

Intentionally blank page behind Exterior Elevations (Sheet A-3)



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APPENDICES

Appendix 1 Biology

1A

Oak Tree Report Sunbelt Corporate Center II Agoura Hills. L. Newman Design Group. Revised June 17, 2009.

Oak Tree Report

(05-OTP-032)

**Canwood Street Offices
Agoura Hills**

Prepared For:

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**Date: June 27, 2007
3rd Revision Date: June 17, 2009**

LNDG Project No.: 2238-01

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OBJECTIVE

The objective of this report is to qualify the present condition of the site's existing oak trees and to discuss the potential encroachments to them and their effect on the health of the trees. This involved:

1. Determining the condition of the protected trees (see **SUMMARY of FIELD OBSERVATION** sheets);
2. Ascertaining the impacts that will occur due to grading (see **OAK TREE LOCATION MAP**);
3. Providing guidance to minimize any encroachments upon the saved trees.

METHOD OF STUDY

Qualifying the oak trees was accomplished by the use of our standard visual survey, as completed by L. NEWMAN DESIGN GROUP, INC. (LNDG) on October 6, 2003, June 11, 2007 and November 16, 2007. The condition of the tree has not significantly changed since then. In the course of fieldwork, we performed the following tasks:

1. The trees were tagged with numbered, metal tags. These tags are affixed to the sides of the trees and correspond to the numbers on the **OAK TREE LOCATION MAP**. These trees must be within the project boundaries and/or within 250' of any proposed site construction to be included;
2. Oak trees with trunk diameters of 2" and larger measured at 3½' above existing grade were inventoried and assessed;
3. Photographs were taken of all inventoried trees (see previous report);
4. Driplines were field measured in eight compass directions from the center of the tree to the outermost edge of the tree's canopy. The minimum clearance from the present grade to the bottom of the drip line at each point was estimated.
5. Oak trees 1, 2, and 9 were accurately located by the civil engineer on the site plan. All of the other inventoried trees were field located by LNDG on the topographic map/site plan (scale: 1" = 30') prepared by Holmes Enterprises dated January 26, 2009. The grading plan (scale: 1" = 20') prepared by Holmes Enterprises dated January 26, 2009 was used to address the encroachments to tree 2. Refer to the **OAK TREE LOCATION MAPS** included herein.

PROJECT LOCATION

The site, 29541 and 29555 Canwood Street (APN 2053-01-8), is located in the City of Agoura Hills.

OAK SPECIES

The twelve oak trees referenced in this report are of the following species: eight *Quercus agrifolia* (coast live oak) and four *Quercus lobata* (valley oak).

OAK TREE ORDINANCE

Oak trees of the genus *Quercus* within the City of Agoura Hills are protected by law. City Council Resolution #374 makes the cutting, moving and/or removal of an Oak tree without a permit a misdemeanor.

The major thrust of the oak tree policy approved by the Agoura Hills City Council is to establish a theoretical protected zone in regard to the aerial portion of an oak tree. It is felt by the City that this protected zone shall be defined as follows: "Using the dripline as a point of reference, the "Protected Zone" shall commence at a point 5' outside the dripline and extend inward to the trunk of the tree. In no case shall the "Protected Zone" trace a circumference less than 15' from the trunk of the Oak tree."

RESULTS of STUDY

1. **Physiological Condition of the Oaks**

The condition of trees is detailed in the **SUMMARY of FIELD OBSERVATION** contained within this report. All recommendations made on our field forms relate only to the specific dates of our fieldwork.

2. **Summary of Data/Plan Review**

- A. This revised report reflects the grading revisions that were done to minimize the encroachments to the oak trees. Oak tree 1 shall not be encroached by grading. The proposed top of the grading cut shall be kept outside of the protected zone. The encroachments to tree 2 have been kept to the perimeter of the protected zone.
- B. The driplines of trees 1 and 2 did not significantly change from the previous study except where a large limb in tree 1 broke and reduced the canopy 15 to 20 feet. This is reflected in the revised Oak Tree Location Map.
- C. According to the current grading plan, the following encroachments to one tree will occur:

Tree No.	Encroachment
2	<p>On the west side (cross-section A), an ADA access ramp will be constructed 3 feet outside of the protected zone. The excavation for the footing shall stay outside of the protected zone. At this point, the ramp will be at grade and the retaining wall will be minimal. This will be an insignificant encroachment. No pruning shall be required.</p> <p>On the south side (cross-section B), the foundation of the building will be 3 feet outside of the protected zone. The limit of the over-excavation (as shown in the engineer's section A-A) will be 9 feet away from the edge of the building and 1 foot inside of the existing dripline. This will be a minor encroachment involving the pruning of small roots and should not harm the tree. Some minor pruning of branches less than 2 inches may be required for clearance but this should be avoided.</p>

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	On the east side (cross-section C), two retaining walls will be constructed just outside of the protected zone, the excavation for which shall be no closer than at the dripline, approximately 44 feet from the trunk, to allow the parking lot to be built outside of the protected zone. No pruning is required. This will be a minor encroachment and will not harm the tree.
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- D. The only tree encroachments that will occur according to the current grading plan will be to tree 2. The percentage of encroachment to this tree will be approximately 1%. The plans have been modified to reduce the encroachments to insignificance.
- E. The other oak trees, trees 3 – 8 and trees 10 – 12, are well outside of grading, off property, and will not be impacted by the development of this site.

