February 28, 1995

Land Based Research and Development
111 Deerwood Road, Suite 200
San Ramon, CA 94583

Attention: Mr. Mike Bedker

Subject: Scope of Services and Fee Agreement
Soil Engineering Services During Earthwork Construction
Black Oak Estates, Subdivision 7462
Diablo, California

Gentlemen:

INTRODUCTION

We are pleased to present this scope of services and fee agreement for soil engineering services during earthwork construction of the proposed Black Oak Estates in Diablo, California.

The site is located to the east Mt. Diablo Scenic Boulevard and north of Diablo Road in Diablo, California. We previously performed a geotechnical investigation of the site and supplemental investigations, and presented the results in our reports dated December 31, 1986, February 13, 1990, May 23, 1990, January 5, 1995, and February 7, 1995. Our scope of services and fee agreement are based on a review of these reports and discussions with you.

We understand that the project will consist of construction of 36 lots for detached single-family dwellings with roadway improvements. The proposed grading will consist of cuts up to 21 feet and fills up to 30 feet as well as cut and fill slopes up to 30 to 60 feet high. The earthwork construction will also consist of remedial treatment to landslides, and colluvium. The project plans prepared by Bryan Ê Murphy, along with our geotechnical recommendations will provide guidelines for the site grading.

The selection of the foundation type and design criteria should be determined after the mass grading. This will require further sampling and testing of soil materials near the rough pad grades. Determination of Plasticity Index and swell-shrink characteristics will be performed in order to

determine the foundation design criteria.

SCOPE OF SERVICES

We recommend that our scope of services for this project consist of the following items:

1. Review of final grading plans and specifications for conformance with the intent of recommendations presented in our investigation report and supplemental reports.

2. Provide consultation on the selection of foundation type and design criteria, as discussed above.

3. As needed, provide engineering consultation during the construction operations.

4. Observation of stripping, clearing, and excavations to observe that the materials encountered are as anticipated in our investigation report and to observe that unsatisfactory soils and debris have been removed.

5. Observation of subdrain installation and keyway excavations.

6. On a full-time basis, observe the placement and perform density tests on the compaction of fill materials during mass grading.

7. Review of cut slopes by our geologists to identify any potentially unstable areas.

8. On a part-time basis, observe the placement and perform density tests on the compaction of materials during the backfilling of utility trenches.

9. On a part-time basis, observe and perform subgrade preparation density tests on the prepared subgrade in pavement areas.

10. On a part-time basis, observe the placement and perform density tests on the aggregate base rock in pavement areas.

11. As needed, perform laboratory tests on representative samples of the fill, backfill, and import materials to support the field operations.

Periodic progress reports of the results of our observations and tests will be made available to the client so that timely, corrective action might be taken as necessary. Upon completion, we will summarize all of our observations and test results in a report.

Field observation services for foundation construction can be provided, upon your request, under a separate agreement.

FEE AGREEMENT

We will provide our services on a time-and-expense basis in accordance with the attached Fee Schedule - 1995, which are made part of this agreement by reference. It is not possible for us to accurately estimate the amount of time necessary to complete this project. We have not had the opportunity to review the contractor's project schedule and also many factors during construction are beyond our control; i.e., contractor's actual rate of progress, weather and actual subsurface conditions encountered.

Our estimated cost breakdowns are listed as follows:

Typical project costs not directly related to schedule:

1. Consultation

Prior to and during construction operations ..... $2,000 to $3,000

Consultation for foundations..... $1,500 to $2,000

Laboratory testing for soil expansion potentials ..... $1,500 to $2,000

2. Laboratory testing..... $3,000 to $5,000

3. Post-Construction

Progress reports, with field and laboratory data..... $1,000 to $2,000

Final report..... $1,500 to $2,500

Total ..... $10,500 to $16,500

Typical weekly charges during earthwork construction:

1. Observation and testing during mass grading (full-time)

Weekly Total **..... $5,500 to $6,500**

2. Testing during roadway improvements (part-time)

Weekly Total ..... **$1,800 to $2,500**

We have assumed an eight-hour work day; overtime will result in additional charges. In addition, it does not include show-up time when our field technician is scheduled for the project and the contractor cancels work without adequate notice. We have a three-hour minimum charge for show-up time.

We will keep you advised of our job charges by issuing monthly progress billings and will inform you of any changed condition which might significantly affect our total fee. This proposal remains valid for 60 days from the date hereon unless cancelled by either party or extended by mutual written agreement.

