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21 APRIL 92

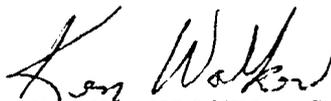
MEMORANDUM:

From: Code 1822 (KHW)
To: Code 09A212 (MRL)
Via: Code 182 (PAR)
Code 1822 (NMJ)
Code 183 (SDC)

Subj: CD LANDFILL; NORFOLK NAVAL BASE; NORFOLK, VA

Encl: (1) Scope of Work

1. Enclosure (1) is provided for execution of Contract 91-7661. Request that this delivery order be awarded no later than 22 JUNE 1992.
2. The Government cost estimate will be forwarded to your office by 1 May 1992.
3. If you have any questions, point of contact is Mr. Ken Walker at 5-4385.



K. H. WALKER, P. G.
Remedial Project Manager
Installation Restoration Section
Environmental Programs Branch
Environmental Quality Division

Copy to:
09A2112 (w/o encl)
1822 (KHW w/encl)
183 (SMG w/o encl)
18S (w/o encl)
KHWDoc:MEMO

RFP APPENDIX A

(for NON-C.L.E.A.N Contracts)

1. A&E Contract No.: N62470-91-7661

Project Title/Location: CD LANDFILL/NORFOLK NAVAL BASE

Attachment:

(a) Scope of Work dtd APRIL 20, 1992

2. LANTNAVFACENCOM Project Manager (PM)/Telephone:

MARC LAMBERT, P. E. / (804) 444-9704

LANTNAVFACENCOM Engineering-in-Charge (EIC)/Telephone:

KENNETH H. WALKER, P.G. / (804) 445-4385

3. Schedules: (To be filled-in at conclusion of negotiations on A&E contracts)

a. Fees and Options:

	<u>Award</u>	<u>Options</u>
Engineering Services	_____	
Travel and Subsistence	_____	
BASIC CONTRACT/CHANGE ORDER AMOUNT:	_____	
TOTAL CONTRACT/CHANGE ORDER VALUE:	_____	_____

Unit Price Meeting

4. Project Milestones:

<u>TASK</u>	<u>DAY</u>
Contract Award	0
Submit Draft Work Plans	30
Government Comments	60
Submit Final Work Plans	90
Begin Field Work	100

Submit Draft Report	250
Government Comments on Draft Report	260
Contractors Draft Final Report	290
T R C Meeting	240
Receive comments from regulators	265
Incorporate regulator comments and submit final RI/FS	290
Issue public notice on proposed RAP	330
Submit responsiveness summary	375
Submit Final Report of Draft RAP&ROD	410

5. Scope Description: See attachment (a).

6. Project Submittal Distribution: (Copy of forwarding letter of all submittals to: (LANTNAVFACENGCOM Code 09A2 project manager)

LANTNAVFACENGCOM Activity Martin

Marietta

Draft Plans	3	5
Final Plans	3	5
Draft Report	3	5
Draft Final Report	3	2
Final Reports	3	15

MAILING ADDRESSES: DIRECT DISTRIBUTION TO EACH ADDRESSEE BY A&E IS REQUIRED BY EXPRESS MAIL COURIER

LANTNAVFACENGCOM

Commander
Atlantic Division
Naval Facilities Engineering Command
Attn: Code 18 (2 copies)
Code 09A212, Mr. M. R. Lambert, P.E. (copy of forwarding letter)
Norfolk, Virginia 23511-6287

Activity Address

REMEDIAL INVESTIGATION/ FEASIBILITY STUDY
CD LANDFILL, NORFOLK NAVAL BASE, NORFOLK VA.

SCOPE OF WORK

I. INTRODUCTION

Previous investigations of hazardous waste sites at Norfolk Naval Base have been conducted under an Initial Assessment Study, Site Suitability Assessment Study and an Interim Report of the Installation Restoration (IR) Program. As a result of the Superfund Amendments and Reauthorization Act of October 1988 (SARA), the Navy has changed its program to follow rules, regulations, guidelines, and criteria established by the Environmental Protection Agency (EPA) for the Superfund Program. Included will be a Technical Review Committee (TRC) meeting composed of representatives from EPA, state and local governments, and the local community.

This effort, although a continuation of the Interim Report Study marks our conversion to the Remedial Investigation/Feasibility Study (RI/FS) format. The objectives in this effort are to conduct sampling and analysis, and to complete all data gaps in order to complete the RI/FS stage for the unpermitted portion of the CD Landfill.

