LAW

ENGINEERING AND ENVIRONMENTAL SERVICES

PROPOSAL FOR ADDITIONAL ENVIRONMENTAL SERVICES

HILLIARD CAMP
708 EASTWOOD ROAD
HILLIARD, FLORIDA

LAW PROPOSAL NO. 93-3918E

LAW
ENGINEERING AND ENVIRONMENTAL SERVICES

December 28, 1993

Board of County Commissioners
c/o T. J. Greeson
Ex-Officio Clerk
Nassau County Courthouse
416 Centre Street, Room 9
Fernandina Beach, Florida 32034

Subject: **Proposal for Additional Environmental Services**
Hilliard Camp
708 Eastwood Road
Hilliard, Florida
FDEP Facility No. 458521128
LAW Proposal No. 93-3918E

Dear Gentlemen:

Law Engineering, Inc. (LAW) is pleased to submit this proposal to conduct Additional Environmental Services for the subject site located at 708 Eastwood Road in Hilliard, Florida. This proposal was requested by Mr. William P. Lecher, P.E. on November 18, 1993 and includes our understanding of the project information and requirements as well as our proposed scope and schedule of activities, our estimated fee for performing these services and our Fee Schedule.

PROJECT INFORMATION

LAW conducted the Contamination Assessments for the Hilliard Camp and prepared a Contamination Assessment Reports (CAR) in September 1992 under LAW Project No. 444-06710.01. LAW later prepared a CAR Addendum and Initial Remedial Action (IRA) for the Hilliard Camp as in documented reports in August 1993 under LAW Project Nos. 444-06710.03 and .05

After review of the CAR Addendums for the Hilliard Camp the Florida Department of Environmental Protection (FDEP) requested additional environmental services be conducted at this camp in their letter dated September 24, 1993. The requested services in the letter were slightly modified during the conference call involving Mr. Tom Stodd, FDEP; Mr. Bill Lecher, Nassau County Engineer and Mr. Srinivas Kuchibotla, Law Engineering, Inc. on November 18, 1993. The attached scope of services for the camp reflect these modifications. As requested by Mr. Lecher the additional environmental services for the camp shall be presented as an extension to the existing contract with the Nassau County Board of Commissioners. The balance of the proposal contains our scope of services and a fee estimate.

SCOPE OF SERVICES

The purpose of this scope is to conduct the additional environmental services requested by the FDEP in their letter dated September 24, 1993 as modified by the November 18, 1993 conference call.

LAW ENGINEERING, INC.
3901 CARMICHAEL AVENUE • P. O. BOX 5728
JACKSONVILLE, FLORIDA 32207
(904) 396-5173 • FAX (904) 396-5703
ONE OF THE LAW COMPANIES

Task 1: Soil Boring and Permeability Test

One additional soil test boring will be performed near MW-7H to determine if the clay layer exists at this location. Soil boring B-2 performed during the CAR Addendum indicated that the a very soft clay layer exists from 21.5 feet to 27 feet and hard clay exists from 27 feet to 31.5 feet. If similar soil strata is found in the soil boring to be performed near well MW-7H then one undisturbed sample each will be collected from the soft and hard clay layers using a Shelby tube and soil coring barrel, respectively and permeability tests shall be performed on these samples. If a homogeneous clay layer is found in the soil boring to be performed near well MW-7H then only one undisturbed sample shall be collected and a permeability test will be conducted on this sample. Fee estimates include costs for soil boring to a depth of 35 feet, two permeability tests and collection of undisturbed samples using drilling equipment.

If the permeability tests determine the clay permeability is greater than 1×10^{-7} cm/sec than deep wells shall be installed as requested by the FDEP. Details on the deep wells are discussed in Task 2. If the permeability is determined to be less than 1×10^{-7} cm/sec, no deep wells shall be installed.

Task 2: Monitoring Well Installation

One shallow permanent well will be installed about 50 feet south-southwest of MW-3H and one shallow permanent well will be installed about 50 feet north of MW-2H. Two of the five wells, MW-7H and MW-8H destroyed during the IRA activities at the camp shall be reinstalled. The wells MW-7H and MW-8H are also shallow permanent wells and for the purposes of the fee estimate the depth of the shallow wells is approximated at 15 feet below ground surface. If permeability tests to be conducted in Task 1 determine the clay permeability is greater than 1×10^{-7} cm/sec than two Type III deep wells will be installed near wells MW-7H and MW-5H. For the purposes of the fee estimate the depth of the deep wells is approximated at 45 feet below ground surface and the 6" outer casing with grout for Type III deep wells is approximated at 20 feet below ground surface.

The wells will be constructed of 2-inch I.D., Schedule 40 PVC. The lower ten-foot long screened section of the well will have a 0.010-inch wide slotted openings. These wells will be installed by mud rotary drilling. A 20/30 gradation of silica sand will be used as a filter pack and this will be filled between the outside of the well screen and the inside of the 6-inch diameter borehole annulus. Approximately one foot of bentonite clay pellets will be added followed by cement-grout to the surface. Protective flush-mount metal covers and keyed locks will be provided for the wells. The deep wells shall be Type III wells with a outer casing at approximately 20 feet below ground surface (above the clay layer) to prevent contamination migration along the borehole.

Drilling equipment in contact with the soil and groundwater will be steam-cleaned prior to the commencement of drilling and construction of each monitoring well. Upon completion of the installation, the wells will be developed by surface pumping until the discharge water becomes relatively clear. Since the surface material is soil, the drill cuttings and development water from the wells will be placed beside the corresponding wells.

Following installation of the monitoring wells and stabilization of the groundwater, the actual elevation of each well will be established and the corresponding groundwater elevation will be measured. The groundwater elevation data will be use to compile a potentiometric contour map of the area and help establish the groundwater gradient.

