EXCEL

ENVIRONMENTAL AND GENERAL ENGINEERING Lic #371497

Underground Fuel Tank Management
Exploratory Drilling & Monitoring Wells
Hazardous Waste Site Assessments
Bioremediation
Remedial Design
Vapor Extraction Systems

Analytical Testing
Hydrogeologic Testing
Asbestos Surveys
Environmental Audits
Regulatory Permitting
Soil Gas Investigations

September 16, 1993

Durham Transportation, Inc.
9171 Capitol of Texas Highway North
Travis Building, Suite 200
Austin, Texas 78759
Attention: Mr. David Delamotte

SUBJECT: RESPONSE TO THE REQUEST FOR PROPOSAL DATED AUGUST 20, 1993.

Dear Mr. Delamotte:

Excel Environmental and General Engineering (EEGE) is pleased to respond to the Request for Proposal (RFP) dated August 20, 1993 for the remediation of the Durham Transportation, Inc. (DTI) located at 19984 Meekland Avenue Hayward, California. The remediation of the site shall be divided into two phases, that could be addressed at the same time or separately. Based on the information provided to EEGE by DTI a comparison chart was developed to compare the remediation methods that may be feasible for the type of contamination and the physical state of the site (please see Comparisons Charts 1 & 2). Based on the comparison charts the following approaches were listed as possible remediation methods for the site:

REMEDIATION OPTIONS

PHASE I: POSSIBLE SOIL REMEDIATION OPTIONS

A. **OFF-SITE INCINERATION:** Currently there are no permitted off-site incinerators located in Northern California, but REMCO is expected to be approved some time in late 1993. If REMCO isn't permitted, the material can be transported to the TPS facility in southern California for treatment at an additional cost for the transportation. This method is therefore recommended only if REMCO obtains the required permits to operate.

B. **VAPOR EXTRACTION:** Vapor Extraction Systems (VES) have been proven to be successful in the treatment of gasoline contaminated soils. The success of the system is dependent upon several properties of the impacted soils such as the soil porosity, soil density, and water content. If the soil porosity is low, such as clay the success of the VES method is moderate to poor. This site is composed of clay type soils and thus the VES approach is not recommended.

C. **OFF-SITE RECYCLING:** Currently there are two facilities located in the northern California area that will accept the soil to be excavated. The REMCO facility is the most cost effective of the in terms of transportation cost and disposal costs and thus is used to provide DTI with a cost estimate.

PHASE II: PROPOSED GROUND WATER TREATMENT OPTIONS

A. **CARBON TREATMENT WITH SEWER DISPOSAL:** The ground water will be pumped from the subsurface from two existing ground water monitoring wells and one additional well to be installed, through a series of activated carbon canisters. The treated water will then be stored in a 10,000 gallon poly tank prior to discharge into the sewer system. Prior to discharge the water in the poly tank will be tested as requested by the Oro Loma Sanitary District. The carbon canisters will be required

to be removed from the site and reactivated or larger carbon tanks can be utilized at a greater initial costs but less cost for the regeneration.

B. AIR STRIPPING WITH EFFLUENT DISCHARGE FLOW THROUGH ACTIVATED CARBON AND TREATED WATER DISCHARGE INTO THE SEWER SYSTEM: This system evolves the pumping of the ground water through existing on-site wells and one additional well to be installed. The pumped water will then flow through a low profile air stripper with the effluent air stream treated by activated carbon. The treated ground water will flow through a series of carbon canisters to polish the removal of the contaminates. The treated ground water will then be stored in a 10,000 gallon poly tank prior to disposal into the sewer system. The carbon for both phases of treatment will require regeneration at periodic intervals of break through.

COST ESTIMATES

PHASE I: POSSIBLE SOIL REMEDIATION OPTIONS

OPTION I: OFF-SITE INCINERATION

	CAPITAL COSTS ($)	INITIAL OUTLAY ($)	OPERATING $/YEAR
Soil Excavation and Loading		4,225	
Clean Import Fill		8,350	
Bacfilling Equipment/Labor		4,600	
Laboratory Fees		5,600	
Transportation Costs(Local)		9,000	
Disposal Costs (750 Tons)		43,200	
TOTAL		$74,975	

OPTION II: OFF-SITE RECYCLING

	CAPITAL COSTS ($)	INITIAL OUTLAY ($)	OPERATING $/YEAR
Soil Excavation and Loading		4,225	
Claen Import Fill		8,350	
Clean Fill Import		4,600	
Laboratory Fees		5,600	
Transportation Costs (Local)		9,000	
Disposal Costs (750 Tons)		43,200	
TOTAL		**$74,975**	

PHASE II: POSSIBLE GROUND WATER REMEDIATION OPTIONS

OPTION I: ACTIVATED CARBON TREATMENT WITH SEWER DISPOSAL

	CAPITAL COSTS ($)	INITIAL OUTLAY ($)	OPERATING $/YEAR
Air Permits		1,500	
Carbon		3,500	9,950
Disposal Costs*			10,200
Estimated Capital Costs for Pumping	15,650		
Estimated Site Preparation		18,600	
Estimated Annual Operating Costs			5,750
Consultant Fees			43,000
Laboratory Fees			20,000
Subtotal	**15,650**	**23,600**	**88,895**
Total			**$128,145**

OPTION II: AIR STRIPPING WITH DISCHARGE THROUGH ACTIVATED CARBON TREATMENT AND SEWER DISPOSAL

	CAPITAL COSTS ($)	INITIAL OUTLAY ($)	OPERATING $/YEAR
Stripping Tower	6,400		
Air Permits		1,500	
Carbon		3,500	9,945
Disposal Costs*			10,200
Estimated Capital Costs for Pumping	15,650		
Estimated Site Preparation		18,600	
Estimated Annual Operating Costs			5,750
Consultant Fees			43,000
Laboratory Fees			20,000
Subtotal	**22,050**	**23,600**	**88,895**
Total			**134,545**

RECOMMENDATIONS

EEGE recommends that DTI proceed with the remediation of the SITE by implementation of Option I for the both the soil and ground water contamination.

Should you require any further assistance, please call me at (310) 529-2511.

Sincerely,

Excel Environmental and General Engineering

Klaus P. Wojak, R.E.H.S./R.E.A.
KPW/tw
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COMPARISON CHART 1: GROUND WATER REMEDIATION OPTIONS

	Carbon Treatment with Storm Drain Discharge	Carbon Treatment with Sewer Discharge	UV treatment with Storm Drain Discharge	Air Stripping with Sewer Discharge	Air Stripping with Storm Drain Discharge	Air Stripping with Carbon and Sewer Discharge	Air Stripping with Carbon and Storm Drain Discharge
Permitting	HIGH	HIGH	HIGH	LOW	LOW	HIGH	HIGH
Approval	HIGH	HIGH	HIGH	LOW	LOW	HIGH	HIGH
Initial Costs	MODERATE	MODERATE	HIGH	HIGH	HIGH	HIGH	HIGH
Recurring Costs	MODERATE	MODERATE	MODERATE	MODERATE	MODERATE	HIGH	HIGH
Laboratory Costs	MODERATE	MODERATE	MODERATE	MODERATE	MODERATE	MODERATE	MODERATE
Disposal Costs	MODERATE	MODERATE	LOW	LOW	LOW	MODERATE	MODERATE
Sampling and Reporting Costs	LOW	LOW	LOW	LOW	LOW	LOW	LOW
Annual Costs	MODERATE	MODERATE	LOW	LOW	LOW	MODERATE	MODERATE
Feasibility of Method on this Project	LOW	HIGH	LOW	LOW	LOW	HIGH	LOW

COMPARISON CHART 2: SOIL REMEDIATION OPTIONS

	Excavation and Class I Disposal	Excavation and Off-Site Incineration	Excavation and On-Site Incineration	Excavation and On-Site Chemical Fixation	Vapor Extraction	Excavation and Aeration	Excavation and Off-Site Recycling
Soil Type "Clay"	HIGH	MODERATE	LOW	LOW	LOW	MODERATE	HIGH
Permitting	HIGH	HIGH	LOW	LOW	LOW	LOW	HIGH
Approval	HIGH	HIGH	LOW	LOW	LOW	LOW	HIGH
Initial Costs	LOW	LOW	HIGH	HIGH	HIGH	HIGH	HIGH
Recurring Costs	COULD BE HIGH	LOW	LOW	COULD BE HIGH	LOW	LOW	LOW
Laboratory Costs	MODERATE	MODERATE	MODERATE	HIGH	HIGH	HIGH	LOW
Disposal Costs	HIGH	MODERATE	LOW	LOW	MODERATE	LOW	LOW
Sampling and Reporting Costs	LOW	LOW	LOW	LOW	LOW	LOW	LOW
Annual Costs	NOT APPLICABLE	NOT APPLICABLE	NOT APPLICABLE	LOW	LOW	NOT APPLICABLE	NOT APPLICABLE
Feasibility of Method on this Project	LOW	HIGH	LOW	LOW	LOW	LOW	HIGH

PAYMENT SCHEDULE

Excel Environmental and General Engineering (EEGE) will require a retainer of twenty percent (20%) of the contract price at the time of acceptance of this proposal, and prior to EEGE beginning work on the project. The remaining eighty percent of the contract will be billed upon completion of each phase or on a monthly bases. Upon the completion the remaining amount of the contract price including any additional costs will be due prior to submittal of the Final Closure Report.

ACCEPTANCE

The undersigned herewith accepts the terms and conditions of EEGE's proposal dated **September 16, 1993.** The proposal refers to the job known as **19984 Meekland Avenue, Hayward, California.** The contract price for the project will be based on the options chosen by DTI.

The undersigned, by having affixed their signature to this acceptance is stating that they are authorized by **Durham Transportation, Inc.** to enter into this contract with EEGE. The undersigned herewith gives EEGE the authorization to begin work on this project.

Contractors are required by law to be licensed and regulated by the Contractors' State License Board. Any questions concerning a contractor may be referred to the Registrar, Contractors State License Board, P.O. Box 26000. Sacramento,

Signed_____

Title_____

Date_____