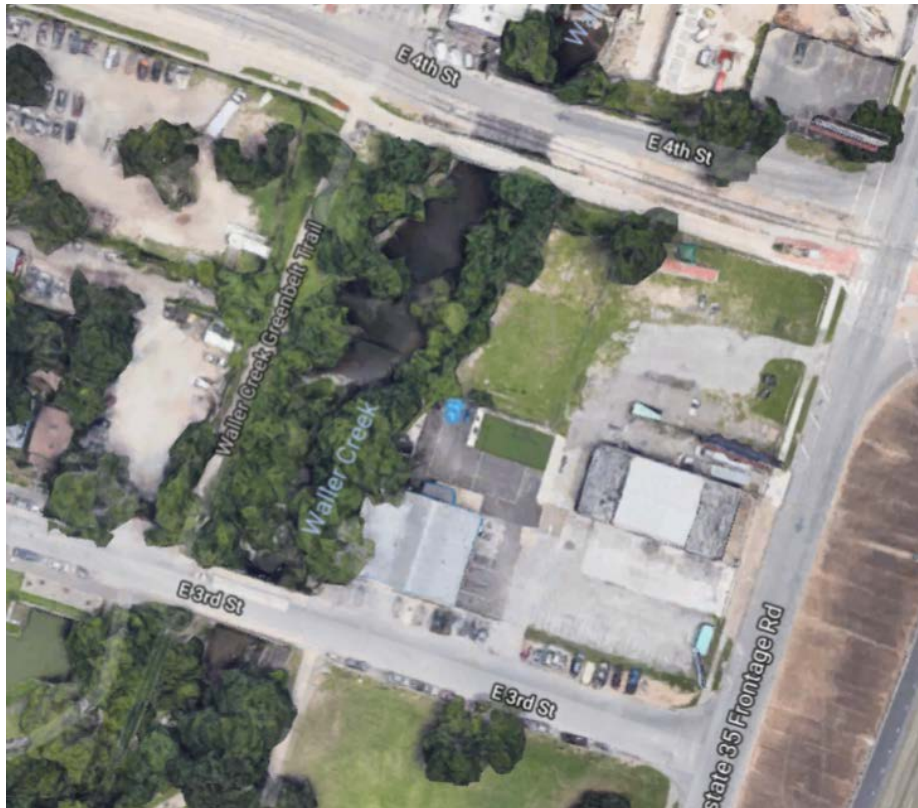
To: Linda H. Guerrero, Chair, City of Austin Environmental Commission, and
Honorable Environmental Commissioners

From: Transwestern Development Company

Date: August 16, 2018

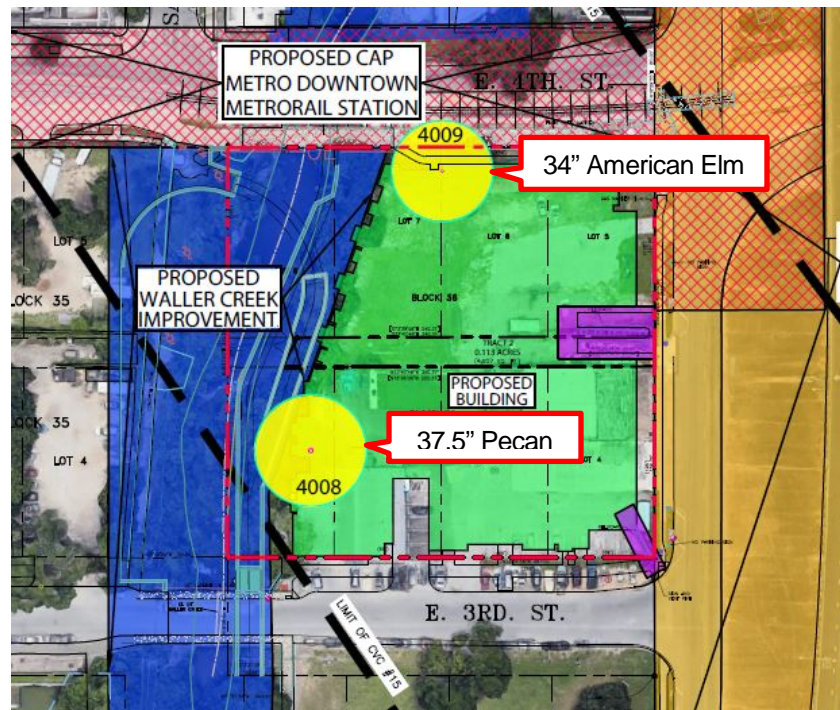
Re: Block 36

SITE: 710 East 3rd Street, Austin, TX 78701 which is Block 36 of the Original City of Austin subdivision (the "Property").



SITE CONDITIONS: Currently, the entire site is being operated as a gymnasium and surface parking lot. The site currently has 54% impervious cover.

REQUEST: There are two heritage trees on the site that are being requested for removal: a 37.5" Pecan located at the southwestern corner of the property, and a 34" American Elm located along the northern edge of the property along East 4th Street. See Exhibit A for tree locations.

EXHIBIT A: Site Constraints Exhibit with 37.5" Pecan and 34" American Elm Tree Locations

CONSTRAINTS: The Property consists of 1.82 acres (79,279.2 square feet) and it is zoned Central Business District (CBD) (Exhibit B).