3. **Mitigation Recommendations**

- A. Any City approved work within the protected zones of the saved oak trees, including branch removals, shall be under the direct inspection/observation of **LNDG**.
- B. Copies of the Oak Tree Report, the Oak Tree Permit and the City approved Grading/Construction, Landscape and Irrigation Plans shall be kept on site during all site construction.

OAK TREE PRESERVATION PROGRAM

As development occurs around saved Oak trees, they will become dependent upon the future residents for their care and preservation. All construction activities shall follow our established **PRESERVATION PROGRAM**. This program was developed to control the impacts to each tree and to protect them from any unnecessary and unscheduled damage.

Consideration of disease and pest control will play a major role in such a program and for the most part will be long range. The best protection against any problem is to build up the tree's natural defenses and to avoid wounding whenever possible. The proper mitigation measures will encourage vigorous growth within the trees, so that their compartmentalization can effectively control disease.

All Oak tree mitigation techniques shall be inspected/observed on-site by **LNDG**. **LNDG** shall be notified 48 hours prior to any work being done to the Oak trees. The following list of recommendations (**PRESERVATION PROGRAM**), if followed, should insure that the saved trees will remain as valuable assets to the community:

1. **Tree Protection**

- A. All trees within 100' of proposed grading shall be fenced at their Protected Zones, with a minimum 5' high chain link fence before any site grading commences (see final **OAK TREE LOCATION MAP** for fence locations). Fencing will be installed to prevent equipment storage, debris dumping, parking, etc., from occurring within the Oak tree driplines during construction. This fence shall remain during all phases of construction

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and shall not be moved or removed without knowledge of **LNDG** and approved by the City of Agoura Hills Planning & Community Development Department (CAHP&CDD).

Additionally, signs of a minimum size of 2'x2' must be installed on the fence equidistant around each tree. On a grove of trees, sign spacing shall be 50' apart. The signs must read: **WARNING - THIS FENCE SHALL NOT BE REMOVED OR RELOCATED WITHOUT WRITTEN AUTHORIZATION FROM THE CITY OF AGOURA HILLS PLANNING & COMMUNITY DEVELOPMENT DEPARTMENT.**

- B. Any brush clearance within the dripline areas shall be completed by handwork only.
- C. Dead wood removal is the removal of dead wood from within the tree, while, structural pruning is for clearance that applies only if the limb is greater than 2" in diameter and safety pruning is the pruning of hazardous limbs. A qualified Arborist under the inspection of LNDG shall do all dead wood removal and/or pruning. Pruning wounds shall not be sealed unless required by the CAHP&CDD.
- D. Climbing gaffs shall not be used by any tree climber (except to reach an injured climber or when removing a tree).

2. **Dead Wood Removal and/or Pruning** (if applicable)

- A. Dead wood removal is allowed without a permit. All other pruning of live tissue, such as to improve the form and structure of a tree or to provide clearance for grading or construction, is by permit only. A qualified arborist under the observation of LNDG shall perform all approved pruning.
- B. Pruning wounds shall not be sealed with dressings or paint.
- C. Climbing gaffs shall not be used by any tree climber except to reach an injured climber or when removing a tree.

3. **Watering & Fertilization** (if applicable)

- A. Native oak trees do not require water during the summer months. However, irrigation may be necessary when the root system has been pruned in order to compensate for the loss of functioning roots.
- B. Fertilization may be recommended if the arborist has determined that there is a nutrient deficiency. The addition of fertilizer into a maintenance program may promote a temporary flush of growth at a time when the tree would normally be maintaining regular growth or even reducing the amount of foliage during dormancy.

4. **Diseases & Pests** (if applicable)

- A. Prior to construction, the vigor of the saved trees shall be assessed by **LNDG**. Any trees in a weakened condition shall be treated as deemed necessary to re-invigorate them as approved by the CAHP&CDD.

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- B. During all phases of construction, the health of the trees shall be monitored for signs of disease. These problems, if they arise, shall be remedied as prescribed by the arborist.
- C. If bees are encountered in any on-site oak trees and they become a problem, they shall be removed by a professional beekeeper.