We are pleased to have the opportunity to be of continued service to you on this project. If you have questions regarding our fee and scope of services, please call. Please return one signed copy of the "Terms For Geotechnical Engineering Services," as our formal authorization to proceed.

Respectfully submitted,

ROGERS/PACIFIC, INC.

J. David Rogers, Ph.D., G.E., C.E.G.
Principal-in-Charge

R. John Caulfield, P.E.
Principal Civil Engineer

Attachment: Fee Schedule - 1995
Terms For Geotechnical Engineering Services

JDR/RJC/pjr
s:\landdev\landbase\blackoak.agr, PR0195

Copies: Addressee (2)

TERMS FOR GEOTECHNICAL ENGINEERING SERVICES

THE AGREEMENT

This agreement is made by and between: ROGERS/PACIFIC, INC., hereinafter referred to as GEOTECHNICAL ENGINEER, and LAND BASED DEVELOPMENT, hereinafter referred to as CLIENT.

The AGREEMENT between the parties consists of these TERMS, the attached PROPOSAL identified as Project No. CT1925T, dated February 28, 1995, and any exhibits or attachments noted in the PROPOSAL. Together, these elements will constitute the entire AGREEMENT superseding any and all prior negotiations, correspondence, or agreements either written or oral. Any changes to this AGREEMENT must be mutually agreed to in writing.

STANDARD OF CARE

CLIENT recognizes that subsurface conditions may vary from those observed at locations where borings, surveys, or explorations are made, and that site conditions may change with time. Data, interpretations, and recommendations by GEOTECHNICAL ENGINEER will be based solely on information available to GEOTECHNICAL ENGINEER. GEOTECHNICAL ENGINEER is responsible for those data, interpretations, and recommendations, but will not be responsible for other parties' interpretations or use of the information developed.

Services performed by GEOTECHNICAL ENGINEER under this AGREEMENT are expected by CLIENT to be conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the geotechnical engineering profession practicing contemporaneously under similar conditions in the locality of the project. Under no circumstance is any warranty, expressed or implied, made in connection with the providing of geotechnical engineering services.

SITE ACCESS AND SITE CONDITIONS

CLIENT will grant or obtain free access to the site for all equipment and personnel necessary for GEOTECHNICAL ENGINEER to perform the work set forth in this AGREEMENT. CLIENT will notify any and all possessors of the project site that CLIENT has granted GEOTECHNICAL ENGINEER free access to the site. GEOTECHNICAL ENGINEER will take reasonable precautions to minimize damage to the site, but it is understood by CLIENT that, in the normal course of work, some damage may occur and the correction of such damage is not part of this AGREEMENT unless so specified in the PROPOSAL.

CLIENT is responsible for accurately delineating the locations of all subterranean structures and utilities. GEOTECHNICAL ENGINEER will take reasonable precautions to avoid known subterranean structures, and CLIENT waives any claim against GEOTECHNICAL ENGINEER,

and agrees to defend, indemnify, and hold GEOTECHNICAL ENGINEER harmless from any claim or liability for injury or loss, including costs of defense, arising from damage done to subterranean structures and utilities not identified or accurately located. In addition, CLIENT agrees to compensate GEOTECHNICAL ENGINEER for any time spent or expenses incurred by GEOTECHNICAL ENGINEER in defense of any such claim, with compensation to be based upon GEOTECHNICAL ENGINEER'S prevailing fee schedule and expense reimbursement policy.

SAMPLE DISPOSAL

GEOTECHNICAL ENGINEER will dispose of all remaining soil and rock samples sixty (60) days after submission of the report covering those samples. Further storage or transfer of samples can be made at CLIENT'S expense upon CLIENT'S prior written request.

CONSTRUCTION PHASE SERVICES

If GEOTECHNICAL ENGINEER is retained by CLIENT to provide a site representative for the purpose of observing specific portions of construction work or other field activities as set forth in the PROPOSAL, then this phrase applies. For the specified assignment, GEOTECHNICAL ENGINEER will report observations and professional opinions to CLIENT. No action of GEOTECHNICAL ENGINEER or GEOTECHNICAL ENGINEER's site representative can be construed as altering any AGREEMENT between CLIENT and others. GEOTECHNICAL ENGINEER will report to CLIENT any observed geotechnically related work which, in GEOTECHNICAL ENGINEER's professional opinion, does not conform with plans and specifications. The GEOTECHNICAL ENGINEER has no right to reject or stop work of any agent of the CLIENT. Such rights are reserved solely for CLIENT. Furthermore, GEOTECHNICAL ENGINEER's presence at the site does not in any way guarantee the completion or quality of the performance of the work of any party retained by CLIENT to provide field or construction-related services.

