

April 17, 1998

Mr. Micheal Stella, P.E.  
Associate Civil Engineer  
City of Fremont Development and Environmental Services Department  
39550 Liberty Street  
P.O. Box 5006  
Fremont, CA 94537-5006

RE: Proposal for Geotechnical Investigation and Exploratory Drilling  
Removal and Replacement of Buried Fuel Tanks Project - 8130 PWC  
City of Fremont Police Facility  
2000 Stevenson Boulevard  
Fremont, California

Dear Mr. Stella:

At your request, Geolith Consultants is pleased to present this proposal to perform a preliminary geotechnical investigation and exploratory drilling for 1.) the proposed removal of two buried fuel tanks, and 2.) the siting of replacement above ground fuel tanks. From reviewing the preliminary site plans provided by the City and subsequent discussions with you, we understand that the proposed tank removals will require a deep excavation (approximately 30 feet below the existing ground surface) for the extraction of the buried 10,000 gallon diesel tank, and a shallow excavation (approximately 15 feet below the existing ground surface) for the removal of the buried 10,000 gallon gasoline tank. The removal of the deeply buried tank is further complicated by the present of adjacent subterranean foundations belonging to the Detention Facility.

We will be working closely with the City's environmental and architectural-structural consultants to provide geotechnical assistance and consultations for the project. We are coordinating our proposed field work with Heilshorn Environmental Engineering in order to minimize the costs of the drilling equipment at the site. In this way, both soil and water samples for environmental testing as well as geotechnical soil samples can be recovered from the same hollowstem borings. Once our laboratory testing and analysis is complete, we can provide appropriate soil parameters to the City's structural consultant for shoring design of the removal excavations.

## **PURPOSE AND SCOPE**

The purpose of our preliminary investigation will be to evaluate the geologic and soils engineering conditions at the site, and to identify any potential geotechnical constraints that may affect the proposed removal of the buried fuel tanks, and the siting of new above ground replacement tanks. In addition, we will provide appropriate geotechnical engineering recommendations and suitable design criteria for the project.

The scope of this investigation included the following:

- Review of published and unpublished geotechnical maps and reports for the site area. The City has provided us with previously completed geotechnical reports and data for the site.
- Subsurface exploration surrounding the deeply buried diesel tank by using cone penetration testing (CPT). This field work was completed on 4/9/98 and consisted of three shafts at depths ranging from 40 to 47 feet below the existing ground surface. These small diameter (2-inch diameter) excavations were backfilled the same day with cement grout under the observations of the Alameda County Water District (ACWD).  
**Note:** The ACWD inspection fees were waived because of the non-environmental nature of the exploration performed for the City of Fremont.
- Subsurface exploration surrounding both the deep and shallow fuel tanks by drilling a total of six, small diameter (8-inch diameter) hollowstem borings. Three borings will be drilled at each location. The estimated depths for the deep borings surrounding the buried diesel tank will be approximately 35 feet below the existing ground surface. The estimated depth for the shallow borings surrounding the buried gasoline tank will be approximately 15 feet below the existing ground surface. These small diameter borings will be backfilled the same day with cement grout under the observations of the Alameda County Water District (ACWD).  
**Note:** The ACWD inspection fees for this environmental/geotechnical exploration phase are not included in this proposal, and Geolith Consultants is not responsible for obtaining these permits.
- Laboratory testing of soil samples retrieved from the hollowstem borings.
- Geotechnical assistance and consultations with the City, the City's environmental consultant, and the City's architectural-structural engineering consultant during the preliminary phases of the project.
- Preparation of a geotechnical report of our preliminary findings, conclusions, and recommendations. This includes parameters for the design of temporary shoring to support the tank removal excavation(s).

## **COST ESTIMATE**

### **Field Work:**

Geolith Personnel				
Senior Geologist/Engineer	33hr @ \$105/hr	=		\$3465.00
Drilling Equipment				
CPT Rig*	Lump Sum*	=		\$1770.00*
Hollowstem Rig	20hr @ \$165/hr	=		\$3300.00
Grouting Materials	6 @ \$100/hollowstem	=		\$ 600.00
Storage Drums for Waste Water	3 @ \$50/drum	=		\$ 150.00
Visqueen for Aeration of Drill Cuttings	Estimated Cost	=		\$ 100.00
ACWD Inspector	Not Included	=		Not Included
<b>SUBTOTAL - Field Personnel &amp; Equipment</b>		=		<b>\$9385.00</b>

### **Laboratory Testing:**

Moisture/Density Testing	15 @ \$25/test	=		\$ 375.00
Sieve Analysis	2 @ \$80/test	=		\$ 160.00
Consolidation Test	2 @ \$120/test	=		\$ 240.00
<b>SUBTOTAL - Laboratory Testing</b>				<b>\$ 775.00</b>

### **Office Work:**

Data Analysis and Consultations				
Principle Geologist/Engineer	2hr @ \$180/hr	=		\$ 360.00
Senior Geologist/Engineer	6hr @ \$105/hr	=		\$ 630.00
Report Preparation				
Principle Geologist/Engineer	2hr @ \$180/hr	=		\$ 360.00
Senior Geologist/Engineer	8hr @ \$105/hr	=		\$ 840.00
Other Tasks				
Graphics	6hr @ \$60/hr	=		\$ 360.00
Administration	4hr @ \$55/hr	=		\$ 220.00
<b>SUBTOTAL - Office Work</b>		=		<b>\$2770.00</b>

**GRAND TOTAL NOT-TO-EXCEED COST** **\$12,930.00**

\* The CPT testing has already been completed at the site.

## **CLOSURE**

We are planning to complete the remaining field exploration within a two-day period, barring any equipment problems or weather-related delays. The small diameter hollowstem borings will be backfilled with cement grout the same day. The total for the proposed work is estimated at not-to-exceed \$12,930.00. A retainer check in the amount of \$5,000.00 is requested at the time of the remaining exploration to cover out-of-pocket expenses and initial costs of the drilling equipment. The remainder will be billed at our hourly rate as shown the attached Schedule of Charges and Terms, and will be due upon receipt of the completed report.

## **SCHEDULE**

This contract is valid for 60 days following the date of proposal. We have tentatively scheduled the remainder of the drilling (hollowstem) for April 27 and 28, 1998. We request a signed copy of the authorization along with a retainer check in the amount of \$5,000.00. We estimate that we can provide the preliminary geotechnical report described in the scope of work within three to four weeks from the completion of the field exploration. However, prior to the completion of our report and after the laboratory testing is complete, we will be able to provide verbal recommendations to the City's structural consultant for the shoring design of the excavation(s).

## **WORK NOT INCLUDED**

### **Design Changes and/or Response to Third Party Peer Review**

Although we will make every effort to provide a detailed and thorough geotechnical report for the project, it is always possible that some additional subsurface exploration, laboratory testing and/or analysis may be required to address any changes in the proposed design or layout of the project. Also, it is possible that additional work may be necessary to satisfy any comments generated by the City or third-party review. This work would be summarized in a supplemental report and our costs would typically be provided on a time-and-materials basis, under separate contract.

### **Possible Environmental Contamination Sampling/Site Assessment**

We were not asked to perform any environmental contamination assessment of the project site, and have not included any costs in this proposal for doing so. We are coordinating our hollowstem drilling operation with the City's environmental consultant, Heilshorn Environmental Engineering, so that they may provide all environmental tasks at the site under separate contract.

### **Removal of Drill Cuttings and Waste Water**

It is planned to aerate the drill cuttings (soils generated from the drilling) on site. This will be done by spreading the soils on a layer of visqueen until they can be tested for hydrocarbon contamination by the City's environmental consultant. Depending on the out come of the environmental testing, these cuttings will be hauled off site by others under a separate contract.

The water from steam cleaning the hollowstem augers will be placed in drums (estimated 3 drums) and tested for hydrocarbon contamination by the City's environmental consultant. Depending on the outcome of the environmental testing, this water may be disposed of on site or may be hauled off site under a separate contract.

### **Shoring of the Tank Removal Excavations**

We have not been asked to design the shoring for the proposed tank removal excavation(s). Instead, we will provide the necessary geotechnical and soil parameters to the City's structural consultant, Peoples Associates, so that they provide all structural tasks at the site under separate contract.

### **Construction Observation and Testing**

Once the proposed work begins at the site, Geolith Consultants should be retained by the City to observe the various phases of construction as necessary. This would involve the approval of any import materials for use as backfill for the tank removal excavations; compaction testing of the backfill materials; observe foundation excavations for the above ground replacement fuel tanks; and to provide geotechnical consultation during the course of the project. We can provide the City with a proposal for these costs upon request.

### **TERMS AND CONDITIONS**

Geolith Consultants proposes to perform the scope of work described herein according to the hourly rates and conditions shown on the attached Schedule of Charge and Terms. A retainer fee of \$5,000.00 is requested. Should there be any need for the modification in the scope of work as a result of our continued investigation, we will notify you as soon as possible so that we may come to an agreement on any additional costs. The remaining balance for the project will be due upon receipt of the completed report.

We look forward to working with you on this project. If you have any questions regarding this proposal, please give us a call at (925) 682-7601.

Sincerely,

**GEOLITH CONSULTANTS, INC.**

Patrick L. Drumm, RG, CEG, CHG  
Senior Engineering Geologist

PLD/JDR  
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Copies: Mr. Micheal Stella (2)

Approved By: \_\_\_\_\_ Date: \_\_\_\_\_