I. OBJECTIVES

Efforts may include soil borings, sediment sampling, ground and surface water sampling, soil gas surveys, domestic and potable water well sampling, Bio Accumulation Studies and a wetlands delineation survey. The baseline environmental risk assessment and RI/FS should build on the data collected in the Initial Assessment Study (IAS), Confirmation Report and information provided from previous investigations during the pre-RI/FS stage. The assessment shall determine if the site requires a remedial action (RA). The contractor will be required to provide a responsiveness summary on public comments received from notices to the community via the media. The work will include identification and quantification of pollutant concentrations, and extent of contamination. The contractor shall provide all personnel, material and equipment necessary to complete the work. In performing the RI/FS, the contractor shall integrate the following within this scope of work:

Preparation of a Work Plan, Sampling Plan, Safety Plan and assisting in the development of a community relations plan is to be provided by the contractor. A Work Plan, Safety Plan, Sampling Plan and community relations plan are required by RI/FS guidance documents. The plans document the procedures to be used, the resources needed, and the rationale for the tasks to be undertaken. These plans will be required for the RI/FS efforts at this site.

This CTO will concentrate on the Cd Landfill and will specifically be issued for preparing the evaluation of all data collected from previous and on going work at this site.

1. Work Plan.

The Work Plan shall present a comprehensive approach for conducting the RI/FS for this site in the IR Program. This plan should include the following sections: Introduction, Site Background and Physical Setting, Initial Evaluation, Work Plan Rationale, and RI/FS Tasks. A general description of each section is provided in EPA's "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA" (March 1988 Draft or most recent version). The RI/FS Tasks section should discuss each of the tasks outlined in EPA's RI/FS Guidelines, if relevant to this site. The Contractor is to prepare a conceptual model (including fate and transport of contaminants) to be included in the Work Plan. Do not include cost information in the Work Plan.

Three copies of the draft Work Plan shall be provided to the activity and three copies to the EIC for approval within 30 days after the contract is awarded. Fifteen copies of the final Work Plan shall be submitted to the activity and three copies to the EIC.

2. Sampling Plan

The Sampling Plan consists of a field Sampling Plan and a Quality Assurance Project Plan. The latter plan includes the laboratory QA/QC Plan mandated by the Navy QA Program and a description of field QA/QC procedures. Laboratory QA/QC requirements for this project are summarized in Section III.

The field Sampling Plan provides guidance for all field work in defining in detail the sampling and data gathering methods to be used on the project. The plan should contain the following elements: Site Background, Sampling Objectives, Sample Locations and Frequency, Sample Designation, Sampling Equipment and Procedures, and Sample Handling and Analysis. A schedule for sample collection and analysis should be included. It is anticipated that the first three elements can be produced directly from the Work Plan; the Sample Designation, Equipment and Procedures, and Handling and Analysis Sections should be included in the sampling plan. EPA's RI/FS guidelines and the Navy Guide (see Section III) may be used as references.

Three copies of the draft Sample Plan shall be provided to the EIC, three copies to the activity, and one copy to NEESA, attention Tom Fluor to fulfill the QA/QC requirements, for approval, within 30 days after the delivery order is awarded. Twelve copies of the final Sample Plan for each site should be submitted to the activity and three copies to the EIC.

3. Health and Safety Plan

A site health and safety plan shall be prepared by the contractor. Three draft copies shall be submitted to the EIC and one draft copy submitted to the activity within thirty (30) calendar days after contract award. The plan shall address activity-specific precautions, and must be reviewed and approved by both the EIC and the activity. This plan governs all aspects of the contract both in the field and in the contractor laboratory. The on-site portion of the study shall not begin until this plan has been approved by the Navy. The contractor is responsible for all safety considerations and having contractor, subcontractor, etc., personnel adequately trained and protected at all times. Four copies of the final safety plan should be forwarded to the activity and one copy forwarded to the EIC.

III. QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) PROGRAM

Before field sampling begins, the contractor's laboratory must fulfill the requirements of the Navy's Quality Assurance Programs (QAP). These requirements are outlined in "Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation Restoration Program" and include approval of a laboratory Work Plan, proficiency testing, submitting to a laboratory inspection, approval of a laboratory QA/QC Plan, and monthly progress reports. At a minimum, this effort will require submission of a Work Plan and monthly progress reports.