First, the majority of the site is located within the “North-Bound Lanes of IH-35 Between Third Street and The Waller Creek Plaza” Capitol View Corridor (see Exhibit C, and also shown as long black hatches on the site constraints exhibit). Capitol View Corridors restrict the maximum height achievable on impacted properties and will limit what can be built on this important downtown site. Under the CBD zoning designation, there would not be a height limitation on the site. However, with the above mentioned Capitol View Corridor, the site is limited to a height of approximately 55 feet and 4 stories.

Second, Waller Creek traverses the Property along the western edge. As such, creek improvements are proposed by The Waller Creek Conservancy that will encumber the Property along this western boundary, including the removal of Tree 4008, and will restrict what may be built based upon these established plans. The Waller Creek Improvement area is shown in blue on the Site Constraints Exhibit. These proposed plans call for a pedestrian path along the western boundary of the Property.

Third, the Capital Metro Downtown MetroRail Station is located adjacent to the site in the East 4th Street right-of-way. As part of an effort to revitalize this critical downtown station and improve mobility options in the City, there are mobility and station improvements proposed along the 4th Street frontage of the Property that will impact the developable area of the site as well as impact tree

4009. The Capital Metro improvements are within in the red hatched area of the Site Constraints Exhibit.

A public sidewalk parallel to East 4th Street must be constructed on private property as a result of Capital Metro utilizing the entire width of the East 4th Street right-of-way.

Finally, there are two existing billboards owned by Reagan Outdoor Advertising on the Property shown in purple on the site constraint map. One is located along the eastern boundary line of the site midway between 3rd Street and 4th Street. The second is located at the southeast corner of the site. These billboards may not be removed as part of this development as they are owned by a third party. Therefore, development of the Property must be conducted around the existing billboards further limiting the developable area of the site.

Given (a) these numerous site constraints causing undue hardship for development, (b) the fact that both trees will be removed as part of the Waller Creek improvements and the Capital Metro improvements, and (c) the tree condition report prepared by Davey Tree Expert Company, we respectfully request the removal of trees 4008 and 4009.

DESIRED REASON: The current intent is to develop a 263-unit multifamily project with a 3,075 square foot commercial space on the ground floor to meet the requirements of the TOD overlay. Per a report prepared by the Davey Tree Expert Company on October 12, 2017, there are two (2) heritage trees in fair and/or average health on the property. The trees discussed are both planned for removal in association with adjacent projects, as outlined above. This development is moving forward prior to the public initiatives thus necessitating the request for removal.

The 37.5" Pecan tree located near the southwest property line is shown as removed as part of the Waller Creek Improvement Plans. Construction of the Waller Creek tunnel project, which was established to mitigate flooding in downtown Austin, is ongoing. The Waller Creek tunnel plans ultimately will result in bringing several acres of downtown real estate out of the floodplain and allow for increased development in Austin's densest neighborhood. Following acceptance of the Waller Creek tunnel, the Waller Creek Improvement Plan will be implemented along the creek, resulting in removal of this 37.5" Pecan tree.

A tree evaluation for the 37.5" Pecan tree was completed by Davey Tree Expert Company on October 12, 2017. The tree is listed in Fair/Average condition. It has some significant dead and/or dying scaffold limbs. The canopy has been previously improperly topped back at multiple points. Old decay and wounds higher up on major limbs exist, and there is evidence of past storm damage. Because of these reasons, this tree is listed as a fair candidate for removal and is not viable for preservation through construction due to approximately 80% of its roots being covered by pavement for many years.

The 34" American Elm tree to the north is proposed for removal as part of the Capital Metro Downtown MetroRail Station improvements. The Downtown Station is currently undergoing significant redevelopment in order to expand

and enhance the existing commuter rail station. The entire East 4th Street right-of-way abutting the subject site is proposed to be closed to vehicular traffic and will be re-established as a safely walkable urban transit center and plaza, the plans for which include sidewalk improvements and street trees for shade. As part of these plans, the 34" American Elm tree is already slated for removal, with the understanding that the Downtown Station will mitigate for removed trees.

A tree evaluation for the 34" American Elm tree was completed by Davey Tree Expert Company on October 12, 2017. The tree is listed in Average condition. It only retains 50% of the canopy of similar-sized specimen and has a heavily unbalanced canopy to the east and southeast and multiple codominant stems with weak unions, which could present future structural issues. Heavy poison infestation is present, and there is evidence of previous over-trimming near power lines. Because of these reasons, the tree is listed as a fair candidate for removal due to its poor condition and location.

Due to the poor environment in which the trees are located, the health of the trees, the significant site constraints, and the existing documentation that these two trees have been planned for removal, it is the Applicant's desire to mitigate for the removal of both of these trees from the site. As part of the mitigation, the applicant will provide on-site inches, enhancements to trees provided and payment of the appropriate fee towards the Urban Forest Replenishment Fund.

LAND DEVELOPMENT CODE § 25-8-643 – LAND USE COMMISSION VARIANCE

*Responses provided by: Mark Mann, Austin Tree Specialist (ISA Certified Arborist #TX-0731374)
Full tree assessment reports provided as Exhibits D and E to this report*

34" American Elm and 37.5" Pecan

Land Development Code § 25-8-642 – LAND USE COMMISSION VARIANCE.

