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## EXHIBITS

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Contract No. 878-12

Exhibit No. 1

Contract between:

Name Gayle Gilboy Permar Architect AIA

and

Name Engle & Engle Structural Engineers

Scope of Services:

Structural design of addition per Gayle Gilboy Permar Architectural drawings of 4-3-06 and Arthur T. Knutson Geotechnical Report of March 16, 2006 and Arborlogic Arborist Report of 6-15-04.

Structural design documents:

1. Structural Calculations
2. Short form structural specifications
3. Complete structural plans, sections and details

Jensen-Schultz



**ARTHUR T. KNUTSON**

**SUBSURFACE ENGINEERING**

CONSULTING GEOTECHNICAL & CIVIL ENGINEER

P.O. BOX 1115 • NOVATO, CALIFORNIA 94948-1115 • (415) 892-7414

**FILE**

FILE:A:0505.FNL  
MARCH 16, 2006  
GAYLE PERMAR  
754 SIR FRANCIS DRAKE SUITE 5  
SAN ANSELMO, CA. 94960

RE: 130 MADRONE, SAN ANSELMO, CA.

DEAR GAYLE:

On February 3, 2006 Ofiario sank a 4 inch test hole in which probes were made using a A.B. Chance Probe.

The material from grade to 15 feet was a soft organic clay.

At 15 feet the material was tested with the probe with a torque reading o 180 inch-pounds which results in an Ultimate Bearing Strength of 1800 pounds per square foot.

I recommend using a Bearing of 600 pounds per square foot in end bearing to limit settlement.

Either a helix pier or drilled reinforced concrete pier for support of a reinforced concrete perimeter grade beam is recommended.

If drilled piers are used they should have concrete placed as soon as practical since the soft clay will tend to squeeze requirng support.

This office must be present during installation of the helix or drilled piers.

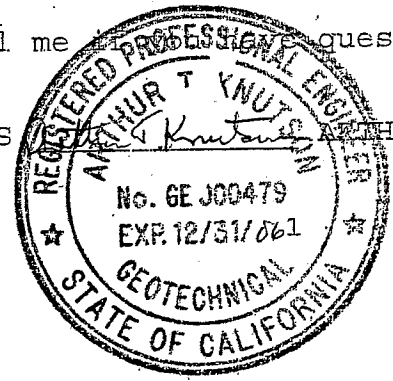
A six inch layer of crushed 1-1/2 by 1/2 inch rock with a Mirafi 500X permeable barrier between rock and soil subgrade should be drained to the street gutter.

Pacific Helix may be contacted at 408-379-6297 for information on sizes, capacity and installaaation.

Mirafi 500X is available from Water Cmponents 415-451-1780.

Please call me questions.

VERY TRULY YOURS



ARTHUR T. KNUTSON G.E.

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arborlogic Consulting Arborists

415.753.5022 • 236 WEST PORTAL AVE. #311, SAN FRANCISCO, CA 94127 • FAX: 415.276.6347 •  
[jlascot@arborlogic.com](mailto:jlascot@arborlogic.com)

June 15, 2004

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Arborist Report for Schultz / Jensen Residence

130 Madrone Avenue, San Anselmo, CA.

Prepared for:  
Robert Schultz and Linda Jensen  
130 Madrone Avenue  
San Anselmo, CA 94960

Prepared by: James Lascot  
WCISA Certified Arborist - 2110  
ARBORLOGIC

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## **Assignment**

I was asked to provide an arborist report to assess the impacts of the proposed remodel on existing trees. This information will assist the designers and public agencies in assessing construction design and impacts to existing trees.

## **Resources**

THE SAN ANSELMO MUNICIPAL CODE (Title 4 Chapter 13)

## **Observations**

I made my on-site observations on April 29, 2004 and May 27, 2004. Robert Schultz and Linda Jensen, homeowners, with Jim Josephs, general contractor, told me about the proposed remodel on April 29, 2004. We discussed the proposed addition as to location and foundation construction in the rear (west) of the property by the protected valley oak trees. I suggested that an exploratory hand excavation be conducted in the pier locations to inspect these holes for potential roots and assess the impacts to existing protected trees. The exploratory excavation was conducted prior to my May 27, 2004 inspection. The results of those observations are included within this report. The subject site is located on developed property in a residential area.