The EIC should receive a copy of all correspondence. Initiation of QAP requirements must be within 10 days of contract award.

IV. SAMPLING EFFORTS

During the investigation, sampling will be kept to a minimum consistent with the data needed to confirm/deny contamination. Specifics concerning sampling for the sites to be investigated are provided in Section V. Sampling procedures, holding times, and preservation methods are to conform to the QAP requirements and federal regulatory standards. The contractor will provide 10 (ten) days advance notice to the EIC prior to sampling of any medium. The contractor is responsible for the verification of field conditions (i.e., check for utilities, etc.) in coordination with the EIC and the activities prior to soil boring, drilling, aquatic sampling or other potentially disruptive action. The contractor shall conduct sampling at sites in accordance with an approved sampling strategy. A summary of the recommended sampling will be provided to the TRC members and be consistent with a strategy which will lead to a decision analysis from alternatives of a contractor proposed feasibility study. Once the sampling is complete, the efforts for conducting the work for preparing the report for the RI/RA/FS/RAP/ROD shall be included in this scope of work.

V. SPECIFIC REQUIREMENTS

This Scope of Work includes the CD Landfill (unpermitted portion) located at the naval air station , Norfolk, Va. The efforts within this scope of work shall include the risk assessment, and all report preparation required for producing the RI/FS, RAP and ROD.

The assessment will determine the presence and extent of specific toxic hazardous contaminants. Efforts may include, but are not limited to, the study of local geology, hydrology, soils, surface water, sediments, air quality aquatic life and previous operations. Analytical routines will include qualitative and quantitative analysis as may be appropriate to achieve the objectives of the RI/FS, RAP and ROD.

The RI/FS Report shall include an extensive baseline risk assessment and a complete explanation of this evaluation effort. The contractor shall make an evaluation of the alternatives for remedial action and determine the most cost effective measures for design and construction of the remedy. A RAP & ROD shall be developed and submitted as part of this package. Several briefings may be required for this project. The contractor shall assume that two (2) TRC meetings and three (3) advisory panel meetings will be required as part of this scope of Work.

The specific tasks for conducting the decision analysis through an RI/FS for this scope of work will be as follows:

Task 1 - Prepare Work Plan, Sampling Plan, Health and Safety Plan, and a Lab QA Plan. These four plans will be prepared to address the work outlined in this scope to include a plan on treatment and disposal of drill cuttings and well developed water.

Task 2 - Geophysical Survey

A magnetic and EM survey shall be conducted to delineate the landfills. The survey area shall include an area of approximately 18 acres . Measurements will be spaced at 25 foot with readings collected at 10-foot. The results of this survey will determine the locations of the ground-water wells.

Task 2 - Drilling and Monitoring Well Installation. A series of five ground-water monitoring wells will be installed to determine if groundwater contamination exists. The five wells will be installed surrounding of the landfill and drilled to a depth delineating the bottom of the surficial aquifer.

Task 2B - Include slug test unit price and a unit price per foot of drilling and casing off for five new wells.

Task 3 - Surveying. The five monitoring wells from the Interim RI and the new wells be surveyed for vertical control and horizontal control.

Task 4 - Groundwater Sampling. Three different groundwater sampling events will be conducted. The first event is for groundwater samples to be collected from each of the five new 65-foot deep monitoring wells. These samples will be collected after development of each well. The samples will be analyzed for the Semi VOCs, asbestos, radiological, total metals, pesticides/herbicides and the ground water quality indicator parameters (hardness, sodium, chloride, iron lead, ph, toc, tox, and specific conductance). These results will be used to help determine if the ground-water has been contaminated.

The second event will include collecting and analyzing a complete round of groundwater samples from the shallow and deep wells. A total of 5 shallow wells and 5 deep wells will be sampled. Chemical analysis will be the same as in the first round.

The third event of ground-water sampling to be included in this scope of work is for collecting and analyzing a round of groundwater samples three months after the second event from all ten monitoring wells. Chemical analysis will be the same as in the first event.

Task 5 - Water Levels. To be included in this scope of work are two events of water level measurements that shall be made in all of the monitoring wells.

Task 6 - Sediment Sampling. Sediment samples will be collected from 14 locations in the area were detected. Samples will be collected from 0 to 0.5 foot depth. At six locations, samples will also be collected from 2 to 2.5-foot depth. Samples will be analyzed for the metals; As, Be, Cd, Cr, Pb, Hg, Se, Ag, V, Zn.