5. Grading Within the Protected Zone

- A. Grading within the protected zone of any site oak tree is to be avoided. If it must occur and is approved by the CAHP&CDD, the following shall be adhered to:
 - a. Initially, all grading within the protected zones shall be done by hand under the observation of **LNDG**. If any roots 1-inch in diameter and larger are encountered, they shall be saved or bridged (except in a cut slope situation) and covered (e.g. with a layer of plastic cloth and 4" of Styrofoam matting). All pruned roots shall consist of clean-cut surfaces at a 90° angle.
 - b. Fence posts or similar encroachments shall be no closer than 15' from any oak tree trunk, as well as being no closer than 15' on-center within any protected zone. All digging shall be performed under the observation of **LNDG**.

6. Other Considerations

- A. If necessary in order to save oak trees, extended footings, caisson footings, floating slabs, etc., should be designed in place of over-excavating for building structures to be installed within the protected zone of any oak tree.
- B. Avoid the following:
 - a. Nailing grade stakes or anything else to any oak tree.
 - b. Removing the natural leaf mulch within any oak tree dripline.
 - c. Designing and/or installing plants, irrigation and/or utilities within any oak tree dripline unless approved by the CAHP&CDD.
 - d. Applying chemical herbicides within 100' of any oak tree protected zone.
- C. If retaining walls are to be built, all footings should be primarily in an outward direction away from the trunk. The footing shall be backfilled with topsoil from the site. If roots 2 inches in diameter or larger are encountered, they shall be saved by the use of caisson type footings.
- D. The dust accumulation onto the tree from nearby construction shall be gently hosed off periodically during construction under the recommendation of **LNDG**.
- E. Within 5 working days of the completion of any work to any on-site oak tree, **LNDG** shall submit a certification letter to the CAHP&CDD attesting that all oak tree work was conducted in accordance with the appropriate permits.

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NOTICE of DISCLAIMER:

This report represents the independent opinion of the signatory consultant (L. NEWMAN DESIGN GROUP, INC.). The tree(s) discussed herein was/were generally reviewed for physical, biological function and aesthetic conditions. This examination was conducted in accordance with presently accepted industry procedures, which are a ground-plane macro-visual observation only. No extensive microbiological, soil-root excavations, upper crown examination nor internal tree investigations were conducted. Therefore, the reporting herein reflects the overall visual appearance of the tree(s) on the date reviewed and no warranty is implied as to the potential failure, health or demise of any part or of whole of any tree described in the report. Records may not remain accurate after our inspection due to unknown causes of changeable deterioration of the reviewed site.

Respectfully submitted,

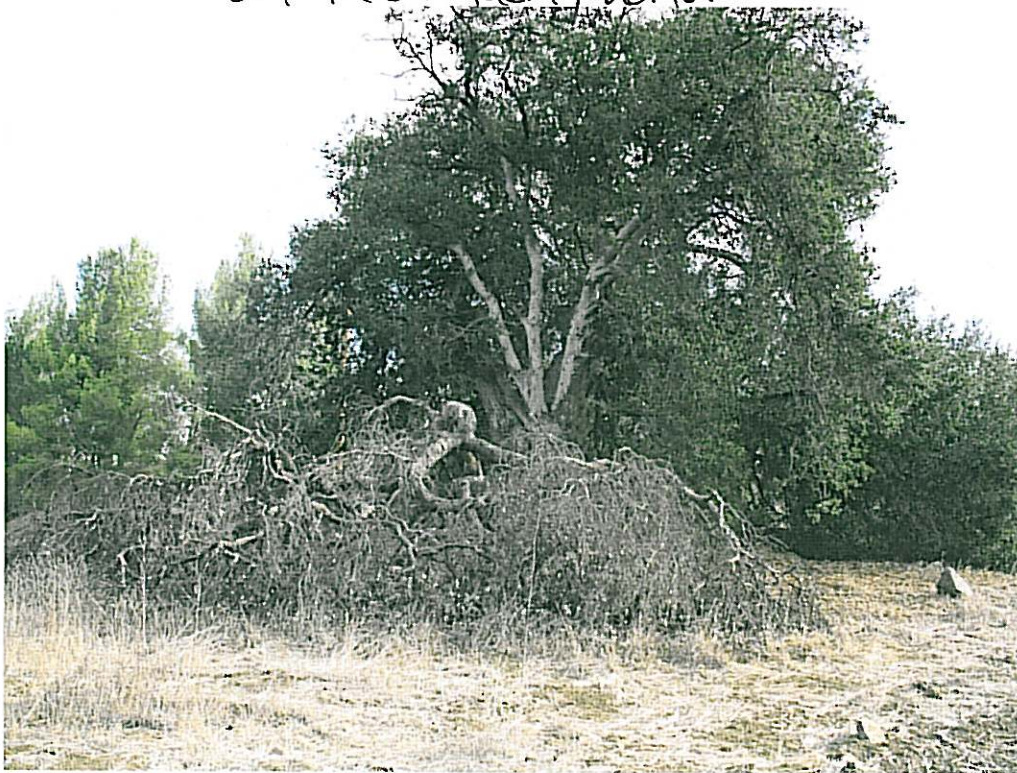
L. NEWMAN DESIGN GROUP, INC.
ASLA, California State License #1314