## **Methods**

Trunk diameters were measured using a Spencer Diameter Tape. Health and condition of the subject trees was observed visually from the ground and sounding the trunks with a mallet to a height of seven feet above grade. Tree Protection Zones were determined using methods recommended in Trees and Development, A Technical Guide to Preservation of Trees During Land Development (Matheny and Clark, 1998).

## **Subject Trees**

The subject trees consist of existing trees located on the property that may be affected by the proposed development (see Site Map - Page 6). Detailed descriptions and Tree Protection Zones are given. The subject trees include three trees in all consisting of one species. There are no neighboring trees that are affected by the proposed development. The subject trees are all Heritage Trees, as defined as by the Town of San Anselmo, due to their trunk diameters being greater than 75 inches when measured at 24 inches above soil grade (Title 4-Chapter 13.02[b]).

## Subject Trees

### Tree no. 1

Valley Oak *Quercus lobata*

Heritage Tree: Yes

Trunk Circumference at 24 inches above soil grade: 170.5"

Trunk Diameter at 4.5 feet above soil grade: 42.3"

Health: Good      Age: Mature

Condition: Good.

Species Tolerance To Construction Impacts: Moderate

Tree Protection Zone (TPZ as radius in feet from trunk location): 42 feet

Expected Root Loss: 1%. This tree's trunk is 10 feet from the proposed foundation piers to the east. Exploratory excavations show insignificant expected root loss.

Expected Canopy Loss: 0%

Recommendation: Preserve with mitigation recommendations.

### Tree no. 2

Valley Oak *Quercus lobata*

Heritage Tree: Yes

Trunk Circumference at 24 inches above soil grade: 100.2"

Trunk Diameter at 4.5 feet above soil grade: 27.5"

Health: Good      Age: Mature

Condition: Good.

Species Tolerance To Construction Impacts: Moderate

Tree Protection Zone (TPZ as radius in feet from trunk location): 27 feet

Expected Root Loss: 1%. This tree's trunk is 9 feet from the proposed foundation piers to the northeast. Exploratory excavations show insignificant expected root loss.

Expected Canopy Loss: 0%

Recommendation: Preserve with mitigation recommendations.

### **Subject Trees (continued)**

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**Tree no. 3**

Valley Oak *Quercus lobata*

Heritage Tree: Yes

Trunk Circumference at 24 inches above soil grade: 122.5"

Trunk Diameter at 4.5 feet above soil grade: 39"

Health: Good      Age: Mature

Condition: Good.

Species Tolerance To Construction Impacts: Moderate

Tree Protection Zone (TPZ as radius in feet from trunk location): 39 feet

Expected Root Loss: 1%. This tree's trunk is 16 feet from the proposed foundation piers to the north. Exploratory excavations show insignificant expected root loss.

Expected Canopy Loss: 0%

Recommendation: Preserve with mitigation recommendations.

### **Discussion**

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Tree preservation zones are provided as a guideline for determining a radius from a tree's trunk location outside of which any construction activities will not impact a tree's viability. Construction activities are allowed within a tree's tree protection zone when specified by the consulting arborist. A ten to forty percent root loss may not threaten the survivability of a tree depending on its age, species tolerance and if mitigation measures are properly followed.

It is important to realize that for practical purposes all of a tree's roots are located within the top three feet of soil and more probably within the top 18 inches. The cutting of a trench for the foundation of structures is usually more than two feet in depth. This would remove all the roots in that area. More than twenty five percent root loss may threaten the survivability of a moderately tolerant tree. The loss of important structural roots can cause the tree to collapse following root cutting.

As I had recommended, the foundation will be of pier and grade beam construction with a 6" thick slab in the garage area. The exploratory hand excavation was performed to a depth of 18" or more preserving all roots over 1" in diameter. A significant root for these mature oaks would be four inches or more in diameter. No significant roots were found.