(A) The land use commission may grant a variance from Section 25-8-641 (Removal Prohibited) to allow removal of a heritage tree that has at least one stem that is 30 inches or larger in diameter measured four and on-half feet above natural grade only after determining, based on the city arborist's recommendation, that the heritage tree meets the criteria in Section 25-8-624(A) (Approved Criteria) and that:

- (1) the applicant has applied for and been denied a variance, waiver, exemption modification, or alternative compliance from another City Code provision which would eliminate the need to remove the heritage tree, as required in Section 25-8-646 (Variance Prerequisites); and

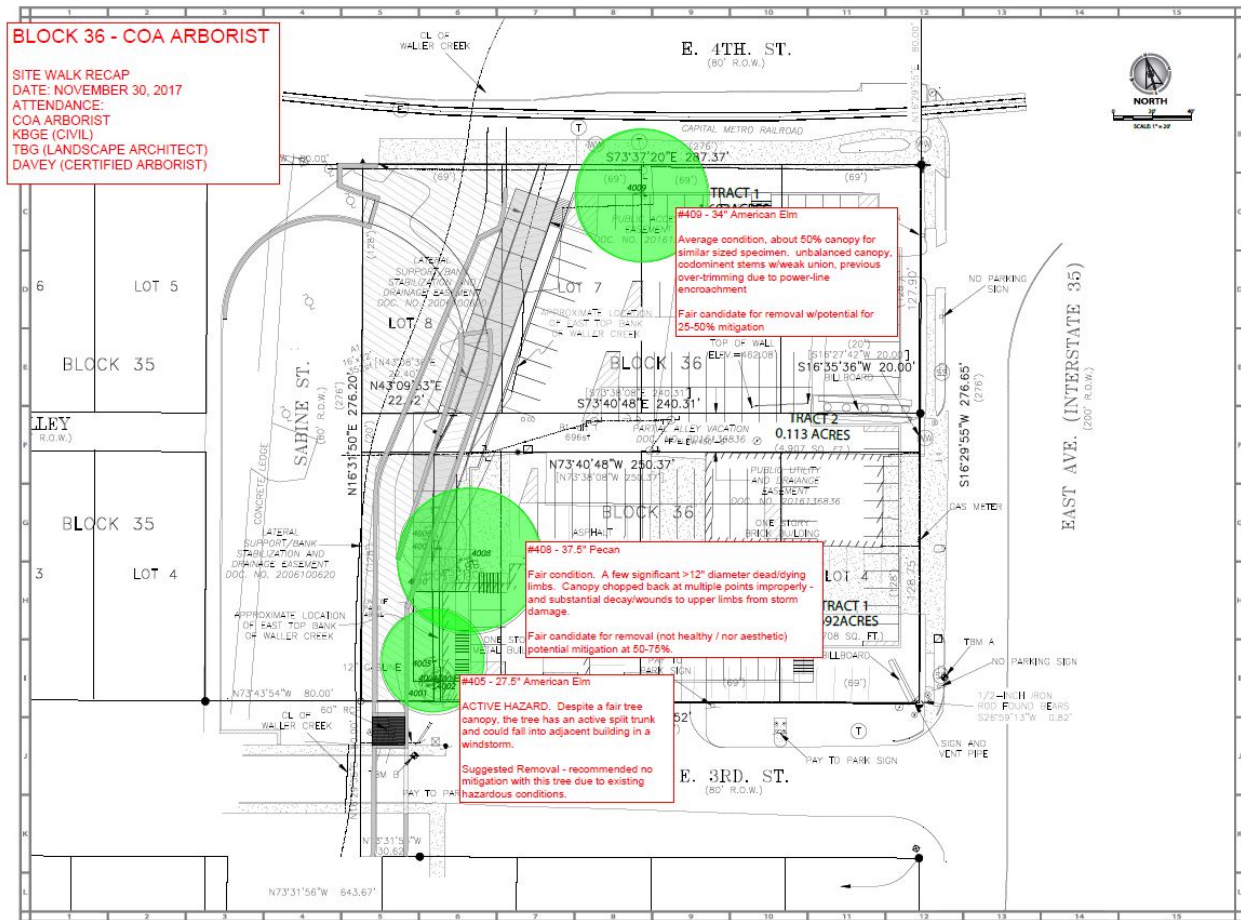
RESPONSE: The Applicant has no other course of action to allow reasonable use of the Property. The required compliance with the TOD regulations, Subchapter E regulations, City and State Capitol View Corridors and planned City initiatives blanket the site significantly restricting development. No variances can be pursued which would eliminate the removal of the heritage trees.

- (2) Removal of the heritage tree is not based on a condition caused by the method chosen by the applicant to develop the property, unless removal of the heritage tree will result in a design that will allow for the maximum provision of ecological service, historic, and cultural value of the trees on the site.

RESPONSE: The requested removal of trees 4008 and 4009 is not based on a condition caused by the method chosen to develop the property. The trees are in fair/average health and are proposed for removal by Capital Metro and the Waller Creek Improvement Plan based on public improvements that will be implements adjacent to the site, Additionally, the constraints mentioned above effectively require the removal of tree 4008 and 4009.