John Oblinger
Certified Arborist WE-6820A
Oak Tree Consultant

TREE PHOTOGRAPHS



Oak tree 1 facing north



Oak tree 1 facing east

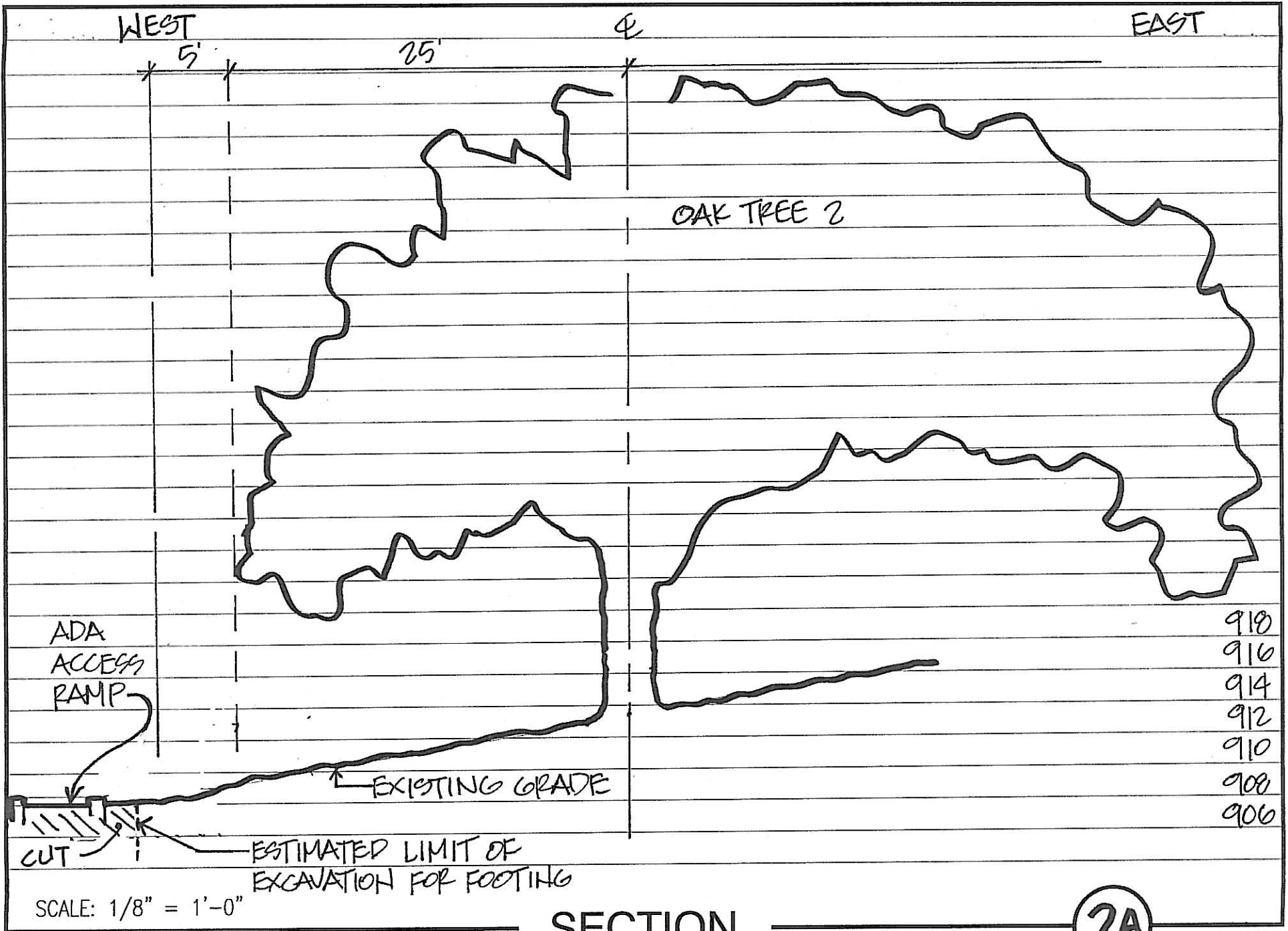


Oak tree 2 facing south



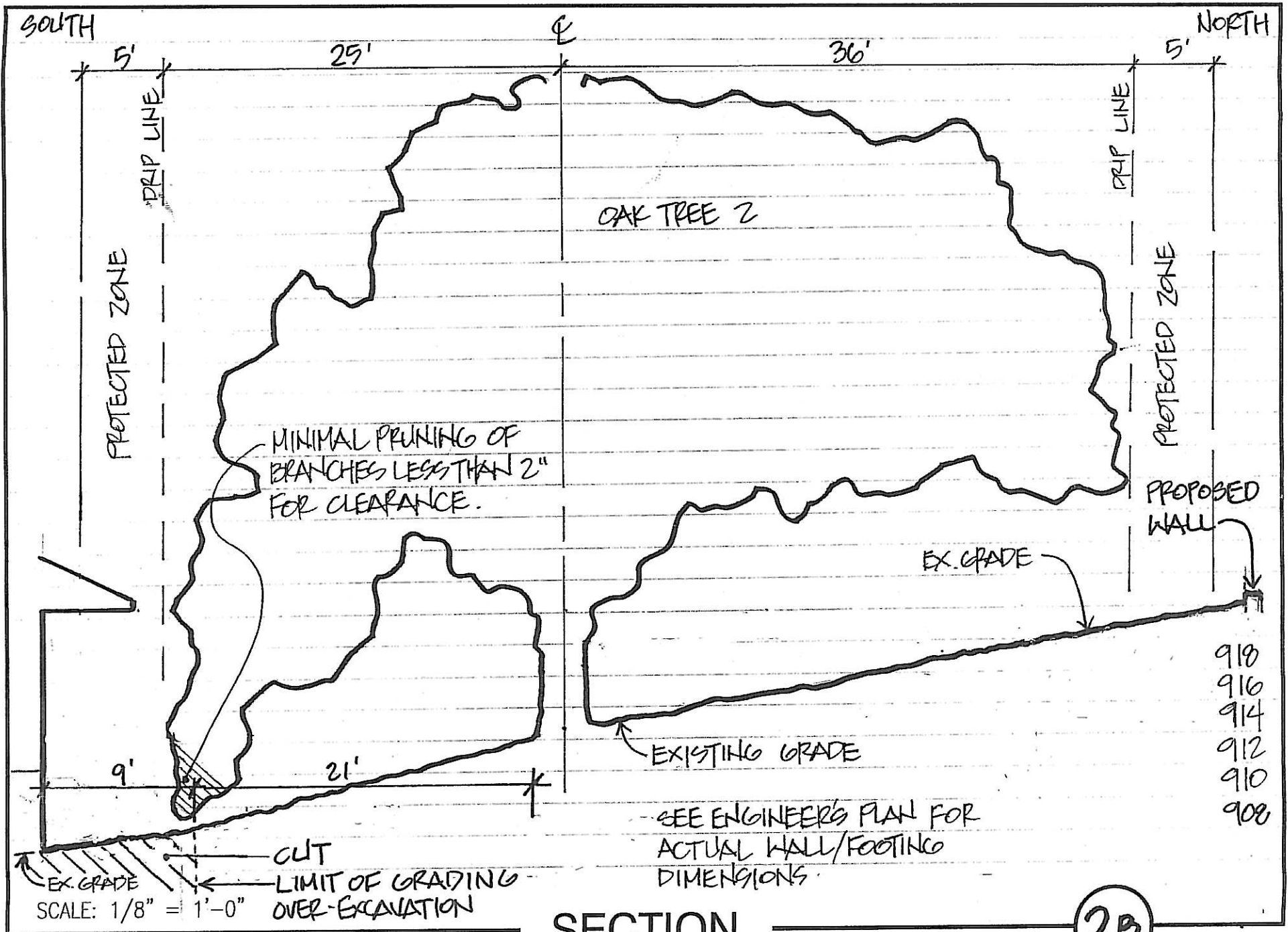
Oak tree 2 facing north

TREE SECTIONS



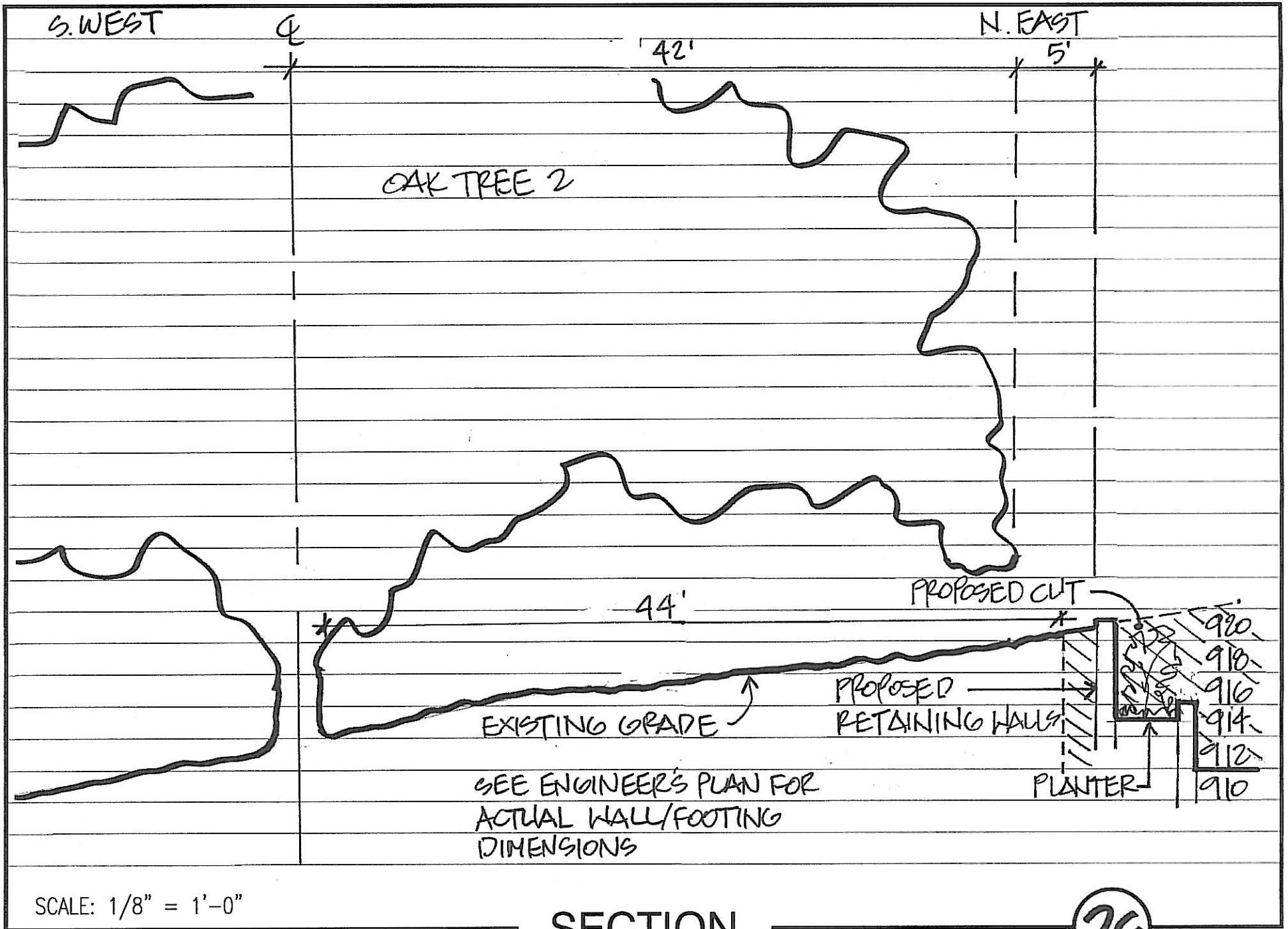
SECTION

2A



SECTION

2B



SCALE: 1/8" = 1'-0"

SECTION

SUMMARY of FIELD OBSERVATIONS

INSPECTION NOTICE

The following information was observed on the date(s) indicated herein, and should only be considered true at the time of field inspection.

SUMMARY OF FIELD OBSERVATIONS

		FORM												
