

July 11, 2000

Mr. Walter McEnerney  
Buttner Associates  
A California Limited Partnership  
3675 Mt. Diablo Blvd., Suite 270  
Lafayette, CA 94549

RE: Final Walk Through Report  
Grayson Ridge Estates, Lots 1-8  
Contra Costa County Subdivision 8123  
Pleasant Hill, California

Dear Mr. McEnerney:

Geolith Consultants is pleased to present this final report that summarizes our construction observations and consultations during post-grading activities. Our previous report, dated September 30, 1999, documented the grading work necessary to develop the site. Listed below are our post-grading observations recorded in the job site log book for "Special Inspection/Building Inspection" entries, since the completion of mass grading:

08/27/99 We observed the condition of the foundation soils prior to pouring concrete for the post-tension slabs for Lots 1 and 2.

09/02/99 We observed the condition of the foundation soils prior to pouring concrete for the post-tension slabs for Lots 3, 4, 5, and 6.

09/07/99 We observed the condition of the foundation soils prior to pouring concrete for the post-tension slabs for Lots 7 and 8.

09/22/99 We observed the condition of the subgrade soils for the street (north end of Buttner Road) prior to the placement of aggregate base.

03/27/00 We observed the finish grading for drainage around the existing homes for Lots 1, 2, part of 3, 4, and 8.

07/07/00 On our most recent visit to the site, we observed the finish grading around the home on Lot 7. Finish grading for Lots 5 and 6 has not been completed to date, due to on-going construction activities. For instance, a swimming pool is being constructed on Lot 6, and pouring of concrete for hardscape areas and landscape wall construction is underway on Lot 5.

## **CONCLUSIONS**

Based on our field observations of post-mass grading activities, the following list of operations were performed in general conformance with our recommendations and in essential compliance with the project plans:

- Conditioning of the foundation soils prior to pouring concrete for the post-tension slabs for Lots 1 – 8.
- Fine grading for surface drainage around existing homes for Lots 1, 2, 3, 4, 7, and 8. The fine grading for Lots 5 and 6 has not been completed to date due to on-going construction activities in the back yards.

## **MAINTENANCE RECOMMENDATIONS FOR HOMEOWNERS**

### **Slope Maintenance and Irrigation**

Graded slopes that are left unprotected are highly prone to erosion. This is especially true for the bedrock cut slope behind Lots 5, 6, and 7. We recommend that all graded slopes be planted as soon as possible. In the meantime, the slopes should be hydro-seeded and covered with a burlap or coconut fiber geojute jute mesh. Prolonged periods of drying and wetting of the slope face should be avoided in order to reduce the likelihood of developing a surface layer that may be prone to erosional ravelling. A relatively constant soil moisture content should be maintained by landscape irrigation through the hot summer months.

Irrigation along slopes should be managed and controlled to prevent over-watering of the slopes. This includes all graded and natural slopes that are artificially irrigated. The down slope creep processes that naturally affect slopes tend to accelerate when slopes are subjected to excessive irrigation or leaks in the irrigation system.

### **Concrete V-Ditch Maintenance**

The concrete-lined drainage interceptor (V-ditches) located along the toe-of-fill slope adjacent to Lots 1, 2, 3, and 4 should be maintained in perpetuity, in accordance with County Code Article 716-8.712. Normally, the concrete-lined V-ditches that collect surface runoff should be cleaned of debris at least twice a year to prevent clogging and storm water overflow. This maintenance should be performed prior to the onset of the rainy season and, periodically, during the wet winter months. Any cracks that may develop in the concrete should be patched and sealed to minimize infiltration of runoff into the subgrade soils. We normally assume that approximately 2% of the V-ditches require replacement per year, due to normal processes of weathering, expansive soils action and slope creep.

### **Subdrain Maintenance**

Two of the three subdrains have been provided with cleanout risers consisting of near-vertical solid pipes that extend to the ground surface. These are located along the east side yard of Lot 1 and along the west side yard of Lot 4. The third subdrain has designated outlets to be used as cleanouts. This drain outlets into the concrete catch basin along the toe-of-fill slope between Lot 2 and 3. We recommend that all subdrains be serviced every 3-5 years to reduce the chance of the subdrainage systems clogging.

## **FUTURE CONSTRUCTION TO BE OBSERVED BY GEOLITH CONSULTANTS**

Listed below is a summary of items that should be observed by Geolith Consultants personnel to verify that our report recommendations have been followed:

- Review of foundation plans for retaining walls, swimming pools, or other amenities proposed to be founded on or against the earth.
- Observations of excavations for wall foundations, swimming pool excavations, or other foundation excavations for other structures.
- Observation and compaction testing of any areas to receive engineered fill.

#### **CLOSURE AND LIMITATIONS**

We have employed accepted engineering geologic and hydrogeologic procedures, and our opinions and conclusions are made in accordance with generally accepted principles and practices of the profession. This report does not relieve the contractor of their responsibility to produce a completed project conforming to the project plans and specifications. This warranty is in lieu of all other warranties, either expressed or implied.

We have enjoyed being of continued service to Focus Realty Services and trust that this information will be helpful to you. If you have any questions, please contact us at (925) 682-7601.

Very truly yours,

**GEOLITH CONSULTANTS, INC.**

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Senior Engineering Geologist

J. David Rogers, Ph.D., RG, CEG, CHG  
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