EXHIBIT B

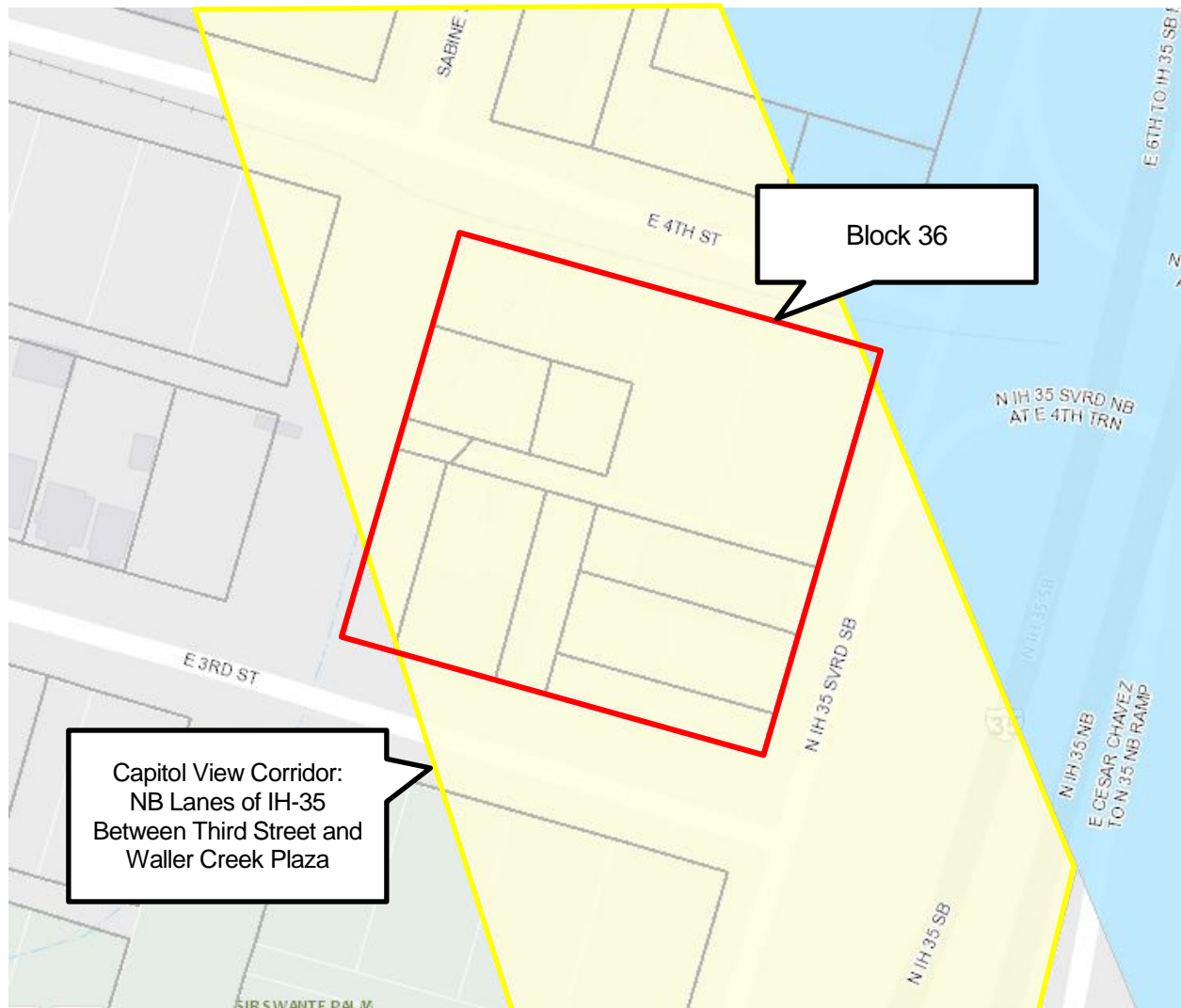
SITE SURVEY



Site survey showing 34" American Elm and 37.5" Pecan trees proposed for Land Use Commission Approved removal. The 27.5" American Elm also shown is proposed for administratively-approved removal.

EXHIBIT C

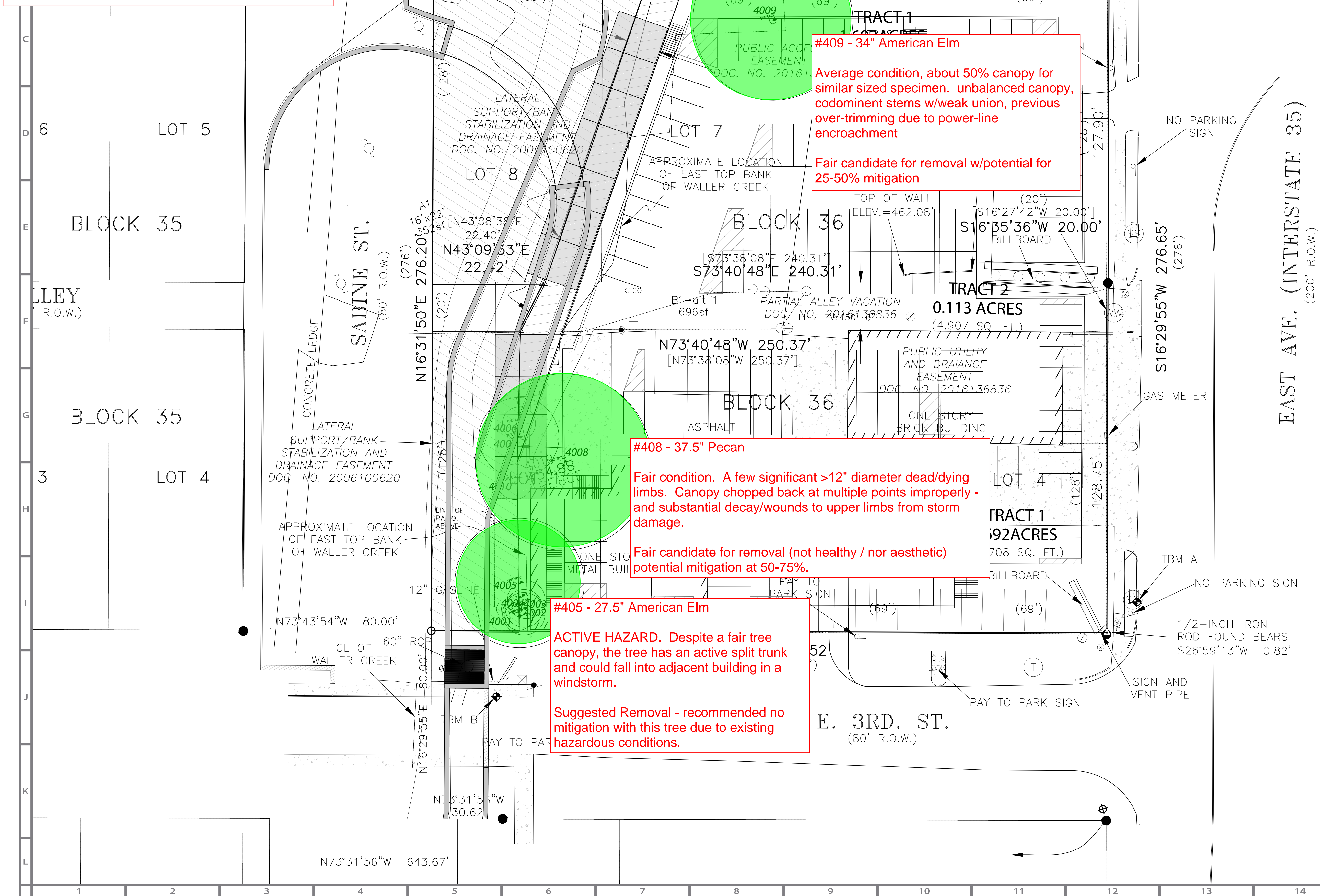
CAPITOL VIEW CORRIDOR IMPACTING THE SITE