		TREE NUMBER	1	2	3	4	5	6	7	8	9	10		
SPECIES	QUERCUS AGRIFOLIA		X							X		X		
	QUERCUS LOBATA			X	X	X	X	X	X		X			
DIAMETER OF TRUNKS AT 3 1/2' ABOVE EXISTING GRADE			33" 24"	30"	26"	11" 6"	41"	5"	4" 3" 2"	9"	3"	12" 6"		
TREE HEIGHT (APPROX)			50'	40'	35'	35'	50'	20'	15'	25'	8'	20'		
LEANING (DIRECTION)											NE			
TRUNK CAVITY														
TRUNK DAMAGE														
EXPOSED ROOTS														
EXFOLIATING BARK														
FRUITING BODIES							X							
INSECT/MITE DAMAGE			X	X	X	X	X	X	X		X	X		
FIRE DAMAGE			X											
MAINSTEM DIEBACK														
BRANCH CAVITIES														
TWIG/BRANCH DIEBACK			X	X			X							
EPICORMIC GROWTH				X		X								
THIN FOLIAGE				X		X	X							
VIGOR			G	OK	G	G	P	G	G	G	OK	G		
TERRAIN - SLOPE/FLAT			S	S	S	S	S	S	S	S	S	S		
HERITAGE														
HEALTH			B	B	B	C	D	B	B	B	C	B		
AESTHETICS/COMFORMITY			B	B	A	C	E	B	B	A	C	B		
TREAT-MENT	REMOVE DEADWOOD		X	X			X							
	INSECT/DISEASE TREAT													
REMARKS:			water pocket, bark beetles, slight old fire damage to branches			leaf damage by insects, pit scale, mildew, twig girdler								
REMARKS:			weak attachment caused by											
REMARKS:			dural cavity, interior rot, weak attachments											
REMARKS:			twig girdler											