Task 7- Surface water samples will be collected from eight locations. They will be analyzed for dissolved metals, chloride, sulfate, alkalinity and VOCs.

Task 8- Data Validation. Validation of the data will be conducted as part of this scope of work and prepared in accordance with the NEESA Laboratory Guidance Document. All data packages will have the general validation with 10% of the packages getting detailed validation.

Task 9 - RI/RA/FS Reports. A remedial investigation report, risk assessment report, and a feasibility study report will be produced as part of this scope of work following the EPA CERCLA guidance. It shall include a Geotechnical analysis section for evaluating transport of contaminants and permeability of existing cover.

Task 10 - Meetings and PM. Meetings will be in the scope, it is assumed that one TRC meeting, one community meeting, and two other meetings will be needed.

TASK 11 - A magnetometer survey will be performed at the site to determine if any drums or buried metal may be present. Soil samples will be screened using an Hnu. Ten soil samples will be sent to the laboratory for chemical analysis of the TCL and TAL list.

VI. ANALYSIS - As outlined in Section V.

VII. EVALUATION

The results of the sampling and analysis shall be evaluated for environmental risk and potential health risks to employees during the remedial actions. The contractor shall evaluate all data generated and discuss qualitatively whether contamination has the potential to or is presently affecting the environment or human health. The contractor shall present the findings in a draft and final report. The report shall include a description of all sampling and chemical analytical methods used; a presentation and evaluation of the analytical data; site maps with sampling locations; boring logs; table of potential Applicable, Relevant, and Appropriate Requirements published by the EPA and the State of Virginia (ARARs); and, as part of the risk assessment for the RI/FS, provide contaminant evaluation, develop exposure scenarios, conduct a toxicity assessment, and produce and compile risk characterization. A comparison of analytical data and potential ARARs should be in one table. The contractor will be required to establish substitute requirements for submission to regulatory agencies on the discharge of water generated at the site. This will include draft letters of correspondence for the Navy's approval. The substitute requirements for the ARARs will require calculations for meeting point source discharge NPDES permits and Water Quality Control Board requirements.

VIII. PREPARATION OF THE RI/FS REPORT

Within 30 days of receipt of the Government's comments on the draft, the contractor shall generate a draft final report. This copy will be sent to the regulators. The comments from the regulators will be incorporated and a final document will be made by the contractor. The original of the document shall be typed on white bond paper and shall be unbound. Text shall be single-spaced with double spaces between paragraphs. Any graphs, charts or illustrations shall be submitted as unscreened glossy, single-weight prints (8-1/2" x 11" preferred) on white stock. The original shall be prepared in the proper format with sufficient clarity and definition to allow reproduction by any contact copying process. All site plans shall be, when feasible, reduced to 8-1/2" x 11" size. A pocket holder with a full scale drawing, (scale of

not more than 30 feet to the inch) shall be included. Copies should be duplex-printed to reduce bulk.

IX. RAP/ROD Reporting

The report shall include a site baseline risk assessment, toxicity assessment and all pertinent data to complete CERCLA requirements. Recommendations shall be included in the report as to the appropriate health and safety precautions to be taken during remedial action. The originals shall be unbound to facilitate reproduction. Text shall be single-spaced with double-spacing between paragraphs; copies shall be duplex-printed to reduce bulk.

X. CONTRACTOR'S RESPONSIBILITY

The contractor shall be responsible for providing all personnel, material and equipment necessary to complete the study. Recognizing that the safe containment or mitigation of hazardous constituents that may be contained in soil, groundwater and aquatic species is a highly specialized area, the persons in responsible charge of the study shall be experts in their area(s) of involvement. The contractor shall be responsible for the development of and adherence to an appropriate safety/contingency plan to protect both the contractor and Government personnel and Government property. All requests for information concerning this study from the media and the general public shall be directed to the Naval Base Norfolk Public Affairs Office. The contractor shall not at any time discuss any results of this study with regulatory agencies, the press, and the general public without prior approval of the EIC.

XI. COMPLETION DATES

A. GENERAL

The contractor shall complete the work in time to meet the completion dates indicated hereinafter or as otherwise agreed to by the Government in the approved Work Plan for the site work. In the event of Government caused delays, the contract completion dates will be adjusted appropriately.

B. PROJECTED COMPLETION DATES

As required, the following milestones are projected:

Milestone	Day
(see appendix A)	