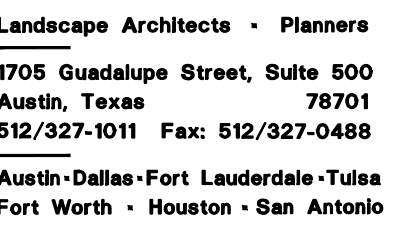


EXHIBITS D & E

DAVEY TREE EXPERT COMPANY TREE EVALUATIONS

SITE WALK RECAP
DATE: NOVEMBER 30, 2017
ATTENDANCE:
COA ARBORIST
KBGE (CIVIL)
TBG (LANDSCAPE ARCHITECT)
DAVEY (CERTIFIED ARBORIST)

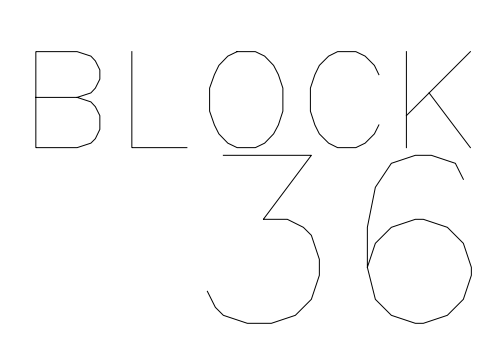


**TRANSWESTERN**

FOR CONSTRUCTION



No.	Date	Issues
01	05.15.18	Design Development
02	07.06.18	Permit Submittal

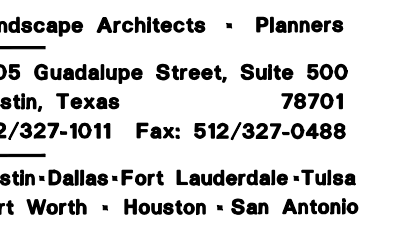


TBG Project Number: A17507

PLANTING PLAN

LP1.01

© 2018 WILDER BELSHAY ARCHITECT



Project Owner:

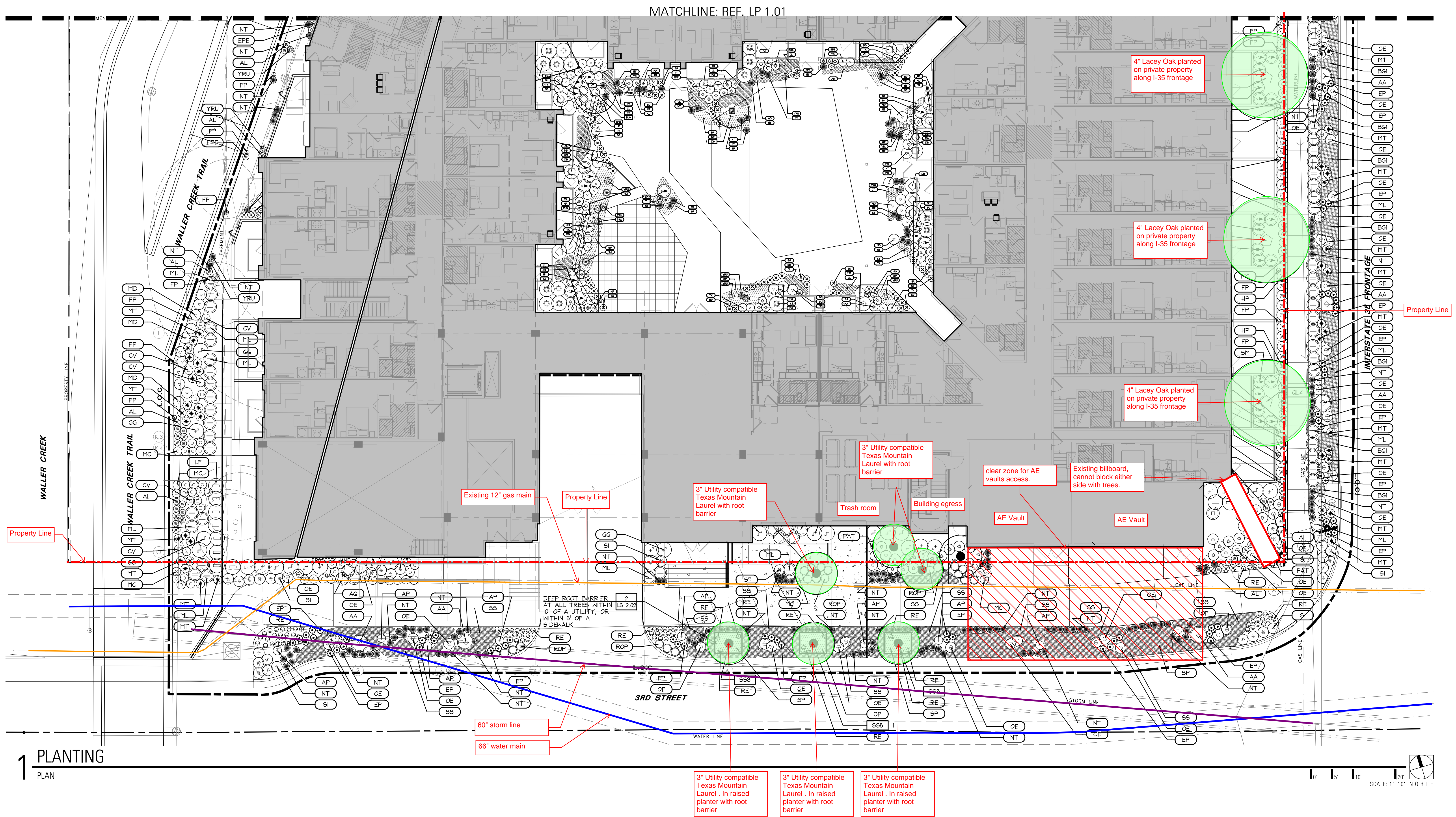
TRANSWESTERN

South MoPac Expressway
Building Four, Suite 250
Austin, TX 78746
ERMIT ONLY. NOT
FOR CONSTRUCTION



Issues and Revisions:

No.	Date	Issues
1	05.15.18	Design Development
2	07.06.18	Permit Submittal





Tree Evaluations:

Transwestern
Block 36 Project
702 E 3rd
Austin, TX 78701

Thank you for the opportunity to serve you on this task. Tree identification, measurement, inspection, and arboriculture consultation were performed by Davey trained arborists who through related training and on-the-job experience are familiar with the techniques and equipment used in such operations.

10/16/2017

To whom it may concern:

3 designated trees 24" diameter and larger on this project were evaluated to ascertain general health and condition. Below information addresses arborist findings:

409 34" American elm – Average condition. Only retains ~50% of canopy of similar-sized specimen. Tree ~40' tall x 50' wide. Has heavily unbalanced canopy to east/southeast and multiple codominant stems with weak unions which could present future structural issues. Heavy poison oak infestation (~60%) present and evidence of previous over-trimming near power lines.

- This tree is a fair candidate for removal. It's not an active hazard, but it's not in a great condition and is also in a poor location. I'd *estimate* that this could be dropped down to a 25-50% mitigation rate.

408 37.5" Pecan – Fair/Average condition. ~40' tall x 55' wide. Has a few significant (12" diameter) dead/dying scaffold limbs. Canopy has been topped back at multiple points in past improperly. Some old decay/wounds higher up on major limbs and a few places of past storm damage.

- This tree is a fair candidate for removal. It's not an active hazard, but it's not a healthy/pretty tree that would be viable to preserve thru construction due to ~80% of its roots having been covered by pavement for many years. I'd *estimate* that this could be dropped to a 50-75% mitigation rate.

405 27.5" American elm – Fair condition (was mistakenly labeled a pecan). ACTIVE HAZARD. This tree has a fair canopy but an actively split trunk that could rip over onto the building in the next good windstorm. There would be no mitigation with this tree being hazardous.

If you have any questions about tree health and measurement recommendations on this site, please contact me at 512-451-4986 or by email at mark.mann@davey.com. I look forward to being of further service.

Thank you,

Mark Mann | District Manager

ISA Certified Arborist TX-3978A

TDA Applicator License No. 0731374

The Davey Tree Expert Company | South Austin Office 136131

9224 Research Blvd. Austin, TX 78758

P: 512.451.4986 | C: 512.828.1358 | F: 512.451.6482

Item C-11 ISA Basic Tree Risk Assessment Form 36 of 41

Client _____ Date _____ Time _____
 Address/Tree location _____ Tree no. _____ Sheet _____ of _____
 Tree species _____ dbh _____ Height _____ Crown spread dia. _____
 Assessor(s) _____ Time frame _____ Tools used _____

Target Assessment

Target number	Target description	Target zone			Occupancy rate 1 – rare 2 – occasional 3 – frequent 4 – constant	Practical to move target?	Restriction practical?
		Target within drip line	Target within 1 x Ht.	Target within 1.5 x Ht.			
1							
2							
3							
4							

Site Factors

History of failures _____ **Topography** Flat ☐ Slope ☐ _____ % **Aspect** _____
Site changes None ☐ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____
Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____ % Describe _____
Prevailing wind direction _____ **Common weather** Strong winds ☐ Ice ☐ Snow ☐ Heavy rain ☐ Describe _____