SUMMARY OF FIELD OBSERVATIONS

FORM	TREE NUMBER		11	12																
	SPECIES	QUERCUS AGRIFOLIA			X															
	QUERCUS LOBATA	X																		
	DIAMETER OF TRUNKS AT 3 1/2' ABOVE EXISTING GRADE	20"	30"	24"																
	TREE HEIGHT (APPROX)	25'	50'																	
	LEANING (DIRECTION)																			
PHYSICAL CONDITION	TRUNK CAVITY		X																	
	TRUNK DAMAGE																			
	EXPOSED ROOTS																			
	EXFOLIATING BARK																			
	FRUITING BODIES																			
	INSECT/MITE DAMAGE																			
	FIRE DAMAGE			X																
	MAINSTEM DIEBACK																			
	BRANCH CAVITIES			X																
	TWIG/BRANCH DIEBACK	X		X																
	EPICORMIC GROWTH																			
	RATING	HERITAGE		X																
HEALTH		C	C																	
AESTHETICS/COMFORMITY		C	C																	
TREAT-MENT	REMOVE DEADWOOD																			
	INSECT/DISEASE TREAT																			

REMARKS:

REMARKS:

REMARKS:

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REMARKS:

DRIP LINE MEASUREMENTS

INSPECTION NOTICE

The following information was observed on the date(s) indicated herein, and should only be considered true at the time of field inspection.

DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
1	HORIZ.	38	36	38	35	22	15	6	20
	VERT.	7	1	1	1	4	1	2	1
2	HORIZ.	31	46	39	24	24	25	25	27
	VERT.	8	2	1	12	1	15	2	6
3	HORIZ.	20	28	25	26	22	24	20	20
	VERT.	1	10	2	1	1	12	15	12
4	HORIZ.	15	—————→						
	VERT.	4	—————→						
5	HORIZ.	25	—————→						
	VERT.	5	—————→						
6	HORIZ.	3	4	10	9	12	10	10	2
	VERT.	8	8	5	10	12	10	10	8
7	HORIZ.	10	10	10	10	6	5	5	6
	VERT.	8	8	8	8	1	3	3	3
8	HORIZ.	6	8	9	10	14	10	10	6
	VERT.	1	1	1	3	6	3	3	3
9	HORIZ.	3	4	10	3	4	4	7	3
	VERT.	2	2	4	1	2	1	4	1
10	HORIZ.	15	—————→						
	VERT.	3	—————→						

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DRIPLINE MEASUREMENTS

TREE NO.	DRIPLINE	N	NE	E	SE	S	SW	W	NW
11	HORIZ.	30	15	20	20	20	20	15	20
	VERT.	20	10	15	10	15	10	15	20
12	HORIZ.	35	—————→						
	VERT.	15	—————→						
	HORIZ.								
	VERT.								
	HORIZ.								
	VERT.								
	HORIZ.								
	VERT.								
	HORIZ.								
	VERT.								
	HORIZ.								
	VERT.								
	HORIZ.								
	VERT.								

DEFINITIONS

SUMMARY of FIELD OBSERVATIONS DEFINITIONS

INTRODUCTION

Familiarity with the following definitions is necessary to the basic understanding of the oak tree ordinance and this tree report and of the procedures used to evaluate the oak trees and site conditions. There are numerous diseases and insects that frequently attack oak trees. A long discourse in plant pathology or entomology is not a prerequisite to develop a basic understanding of the effects of disease and insects upon living plant tissue. A basic knowledge of disease and insects should include an understanding of the following definitions:

FORM

1. **Tree Number** - each tree in the field required by the ordinance to be protected has been assigned a number that corresponds to a tree location on the oak tree location map.
2. **Species** - is the specific type of tree that is being evaluated.
3. **Number of Trunks** - as measured in accordance with the tree ordinance.
4. **Diameter of Trunks** - as measured at 3½' above mean natural grade.
5. **Tree Height** – is the estimated height of the tree.
6. **Leaning** – is the direction the tree is inclined, applied to those trees with extreme leaning position.

PHYSICAL CONDITION

1. **Trunk Cavity/Damage** - A **Cavity** is a hollow area in the trunk, usually due to wood decay. **Damage** is a damaged area on the trunk, usually due to an external force on the tree.
2. **Exposed Roots** - roots exposed near tree often associated with location on bank of creek.
3. **Exfoliating Bark** - the flaking off of bark from trunk and/or branches, usually caused by insect activity.
4. **Water Pocket** - pockets formed at branch crotches that can hold water and possibly weaken the tree's structure (possible hazard).
5. **Exudation** - the issuance or expelling of liquid, usually from wounds.
6. **Fruiting Bodies** - are the external signs (i.e. mushrooms, conks) of internal wood decay.
7. **Insect/Mite Damage** - is some form of damage to the parts of the tree caused by insects or mites (i.e. scale, caterpillars, weevils, borers, mites, etc.).
8. **Galls/Oak Pit Scale** - **Galls** are abnormal growth (tumors) on the tree, which may be caused by insects, mites, bacteria, etc. **Oak Pit Scale** has a severe weakening effect on the twigs, frequently resulting in their death. When the scale settles on the twig, a swelling of the twig tissue occurs so the insect in effect is in a pit; hence, the name.
9. **Fire Damage** - each tree is rated on the amount of burn it has received. These are:

<u>Category</u>	<u>Percent of Tree Burned</u>
Slight (S)	0% - 25%
Moderate (M)	26% - 75%
Heavy (H)	76% - 100%
Complete (C)	Burned to the ground

A. A check mark only, indicates a sign of past fire damage;

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- B. The trees with slight damage have an excellent chance of recovering to their original form. Trees with moderate damage have a good chance of recovery with alterations in form. Heavy percentage of burn on trees will significantly alter their form and lower their probability of survival to half;
 - C. The complete category are those trees, which burned to the ground.
10. **Mainstem Dieback** - death of healthy mainstems from the growing tip back.
 11. **Branch Cavities** - hollow areas in the trunk or limbs in the upper tree, usually due to the decay of wood.
 12. **Weak Crotches** - poorly formed branch attachments.
 13. **Twig/Branch Dieback** - death of unhealthy twigs from the growing tip back.
 14. **Exocormic Growth** - excessive growth along main limbs, rather than on twigs.
 15. **Thin Foliage** - defoliation and twig dieback throughout the canopy.
 16. **Vigor** - is the capacity of a tree for growth and survival. A vigorous tree will more easily ward off disease and/or insect attacks, and should recover from impacts more quickly than a weak tree. The following are the ratings:

Good (G) - New tip growth; good leaf color; relatively smooth bark free from cracks/decay;
OK (OK) - Some new tip growth; medium leaf color; some dead wood; thinning crown;
Poor (P) - No new tip growth; poor leaf color; abnormal bark; much dead wood; heavily thinned crown.
A vigorous tree will more easily ward off disease and/or insect attacks, and should recover from impacts more quickly than a weak tree.
 17. **Terrain** - refers to "lay" of the land where the tree is found.
 18. **Potential Hazard** - any tree may be a hazard to humans, depending on its location and/or health.

RATINGS

1. The **Health** of the trees was visually determined from a macroscopic inspection of signs and symptoms of disease. The following describes our system:
 - A. **Outstanding** - A healthy and vigorous tree characteristic of its species and free of any visible signs of disease or pest infestation;
 - B. **Above Average** - A healthy and vigorous tree. However, there are minor visible signs of disease and pest infestation;
 - C. **Average** - Although healthy in overall appearance, there is a normal amount of disease and/or pest infestation;
 - D. **Below Average/Poor*** - This tree is characterized by exhibiting a greater degree of disease and/or pest infestation or structural instability than normal and appears to be in a state of decline. This tree also exhibits extensive signs of dieback;
 - E. **Dead*** - This tree exhibits no signs of life whatsoever at the time of field evaluation.

* A tree rating of "D" and lower is in low of vigor and naturally a meaningful level of recovery is doubtful. Removal should be considered if it is within the proposed development.
2. The **Aesthetic/Conformity** quality of the trees was visually determined from an overall inspection of appearance. The following describes our system:

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- A. **Outstanding** - The tree is visually symmetrical, having the ideal form and appearance for the species;
- B. **Average** - The tree, though non-symmetrical, has an appealing form for the species with very little dieback of foliage or twigs/branches;
- C. **Below Average** - The tree is non-symmetrical for the species with an unappealing form and/or has much dieback of foliage and twigs/branches;
- D. **Poor** - The tree has few, if any, positive characteristics and may detract from the beauty of the landscape.

TREATMENT

- 1. **Remove Dead Wood** - if noticeable dead wood is within the canopy, it should be removed.
- 2. **Remove Wire, etc.** - if anything has been attached to the tree, it should be removed.
- 3. **Insect/Disease Treatment** - see the TREE PRESERVATION PROGRAM within this report for explanation.
- 4. **Cable/Brace** - can extend the time the tree remains healthy and practically hazard free.
- 5. **None** - no treatment is recommended.
- 6. **Remove Tree** - if the tree cannot be saved through any type of treatment, it should be removed.

REMARKS (Some other terms that may be used)

- 1. **Basal Growth** - is leaf growth generating from around base of trunk.
- 2. **Exposed Buttress Roots** - is when soil absent, either all or partial, at basal portion of tree.
- 3. **Powdery Mildew** - are leaves that are covered by a white powdery growth generally when new growth becomes wet for long periods of time; leaves may be distorted, stunted and drop too soon.
- 4. **Cankers** - are rough swellings with depressed centers resulting in death of tissue, which later cracks open and exposes the wood underneath in twigs, branches, and/or trunks.
- 5. **Chlorotic Leaves** - leaf veins remain normally green, but the tissue between veins becomes yellow, which is usually caused by nutrient deficiencies.
- 6. **Bark Beetle Frass** - are wood fragments mixed in the insect's excrement.
- 7. **Mistletoe** - is a leafy evergreen perennial parasite with dark green leathery leaves that occur as bunches on the branches.
- 8. **Crowded** - is a tree within the canopy of an adjacent tree or canopy.
- 9. **Shading Out** - is the defoliation and twig dieback inside the canopy due to the lack of sunlight.

OAK TREE LOCATION MAP