**Discussion (continued)**

The breakdown of roots found during exploratory excavation is as follows:

<u>Hole</u>	<u>Observations</u>
No. 1	One 1" root (removed during hand excavation)
No. 2	No roots found
No. 3	One 1" and One 2" roots
No. 4	One ½" root
No. 5	One 1" root
No. 6	Two 1" roots
No. 7	Two 1" roots
No. 8	No roots found
No. 9	One 1" and Two ½" roots
No. 10	One ½" root (removed during excavation)
No. 11	No roots found

**Conclusion**

Oak trees no 1, 2, and 3 shall be preserved and have no significant negative affects on their health or long-term viability from the proposed development if the recommendations within this report are implemented.

## **Recommendations**

The Project Arborist shall supervise all construction of the foundation due to the fact that the entire construction area is within the Tree Protection Zones of these trees.

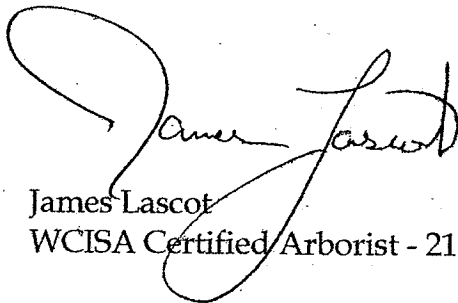
Tree protection fencing locations shall be determined by the Project Arborist to construction to minimize damage to root systems of preserved trees. Tree Protection fencing will be constructed of 4-foot high orange plastic and attached to metal stakes no less than 12 inches into ground and at 6-foot centers.

Certain construction activities should be limited within the Tree Protection Zone as follows:

- No equipment, storage, dumping, grading or excavation should be permitted within the designated tree protection zones without the prior written approval of the consulting arborist.
- If excavation must occur within the tree protection zone the Project Arborist should determine where tunneling, hand work, and root pruning is required (root pruning should be completed prior to grading activity).

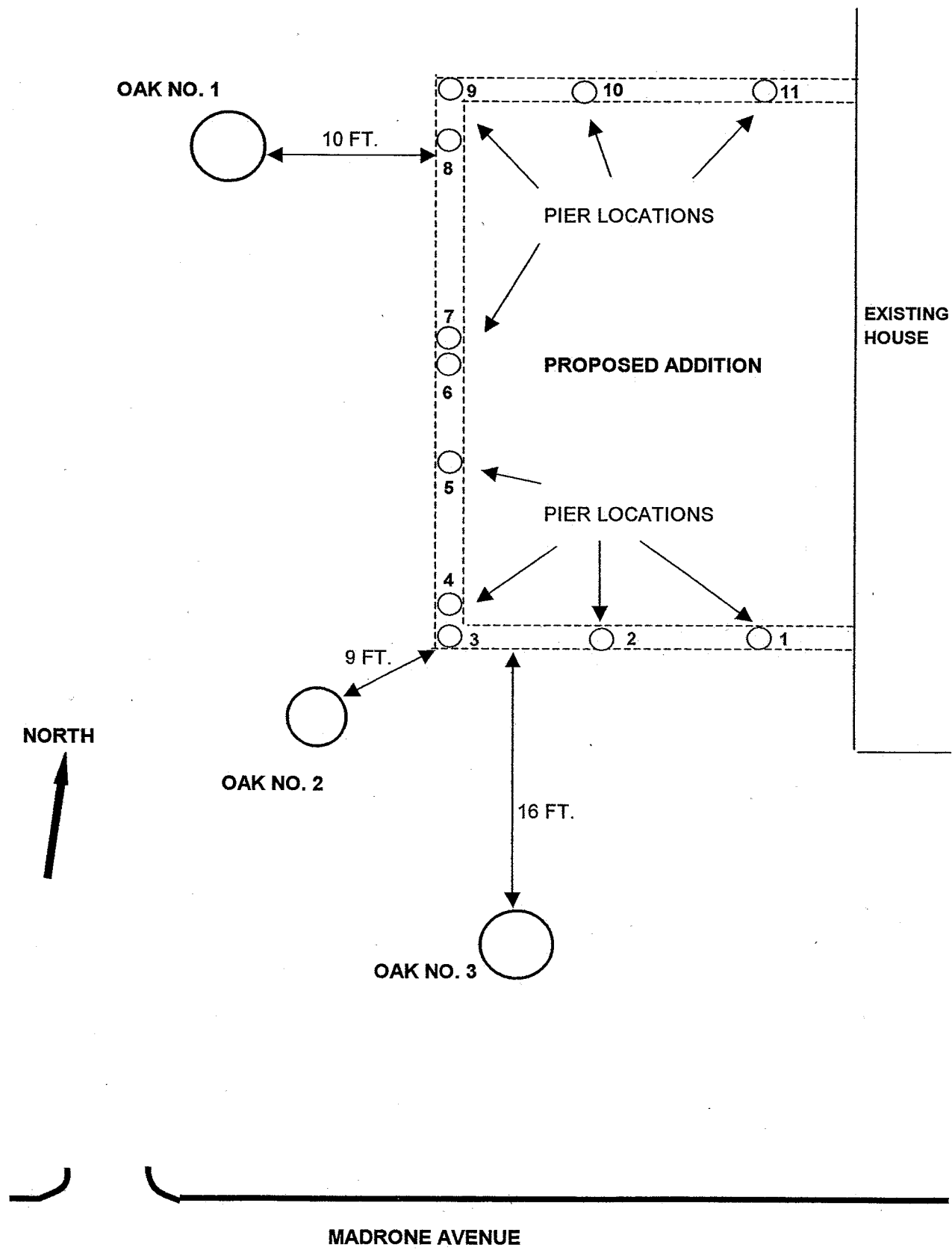
## **Qualifications**

The Project Arborist is an ISA Certified Arborist or American Society of Consulting Arborists (ASCA) Registered Member.



James Lascot  
WCISA Certified Arborist - 2110

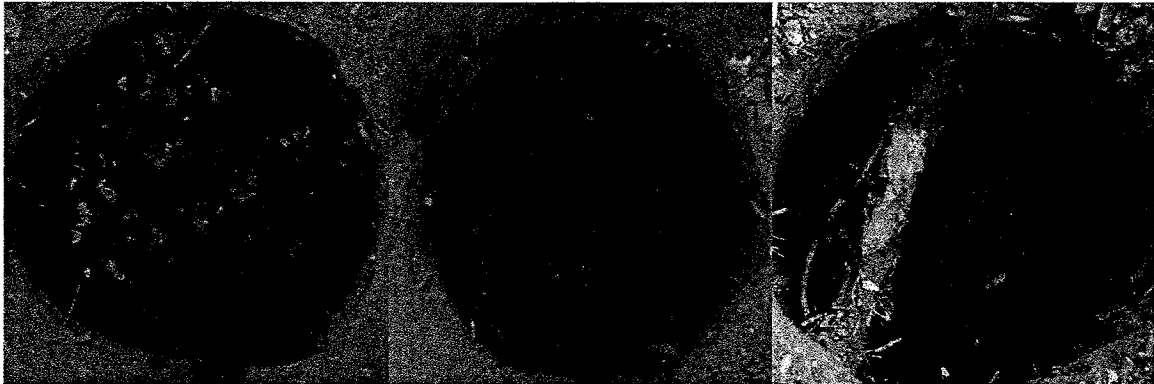




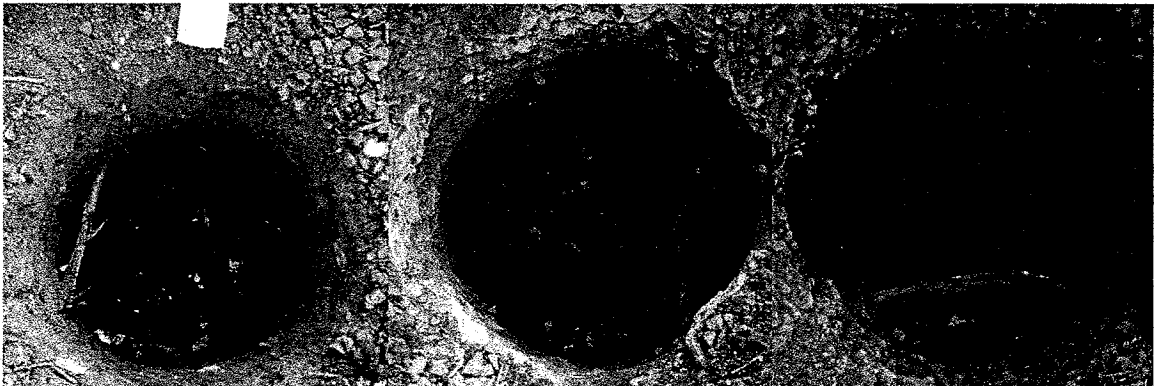
**Photographs**

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Hand Excavation Holes no. 1-3



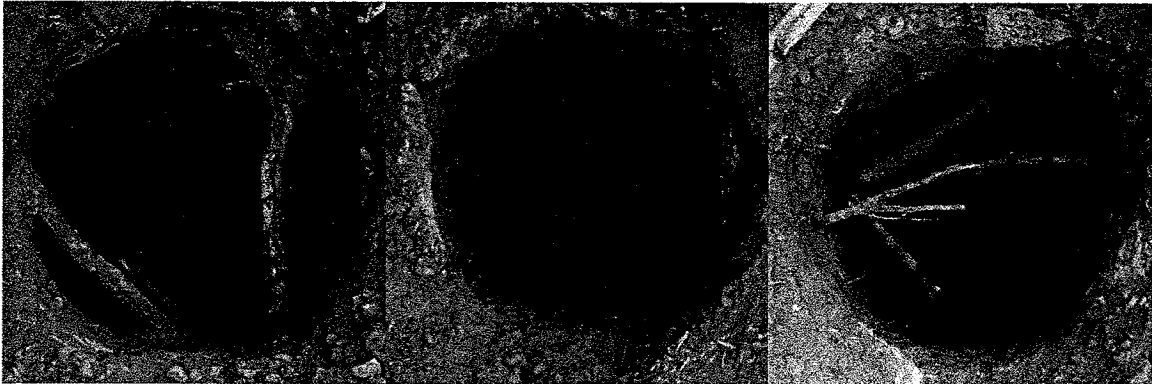
Hand Excavation Holes no. 4-6



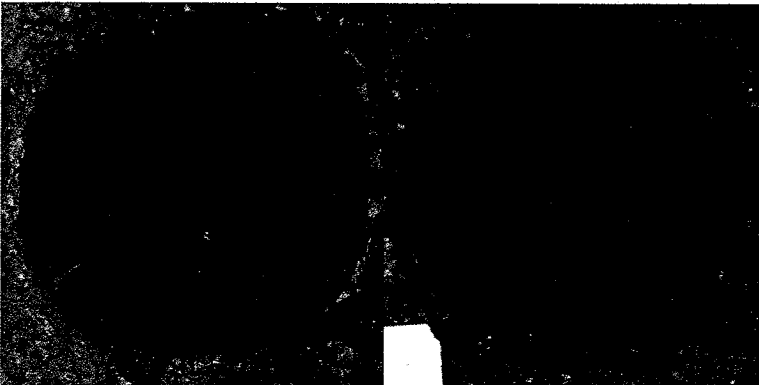
**Photographs (continued)**

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Hand Excavation Holes no. 7-9



Hand Excavation Holes no. 10 and 11



## Assumptions and Limiting Conditions

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arborlogic, James Lascot

1. Any legal description provided to the consultant / appraiser is assumed to be correct. Any titles and ownerships to any property are assumed to be good and marketable. No responsibility is assumed for matters legal in character. Any and all property is appraised or evaluated as though free and clear, under responsible ownership and competent management.
2. It is assumed that any property is not in violation of any applicable codes, ordinances, statutes, or other government regulations.
3. Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant / appraiser can neither guarantee nor be responsible for the accuracy of information provided by others.
4. The consultant / appraiser shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services as described in the fee schedule and contract of engagement.
5. Unless required by law otherwise, possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the person to whom it is addressed, without the prior expressed written or verbal consent of the consultant / appraiser.
6. Unless required by law otherwise, neither all nor any part of the contents of this report, nor copy thereof, shall be conveyed by anyone, including the client, to the public through advertising, public relations, news, sales or other media, without the prior expressed written or verbal consent of the consultant / appraiser -- particularly as to value conclusions, identity of the consultant / appraiser, or any reference to any professional society or institute or to any initialed designation conferred upon the consultant / appraiser as stated in his qualifications.
7. This report and any values expressed herein represent the opinion of the consultant / appraiser, and the consultant's / appraiser's fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported.
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