Tree Health and Species Profile

Vigor Low ☐ Normal ☐ High ☐ **Foliage** None (seasonal) ☐ None (dead) ☐ Normal _____ % Chlorotic _____ % Necrotic _____ %
Pests _____ **Abiotic** _____
Species failure profile Branches ☐ Trunk ☐ Roots ☐ Describe _____

Load Factors

Wind exposure Protected ☐ Partial ☐ Full ☐ Wind funneling ☐ _____ **Relative crown size** Small ☐ Medium ☐ Large ☐
Crown density Sparse ☐ Normal ☐ Dense ☐ **Interior branches** Few ☐ Normal ☐ Dense ☐ **Vines/Mistletoe/Moss** ☐ _____
Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR _____ % Cracks ☐ _____ Lightning damage ☐
 Dead twigs/branches ☐ _____ % overall Max. dia. _____ Codominant ☐ _____ Included bark ☐
 Broken/Hangers Number _____ Max. dia. _____ Weak attachments ☐ _____ Cavity/Nest hole _____ % circ.
 Over-extended branches ☐ Previous branch failures ☐ _____ Similar branches present ☐
Pruning history
 Crown cleaned ☐ Thinned ☐ Raised ☐ Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐
 Reduced ☐ Topped ☐ Lion-tailed ☐ Conks ☐ Heartwood decay ☐ _____
 Flush cuts ☐ Other _____ Response growth _____
 Main concern(s) _____

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ☐ _____
Likelihood of failure Improbable ☐ Possible ☐ Probable ☐ Imminent ☐ _____

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐
 Codominant stems ☐ Included bark ☐ Cracks ☐
 Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐
 Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐
 Cavity/Nest hole _____ % circ. Depth _____ Poor taper ☐
 Lean _____ ° Corrected? _____
 Response growth _____
 Main concern(s) _____

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ☐
Likelihood of failure Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐
 Dead ☐ Decay ☐ Conks/Mushrooms ☐
 Ooze ☐ Cavity ☐ _____ % circ.
 Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____
 Root plate lifting ☐ Soil weakness ☐
 Response growth _____
 Main concern(s) _____

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ☐
Likelihood of failure Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization																							
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood												Consequences				Risk rating of part (from Matrix 2)
							Failure				Impact				Failure & Impact (from Matrix 1)								
							Improbable	Possible	Probable	Imminent	Very low	Low	Medium	High	Unlikely	Somewhat	Likely	Very likely	Negligible	Minor	Significant	Severe	
1																							
2																							
3																							
4																							

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

Notes, explanations, descriptions _____

Mitigation options _____ Residual risk _____

_____ Residual risk _____

_____ Residual risk _____

_____ Residual risk _____

Overall tree risk rating Low ☐ Moderate ☐ High ☐ Extreme ☐Work priority 1 ☐ 2 ☐ 3 ☐ 4 ☐Overall residual risk Low ☐ Moderate ☐ High ☐ Extreme ☐

Recommended inspection interval _____

Data ☐ Final ☐ Preliminary Advanced assessment needed ☐ No ☐ Yes-Type/Reason _____Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Item C-11 ISA Basic Tree Risk Assessment Form 38 of 41

Client _____ Date _____ Time _____
 Address/Tree location _____ Tree no. _____ Sheet _____ of _____
 Tree species _____ dbh _____ Height _____ Crown spread dia. _____
 Assessor(s) _____ Time frame _____ Tools used _____

Target Assessment

Target number	Target description	Target zone			Occupancy rate 1 – rare 2 – occasional 3 – frequent 4 – constant	Practical to move target?	Restriction practical?
		Target within drip line	Target within 1 x Ht.	Target within 1.5 x Ht.			
1							
2							
3							
4							

Site Factors

History of failures _____ **Topography** Flat ☐ Slope ☐ _____ % **Aspect** _____
Site changes None ☐ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____
Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____ % Describe _____
Prevailing wind direction _____ **Common weather** Strong winds ☐ Ice ☐ Snow ☐ Heavy rain ☐ Describe _____

Tree Health and Species Profile

Vigor Low ☐ Normal ☐ High ☐ **Foliage** None (seasonal) ☐ None (dead) ☐ Normal _____ % Chlorotic _____ % Necrotic _____ %
Pests _____ **Abiotic** _____
Species failure profile Branches ☐ Trunk ☐ Roots ☐ Describe _____

Load Factors

Wind exposure Protected ☐ Partial ☐ Full ☐ Wind funneling ☐ _____ **Relative crown size** Small ☐ Medium ☐ Large ☐
Crown density Sparse ☐ Normal ☐ Dense ☐ **Interior branches** Few ☐ Normal ☐ Dense ☐ **Vines/Mistletoe/Moss** ☐ _____
Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR _____ % Cracks ☐ _____ Lightning damage ☐
 Dead twigs/branches ☐ _____ % overall Max. dia. _____ Codominant ☐ _____ Included bark ☐
 Broken/Hangers Number _____ Max. dia. _____ Weak attachments ☐ _____ Cavity/Nest hole _____ % circ.
 Over-extended branches ☐ Previous branch failures ☐ _____ Similar branches present ☐
Pruning history
 Crown cleaned ☐ Thinned ☐ Raised ☐ Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐
 Reduced ☐ Topped ☐ Lion-tailed ☐ Conks ☐ Heartwood decay ☐ _____
 Flush cuts ☐ Other _____ Response growth _____
 Main concern(s) _____

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ☐ _____
Likelihood of failure Improbable ☐ Possible ☐ Probable ☐ Imminent ☐ _____