GEOTECHNICAL ENGINEER will not be responsible for and will not have control or charge of specific means, methods, techniques, sequences or procedures of construction of other field activities selected by any agent or agreement of CLIENT, or safety precautions and programs incident thereto.

BILLING AND PAYMENT

CLIENT will pay GEOTECHNICAL ENGINEER in accordance with the procedures indicated in the PROPOSAL and its attachments. Invoices will be submitted to CLIENT by GEOTECHNICAL ENGINEER, and will be due and payable upon presentation. If CLIENT objects to all or any portion of any invoice, CLIENT will so notify GEOTECHNICAL ENGINEER in writing within fourteen (14) calendar days of the invoice date, identify the cause of disagreement, and pay when due that portion of the invoice not in dispute. The parties will immediately make every effort to settle the disputed portion of the invoices. In the absence of written notification described above, the balance as stated on the invoice will be paid.

Invoices are delinquent if payment has not been received within thirty (30) days from date of invoice. CLIENT will pay an additional charge of one-and-one-half (1.5) percent per month (or the maximum percentage allowed by law, whichever is lower) on any delinquent amount, excepting any portion of the invoiced amount in dispute and resolved in favor of CLIENT. Payment thereafter will first be applied to accrued interest and then to the principal unpaid amount. All time spent and expenses incurred (including any attorney's fees) in connection with collection of any delinquent amount will be paid by CLIENT to GEOTECHNICAL ENGINEER per GEOTECHNICAL ENGINEER's current fee schedules. In the event CLIENT fails to pay GEOTECHNICAL ENGINEER within sixty (60) days after invoices are rendered, CLIENT agrees that GEOTECHNICAL ENGINEER's invoice as a breach of this AGREEMENT.

TERMINATION

This AGREEMENT may be terminated by either party seven (7) days after written notice in the event of any breach of any provision of this AGREEMENT or in the event of substantial failure of performance by the other party, or if CLIENT suspends the work for more than three (3) months. In the event of termination, GEOTECHNICAL ENGINEER will be paid for services performed prior to the date of termination plus reasonable termination expenses, including, but not limited to the cost of completing analyses, records, and reports necessary to document job status at the time of termination.

RISK ALLOCATION

Many risks potentially affect GEOTECHNICAL ENGINEER by virtue of entering into this AGREEMENT to perform professional engineering services on behalf of CLIENT. The principal risk is the potential for human error by GEOTECHNICAL ENGINEER. For CLIENT to obtain the benefit of a fee which includes a nominal allowance for dealing with GEOTECHNICAL ENGINEER's liability, CLIENT agrees to limit GEOTECHNICAL ENGINEER'S liability to CLIENT and to all other parties for claims arising out of GEOTECHNICAL ENGINEER's performance of the services described in this AGREEMENT. The aggregate liability of GEOTECHNICAL ENGINEER will not exceed $50,000 for negligent professional acts, errors or omissions, and CLIENT agrees to indemnify and hold harmless GEOTECHNICAL ENGINEER from and against all liabilities in excess of the monetary limit established above.

Limitations on liability and indemnities in this AGREEMENT are business understandings between the parties voluntarily and knowingly entered into, and shall apply to all theories of recovery including, but not limited to, breach of contract, warranty, tort (including negligence), strict or statutory liability, or any other cause of action, except for willful misconduct or gross negligence. The parties also agree that CLIENT will not seek damages in excess of the limitations indirectly through suits with other parties who may join GEOTECHNICAL ENGINEER as a third-party defendant. Parties means CLIENT and GEOTECHNICAL ENGINEER and their officers, employees, agents, affiliates, and subcontractors.

Both CLIENT and GEOTECHNICAL ENGINEER agree that they will not be liable to each other, under any circumstances, for special, indirect, consequential, or punitive damages arising out of or related to this AGREEMENT.

DISCOVERY OF UNANTICIPATED HAZARDOUS MATERIALS

CLIENT represents that CLIENT has made a reasonable effort to evaluate if hazardous materials are on or near the project site, and that CLIENT has informed GEOTECHNICAL ENGINEER of CLIENT's findings relative to the possible presence of such materials.

Hazardous materials may exist at a site where there is no reason to believe they could or should be present. GEOTECHNICAL ENGINEER and CLIENT agree that the discovery of unanticipated hazardous materials constitutes a changed condition mandating a renegotiation of the scope of work or termination of services. GEOTECHNICAL ENGINEER and CLIENT also agree that the discovery of unanticipated hazardous materials may make it necessary for GEOTECHNICAL ENGINEER to take immediate measures to protect health and safety. CLIENT agrees to compensate GEOTECHNICAL ENGINEER for any equipment decontamination or other costs incident to the discovery of unanticipated hazardous materials.

GEOTECHNICAL ENGINEER agrees to notify CLIENT when unanticipated hazardous materials or suspected hazardous materials are encountered. CLIENT agrees to make any disclosures required by law to the appropriate governing agencies. CLIENT also agrees to hold GEOTECHNICAL ENGINEER harmless for any and all consequences of disclosures made by GEOTECHNICAL ENGINEER which are required by governing law. In the event the project site is not owned by CLIENT, CLIENT recognizes that it is CLIENT's responsibility to inform the property owner of the discovery of unanticipated hazardous material or suspected hazardous materials.

Notwithstanding any other provision of the AGREEMENT, CLIENT waives any claim against GEOTECHNICAL ENGINEER and, to the maximum extent permitted by law, agrees to defend, indemnify, and save GEOTECHNICAL ENGINEER harmless from any claim, liability, and/or defense costs for injury or loss arising from GEOTECHNICAL ENGINEER's discovery of unanticipated hazardous materials or suspected hazardous materials, including, but not limited to, any costs created by delay of the project and any cost associated with possible reduction of the property's value.

CLIENT will be responsible for ultimate disposal of any samples secured by GEOTECHNICAL ENGINEER which are found to be contaminated.

DISPUTES RESOLUTION

All claims, disputes, and other matters in controversy between GEOTECHNICAL ENGINEER and CLIENT arising out of or in any way related to this AGREEMENT will be submitted to "alternative

dispute resolution" (ADR) before and as a condition precedent to other remedies provided by law. If and to the extent CLIENT and GEOTECHNICAL ENGINEER have agreed on methods for resolving such disputes, then such methods will be set forth in the "Alternative Dispute Resolution Agreement" which, if attached, is incorporated into and made a part of this AGREEMENT. If no specific ADR procedures is set forth in this AGREEMENT, then it shall be understood that the parties shall submit disputes to mediation as a condition precedent to litigation.

If a dispute at law arises from matters related to the services provided under this AGREEMENT and that dispute requires litigation instead of ADR as provided above, then:

(1) the claim will be brought and tried in judicial jurisdiction of the court of the county where GEOTECHNICAL ENGINEER's principal place of business is located and CLIENT waives the right to remove the action to any other county or judicial jurisdiction, and

(2) the prevailing party will be entitled to recovery of all reasonable costs incurred, including staff time, court costs, attorneys' fees, and other claim related expenses.

GOVERNING LAW AND SURVIVAL

The law of the State of CALIFORNIA will govern the validity of these TERMS, their interpretation and performance.

If any of the provisions contained in this AGREEMENT are held illegal, invalid, or unenforceable, the enforceability of the remaining provisions will not be impaired. Limitations of liability and indemnities will survive termination of this AGREEMENT for any cause.

The parties have read the foregoing, understand completely the terms, and willingly enter into this AGREEMENT which will become effective on the date signed below by CLIENT.

LAND BASED DEVELOPMENT	ROGERS/PACIFIC, INC.
CLIENT	GEOTECHNICAL ENGINEER
By	By

	Principal-in-Charge
Position	Position
	February 28, 1995
Date	Date

ROGERS/PACIFIC, INC.
SCHEDULE OF CHARGES FOR 1995

CHARGES

Time and Materials Agreement

If Rogers/Pacific, Inc. services are performed on a time and materials basis, the Client agrees to pay Rogers/Pacific, Inc. in accordance with the following schedule of charges:

1. Personnel

Principal-in-Charge	$170/Hr.	Forensic Scientist	$ 80/Hr.
Court/Deposition	$240/Hr.*	Senior Field Technician	$ 75/Hr.
Deposition Preparation	$190/Hr.	Field Technician	$ 57/Hr.
Chief Engineer/Geologist	$120/Hr.	Graphics Technician	$ 55/Hr.
Principal Engineer/Geologist	$115/Hr.	Administrator	$ 55/Hr.
Senior Engineer/Geologist	$ 97/Hr.	Technical Word/Data Processor	$ 50/Hr.
Project Engineer/Geologist	$ 87/Hr.	Lab Technician	$ 57/Hr.
Staff Engineer/Geologist	$ 75/Hr.	Administrative Clerical	$ 40/Hr.

*** 4-hour minimum**

2. Mobile Field Laboratory Equipment

Nuclear Density/Moisture Gauge	$35.00/day
Slope Indicator 1000 Inclinometer Probe	$75.00/day
Mileage	$ .50/mile

3. Miscellaneous Charge

Drilling and backhoe services, special and consultant fees, permits, bridge tolls, insurance, fares, telegrams, shipping, special equipment rental, printing, reproduction, and other similar project-related costs are billed at cost plus 20 percent.

4. Laboratory Fees

CLASSIFICATION AND INDEX TESTS	**Unit Price ($)**
Log Sample Tube (ASTM D-2488)	Hourly
Moisture Content (ASTM D-2216)	11.00
Moisture Content and Density	17.00
Organic Content (ASTM D-2974)	45.00
Atterberg Limit (ASTM D-4318)	80.00
Specific Gravity (ASTM D-854)	55.00
Particle-Size Analysis (ASTM D-422)	
a) Sieve analysis to #200 sieve	70.00
b) Sieve analysis with hydrometer	110.00
c) Percent passing #200 sieve (ASTM D-1140)	40.00
STRENGTH TESTS	
Pocket Penetrometer	8.00
Torvane	8.00
Laboratory Vane Shear (ASTM D-4648)	45.00
Unconfined Compression (ASTM D-2166)	50.00
Direct Shear, per point; up to 2.87" diameter	
Maximum shear duration 48 hours	
a) Unconsolidated-Undrained (Q test)	65.00
b) Consolidated-Undrained (R test)	100.00
c) Consolidated-Drained (ASTM D-3080)	115.00
d) Multistage (3 point R test)	200.00
Triaxial Shear, per point; up to 4" diameter	
Maximum shear duration 48 hours	

ROGERS/PACIFIC, INC.
SCHEDULE OF CHARGES FOR 1995

a) Unconsolidated-Undrained (Q test-ASTM D-2850)		110.00
b) Q test w/back pressure saturation		150.00
c) Consolidated-Undrained w/pore pressure (R test)	350.00	
d) Consolidated-Drained (S test)		550.00
e) Specimen Fabrication		50.00

ROGERS/PACIFIC, INC.
SCHEDULE OF CHARGES FOR 1995

VOLUME CHANGE TEST		**Unit Price ($)**
Consolidation (ASTM D-2435)		
a) 8 Load, 3 unload increments; 2 time rates		290.00
b) Additional Load increments		25.00
c) Additional Time rates		25.00
d) One point consolidation		130.00
Constant Rate of Strain Consolidation		Quote
Swell-Consolidation (ASTM D-4546)		100.00
Constant Volume, Swell Pressure		Quote
Free Swell	50.00	
Expansion Index Test (UBC 29-2)		110.00

SPECIAL SAMPLE PREPARATION	
Remold Sample	55.00
Trim Sample	25.00

HYDRAULIC CONDUCTIVITY (Samples up to 4" diameter)	
Constant Head (ASTM D-2434)	80.00
Falling Head (fixed ring)	80.00
Triaxial Permeability (back pressure saturated)	265.00
Compatibility or Long-Term Triaxial Permeability	35.00/day

MOISTURE-DENSITY RELATIONS	
Standard Proctor Compaction (ASTM D-698)	
a) 4-inch mold	110.00
b) 6-inch mold	140.00
Modified Proctor Compaction (ASTM D-1557)	
a) 4-inch mold	135.00
b) 6-inch mold	155.00
Relative Density (ASTM D-4253 and D-4254)	
a) 1/10 cubic foot mold	155.00
b) 1/2 cubic foot mold	180.00

OTHER TESTS	
Resistance R-Value (ASTM D-2844)	180.00
Sand Equivalent (ASTM D-2419)	45.00
Durability Index (ASTM D-4644)	Quote
Resonant Column-3 Confining Pressures	Quote
Cyclic Triaxial	Quote

s:\landdev\landbase\blackoak.agr