Task 3: Groundwater Sampling and Laboratory Analysis

As mentioned in Comment 5 in the letter from FDEP, following installation and development of the groundwater monitoring wells, twelve groundwater samples will be collected for analyses by EPA Methods 602 and 610 from all the wells (including the wells to be installed in Task 2). The fee estimate is based on a standard three week turnaround.

Groundwater field sampling activities will be performed in general accordance with the provisions of the United States Environmental Protection Agency (USEPA) - Region IV Engineering Support Branch Standard Operating Procedures and Quality Assurance Manual, the guidelines set forth in the Florida Administrative Code (FAC) Chapter 17-160 - Quality Assurance Rule and the Health and Safety Plan in the CAR. Our approved Comprehensive Quality Assurance Plan is No. 910129G. Groundwater samples will be obtained using disposable teflon bailers. Prior to obtaining the groundwater samples for laboratory analysis, three to five well volumes of groundwater will be removed from the well. Groundwater samples will be placed in appropriate containers supplied by the testing laboratory. The samples will then be packed in ice and shipped by over-night courier to Law Environmental National Laboratories in Pensacola, Florida.

Task 4: Assessment Report

Throughout the project, Law Engineering will act as a technical resource and to the extent requested and assist with regulatory compliance. The fee presented allows for two meetings and phone conversations (approximately five hours of professional time) with the regulatory agencies or Nassau County, but no additional reporting.

The data and conclusions of the aforementioned tasks will be included in a Additional Environmental Services Report for the Hilliard Camp.

ESTIMATED FEES

Task 1: Soil Boring and Permeability Test	$ 2130.00
Task 2: Monitoring Well Installation	$ 8070.00
Task 3: Groundwater Sampling and Analysis	$ 3700.00
Task 6: Project Management, Consultation and Report Preparation	$ 2670.00
TOTAL ESTIMATED FEES	**$16,570.00**

The actual fee for our services will be determined by the services expended in general accordance with the attached Fee Schedule. As noted earlier, we will monitor the study so as to reduce the scope from that noted above where warranted. To keep you informed of services performed, an invoice for completed services will be issued every four weeks. Invoices are due upon receipt. We will not exceed an amount of **$ 16,570.00** for these additional services without written authorization from your office.

SCHEDULE

Based on our present schedule and laboratory turnaround time requirements a written report of our findings will be submitted in approximately eight weeks of the date of authorization. If this schedule does not meet your project deadlines, please notify our office so that a mutually agreeable schedule can be arranged to meet your requirements.

AUTHORIZATION

We assume these additional environmental services will be authorized by an extension to the existing contract with the Nassau County Board of Commissioners. Therefore, we have included below notation similar to that added in the past. Please provide us one copy of the attested proposal prior to proceeding with the above services.

If you have any further questions on the matter, please contact us at your convenience.

Sincerely,

LAW ENGINEERING, INC.

Srinivas Kuchibotla, E.I.
Project Environmental Engineer

James A. Horton, P.E.
Principal Engineer
Branch Manager

SK/JAH:ph

FOR NASSAU COUNTY USE ONLY:

Approved this 10th day of January, 1994 by the Board of County Commissioners, Nassau County, Florida.

ATTEST:

T. J. Greeson, Ex-Officio Clerk

BOARD OF COUNTY COMMISSIONERS

John A. Crawford, Chairman

Approved as to form:

Michael S. Mullin
County Attorney

LAW ENGINEERING, INC.

Hilliard Camp
708 Eastwood Road
Hilliard, Florida

LAW Proposal No. 93-3918E

ENGINEERING SERVICES

Environmental Technician, per hour	$	45.00
Staff Environmental Scientist/Geologist/Engineer, per hour	$	75.00
Project Environmental Scientist/Geologist/Engineer, per hour	$	80.00
Senior Environmental Scientist/Geologist/Engineer, per hour	$	85.00
Principal Environmental Scientist/Geologist/Engineer, per hour	$	95.00
Chief Engineer, P.E., per hour	$	100.00
Corporate Environmental Consultant, per hour	$	110.00
Clerical Support, per hour	$	30.00
Draftsman, per hour	$	30.00
CADD Operator, per hour	$	40.00
Mileage, per mile	$	0.40
Reimbursable Expenses, Cost divided by 0.8		
Subcontract Services, Cost divided by 0.8		

FIELD SERVICES*

Organic Vapor Analyzer (OVA), rental per day	$	150.00
Ph and Conductivity Meter, rental per day	$	10.00
Metal Tape Depth Gage, rental per day	$	10.00
Hand Auger, rental per day	$	10.00
Mileage, per mile	$	0.40
Reimbursable Expenses, Cost divided by 0.8		
Subcontract Services, Cost divided by 0.8		

*Please add the appropriate engineering rates for execution of field services.

FEE SCHEDULE
PAGE - TWO -

DRILLING SERVICES

Mobilization and Transportation of Drilling Equipment, lump sum	$	350.00
Drill and Install Monitor Wells (10-foot screen)		
2-inch PVC, per foot	$	22.00
4-inch PVC, per foot	$	26.00
Split-Spoon Samples, in conjunction with well installation, each	$	22.00
Decontamination of Drilling Equipment, per hour	$	140.00
Well Cover		
Above Ground, each	$	175.00
Flush Mount, each	$	225.00
Well Development, per hour	$	135.00
55-Gallon Drums, each	$	65.00
Time Rate, per hour	$	130.00
Stand-by, per hour	$	100.00
Grouting of Borings or Wells, per foot	$	5.00
Piezometer Installation, per foot	$	12.00