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐
 Codominant stems ☐ Included bark ☐ Cracks ☐
 Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐
 Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐
 Cavity/Nest hole _____ % circ. Depth _____ Poor taper ☐
 Lean _____ ° Corrected? _____
 Response growth _____
 Main concern(s) _____

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ☐
Likelihood of failure Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐
 Dead ☐ Decay ☐ Conks/Mushrooms ☐
 Ooze ☐ Cavity ☐ _____ % circ.
 Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____
 Root plate lifting ☐ Soil weakness ☐
 Response growth _____
 Main concern(s) _____

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ☐
Likelihood of failure Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization																							
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood												Consequences				Risk rating of part (from Matrix 2)
							Failure				Impact				Failure & Impact (from Matrix 1)								
							Improbable	Possible	Probable	Imminent	Very low	Low	Medium	High	Unlikely	Somewhat	Likely	Very likely	Negligible	Minor	Significant	Severe	
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2																							
3																							
4																							

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

Notes, explanations, descriptions _____

Mitigation options _____ Residual risk _____

Overall tree risk rating Low ☐ Moderate ☐ High ☐ Extreme ☐Work priority 1 ☐ 2 ☐ 3 ☐ 4 ☐Overall residual risk Low ☐ Moderate ☐ High ☐ Extreme ☐

Recommended inspection interval _____

Data ☐ Final ☐ Preliminary ☐ Advanced assessment needed ☐ No ☐ Yes-Type/Reason _____Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____

Item C-11 Basic Tree Risk Assessment Form 40 of 41

Client _____ Date _____ Time _____
 Address/Tree location _____ Tree no. _____ Sheet _____ of _____
 Tree species _____ dbh _____ Height _____ Crown spread dia. _____
 Assessor(s) _____ Time frame _____ Tools used _____

Target Assessment

Target number	Target description	Target zone			Occupancy rate 1 – rare 2 – occasional 3 – frequent 4 – constant	Practical to move target?	Restriction practical?
		Target within drip line	Target within 1 x Ht.	Target within 1.5 x Ht.			
1							
2							
3							
4							

Site Factors

History of failures _____ **Topography** Flat ☐ Slope ☐ _____ % **Aspect** _____
Site changes None ☐ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe _____
Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ _____ % Describe _____
Prevailing wind direction _____ **Common weather** Strong winds ☐ Ice ☐ Snow ☐ Heavy rain ☐ Describe _____

Tree Health and Species Profile

Vigor Low ☐ Normal ☐ High ☐ **Foliage** None (seasonal) ☐ None (dead) ☐ Normal _____ % Chlorotic _____ % Necrotic _____ %
Pests _____ **Abiotic** _____
Species failure profile Branches ☐ Trunk ☐ Roots ☐ Describe _____

Load Factors

Wind exposure Protected ☐ Partial ☐ Full ☐ Wind funneling ☐ _____ **Relative crown size** Small ☐ Medium ☐ Large ☐
Crown density Sparse ☐ Normal ☐ Dense ☐ **Interior branches** Few ☐ Normal ☐ Dense ☐ **Vines/Mistletoe/Moss** ☐ _____
Recent or planned change in load factors _____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR _____ % Cracks ☐ _____ Lightning damage ☐
 Dead twigs/branches ☐ _____ % overall Max. dia. _____ Codominant ☐ _____ Included bark ☐
 Broken/Hangers Number _____ Max. dia. _____ Weak attachments ☐ _____ Cavity/Nest hole _____ % circ.
 Over-extended branches ☐ Previous branch failures ☐ _____ Similar branches present ☐
Pruning history
 Crown cleaned ☐ Thinned ☐ Raised ☐ Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐
 Reduced ☐ Topped ☐ Lion-tailed ☐ Conks ☐ Heartwood decay ☐ _____
 Flush cuts ☐ Other _____ Response growth _____
 Main concern(s) _____

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ☐ _____
Likelihood of failure Improbable ☐ Possible ☐ Probable ☐ Imminent ☐ _____

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐
 Codominant stems ☐ Included bark ☐ Cracks ☐
 Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐
 Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐
 Cavity/Nest hole _____ % circ. Depth _____ Poor taper ☐
 Lean _____ ° Corrected? _____
 Response growth _____
 Main concern(s) _____

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ☐
Likelihood of failure Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth _____ Stem girdling ☐
 Dead ☐ Decay ☐ Conks/Mushrooms ☐
 Ooze ☐ Cavity ☐ _____ % circ.
 Cracks ☐ Cut/Damaged roots ☐ Distance from trunk _____
 Root plate lifting ☐ Soil weakness ☐
 Response growth _____
 Main concern(s) _____

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ☐
Likelihood of failure Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

Risk Categorization																							
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood												Consequences				Risk rating of part (from Matrix 2)
							Failure				Impact				Failure & Impact (from Matrix 1)				Negligible	Minor	Significant	Severe	
							Improbable	Possible	Probable	Imminent	Very low	Low	Medium	High	Unlikely	Somewhat	Likely	Very likely					
1																							
2																							
3																							
4																							

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

Notes, explanations, descriptions _____

Mitigation options _____ Residual risk _____

_____ Residual risk _____

_____ Residual risk _____

_____ Residual risk _____

Overall tree risk rating Low ☐ Moderate ☐ High ☐ Extreme ☐Work priority 1 ☐ 2 ☐ 3 ☐ 4 ☐Overall residual risk Low ☐ Moderate ☐ High ☐ Extreme ☐

Recommended inspection interval _____

Data ☐ Final ☐ Preliminary Advanced assessment needed ☐ No ☐ Yes-Type/Reason _____Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe _____