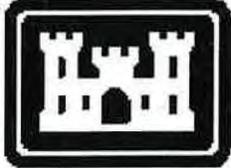


received
5 July 2000



U.S Army Corps of Engineers

New England District

**REMEDY SELECTION REPORT
ON-SITE VERSUS OFF-SITE DISPOSAL OPTIONS**

**LANDFILL REMEDIATION PROJECT
DEVENS RESERVE TRAINING AREA**

DEVENS, MASSACHUSETTS

Prepared Under:

CONTRACT NO. DACW33-97-D-0002
DELIVERY ORDER NO. 0010

MARCH 2000

 Stone & Webster 

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ON-SITE VERSUS OFF-SITE DISPOSAL OPTIONS**

LANDFILL REMEDIATION PROJECT

**DEVENS RESERVE FORCES TRAINING AREA
DEVENS, MASSACHUSETTS**

Prepared for:

Department of the Army
New England District, Corps of Engineers
Concord, Massachusetts

Prepared by:

Stone & Webster
Boston, Massachusetts

Stone & Webster Project No. 06851.10

Contract Number DACW33-97-D-0002
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March 2000

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LIST OF ABBREVIATIONS AND ACRONYMS

CY	cubic yards
DFAR	Defense FAR Supplement
FAR	Federal Acquisition Regulations
HDPE	High Density Polyethylene
NAE	New England District
OOSB	On/Off-Site Selection Board
OOSP	On/Off-Site Selection Plan
PLA	Project Labor Agreement
RAC	Remedial Action Contract
RFP	Request for Proposal
ROD	Record Of Decision
SB	Small Business
SDB	Small Disadvantaged Business
USACE-NAE	United States Army Corps of Engineers - New England District
WOSB	Woman Owned Small Business

1.0 EXECUTIVE SUMMARY

Removal and restoration activities at the Devens Reserve Forces Training Area will consist of the removal of debris from six sites, comprising a total of approximately 300,000 cubic yards (cy) of debris including debris management and restoration of the six sites. All waste generated from the six debris sites will be disposed in accordance with applicable local, state, and federal regulations. As dictated in the Final Record of Decision, Landfill Remediation, Study Areas 6, 12, and 13 and Areas of Contamination (AOC) 9, 11, 40, and 41, U.S. Army forces Training Area, Devens Massachusetts (ROD) for this project, the removed debris will either be disposed of on-site in a lined solid waste landfill meeting Commonwealth of Massachusetts design criteria or at an off-site facility providing a similar level of protection. Selection of the preferred option will be based on four evaluation criteria as provided in the ROD. This report documents the decision of a United States Army Corps of Engineers – New England District (USACE-NAE) On/Off-Site Selection Board (OOSSB) to select which option, on-site or off-site, provides “Best Value” to the Government in accordance with the ROD.

As specified in the ROD, the evaluation criteria for determining “Best Value” to the Government for on-site or off-site disposal of wastes are:

- Level 1 – Protection of Human Health and Environment
- Level 2 – Contractor’s Past Performance
- Level 3 – Ability to Satisfy Health and Safety Concerns
- Level 4 – Cost

Consistent with the ROD proposals were solicited for both the on-site and off-site disposal options. The proposals were compared using the evaluation criteria in a “sieve” approach. Proposals had to satisfy the first level before being reviewed for the next level. Failure to pass an evaluation criteria level precluded the proposal from being reviewed further. The OOSSB was provided evaluation criteria and implementation guidance from the On/Off-Site Selection Plan (OOSSP) for the Devens Landfill Consolidation Project included in Appendix A. The OOSSP also identifies the OOSSB participants.

Stone & Webster was contracted to support the evaluation process by developing Requests for Proposals (RFPs) and Statements of Work (SOWs) for the on-site and off-site disposal options, contacting potential bidders and obtaining bonded fixed-price proposals for the options, summarizing information for the OOSSB evaluation, and providing administrative support to the OOSSB in its evaluation/recommendation of the disposal options. In preparation for and support of this effort, Stone & Webster developed an Acquisition Plan, which is included in Appendix B. In total, three RFPs were issued. One RFP was issued for transport and off-site disposal (or reuse as the vendor saw fit) of 300,000 cy of debris; and two RFPs were issued for the on-site option, one for construction of the on-site landfill, and the other for operation and closure of the on-site landfill.

The evaluations for off-site and on-site waste management were based on the proposals received. The proposal process schedule operated as follows:

- October 27th, 1999 - Public Notice of Proposal Opportunity
- November 3rd, 1999- Pre-Proposal Forum for Off-site Disposal Option
- December 6th, 1999- Proposals for Off-site and On-site Alternatives Due
- December 8th, 1999- On-site Alternative Proposals deadline extension due date

The quantity of RFPs issued and proposals received for this project are summarized below:

Request for Proposal	Quantity Issued	Quantity Received
Off-site Transportation and Disposal	59	5
On-site Landfill Construction	6	4
On-site Landfill Operation and Closure	6	4

The evaluation process was initiated utilizing the above evaluation criteria once the proposals were received. Stone & Webster contacted the companies who submitted proposals to seek clarification as part of the examination of the proposals submitted. Copies of correspondence and/or meeting notes are included in the Appendices. Refer to Appendix C, Appendix D, and Appendix E, for information regarding RFP proposal process and proposal results.

The OOSSB met on January 11-12, 2000 to review the bids and supplemental information. From the proposals received it was concluded that there were proposals received for all options that met the four evaluation criteria. Based on the successful proposals the OOSSB determined that "Best Value" to the government would be the on-site landfill option based on the following table:

Work Options and Option Variables	On-Site Option Costs	Off-Site Option Costs
Lowest Qualified Off-site Proposal		\$26,119,300
Lowest Qualified On-site Landfill Construction Proposal	\$3,165,893	
Lowest Qualified On-site Landfill Operation and Closure Proposal	\$5,374,082	
Stone & Webster Oversight, Management and Profit	\$1,900,000	\$2,200,000
Community Concern Credit ⁽¹⁾	\$5,619,376	
TOTAL	\$16,059,351	\$28,319,300

Notes:

- (1) As specified in the ROD, the Community Concern Credit is the value of additional funds which are determined necessary to cover the costs of the value of the land, lost revenue

due to the non-productive nature of the on-site landfill to future uses at Devens, and the cost of post-closure care of the on-site landfill. This credit is added to the on-site landfill costs.

2.0 DESCRIPTION OF WORK

This section describes the remedy evaluation process and activities that led to a selection of waste management actions at the Devens Site.

The remedy evaluation process consisted of a proposal solicitation and review period. Proposals were solicited for firm prices for both the on-site and off-site disposal alternatives. Proposals were initially reviewed for compliance with the bid documents, including the estimated quantities of work to be performed. The proposal prices included full compensation for all materials, equipment, tools, labor and incidental work necessary to complete the work. Proposers were required to provide "bid bonds" as security to back up cost proposals. Any Proposer who provided a deficient proposal, was contacted and given at least one chance to comply with the required scope of work.

The RFPs covered the following elements:

- Proposal due date and identification number;
- Terms and conditions applicable to the contemplated agreement/contract, including flow-down solicitation provisions and contract clauses;
- Detailed scope of work/statement of work, which was to be developed by personnel with the appropriate technical background. The scope/statement of work was to clearly define the requirements of the work to be performed, time schedules, site conditions, and any other information that would be required to give all bidders a clear understanding of the bid requirements. These scopes would be based on the plans and specifications that had been developed by another NAE contractor;
- Terms of payment;
- Quality assurance requirements;
- Insurance requirements (minimum insurance requirements are to be driven by the Remedial Action Contract (RAC) or by the Stone & Webster's Standard Terms and Conditions, whichever is greater)
- Bonding requirements [Performance and payment bonds will be required on all contracts over \$100,000. Penal amounts will be as set forth in Federal Acquisition Regulations (FAR) 28.102-2(b)];
- Representations & certifications (The completion of this form determines socio-economic status, debarment, and other required certifications); and
- Bid evaluation criteria such as pricing, delivery schedules, socio-economic status, past performance, and others.

Also, bidders were to adhere to the requirements of the following documents to facilitate competitive and fair pricing from bidders.

- Stone & Webster Government Procurement Procedures;

- Requirements of the FARs; and
- Requirements of the Department of Defense FAR Supplement (DFARs).

All proposals were evaluated by a Stone & Webster team of engineering, construction, procurement and cost professionals. The Stone & Webster team consolidated the proposal analysis results into bid evaluation/comparison spreadsheets, which were then presented to the OOSB. A summary of all the proposals was presented to the OOSB that outlined the information provided in the proposals as it addressed the evaluation criteria and the cost data of proposal pricing.

Upon presentation of on-site and off-site proposal summaries, the OOSB utilized the four criteria outlined in Section 1.0 in their evaluation of the bids while selecting the on-site or off-site disposal alternative.

2.1 ON-SITE ALTERNATIVE DISPOSAL EVALUATION

This section describes the general activities completed and the methods utilized to evaluate the on-site alternative and respective bidders as a waste management remedy for the Six Devens sites. The On-Site Alternative is to construct and operate an on-site landfill to eliminate the potential hazards, and increased costs of off-site removal.

2.1.1 Contractor Bidding

Stone & Webster solicited firm fixed price proposals from its RAC Core Team member companies. All of the RAC Team members are Small Businesses (SBs), and some are Small Disadvantaged Businesses (SDBs). The reasoning for soliciting RAC core team members is due to the assumption that the members can meet the evaluation criteria identified in Section 1.0, and provide a fair and equitable firm-fixed price for the work.

RFPs were sent out for two separate contracts: Landfill Construction; and Landfill Operation and Closure.

Landfill Construction:

- Three proposals were received out of Six potential proposals plus one unsolicited proposal

Landfill Operation and Closure:

- Four proposals were received out of six potential proposals

2.1.2 Evaluation Process

Stone & Webster carefully reviewed all proposals for completeness and compliance with the RFPs. Proposals were reviewed for technical and delivery requirements, commercial terms, pricing, socio-economic factors, and all other requirements. Stone & Webster discussed each proposal offer with the proposer to ensure that both parties have properly represented their position. A detailed bid analysis was performed to present each bid. A comparison of pricing and other selection criteria was included. Refer to Appendix D for details.

Bidders were required to provide information and pertinent documentation on the following checklist:

- Qualifications/Experience References;
- Proposed Schedule;
- Separate Priced Proposal for Alternate Proposed Work;
- Certifications and Representations;
- Letter of Assent to the Project Labor Agreement (PLA); and
- Bid Bond.

The results to the bidder's checklist are provided in Appendix D.

In addition, bidders for the on-site landfill construction contract and the landfill operations contract were required to present their qualifications. On-site landfill construction and operation proposals were evaluated on the four evaluation criteria outlined below:

Evaluation Criteria Level 1 - Protection of Human Health and the Environment

This evaluation criterion is not applicable for the on-site landfill option. The basis for this evaluation criterion is that the ultimate off-site disposal location is required to protect the environment to the same level as the on-site landfill design option. Since the on-site option is the base case for this evaluation criteria, compliance with the RFP documents, which was a prerequisite for bid acceptance by Stone & Webster and the OOSB, assures passing this evaluation criteria level.

Evaluation Criteria Level 2 - Contractor's Past Performance

Evaluation is based on three components:

1. Experience on similar projects;
2. Financial resources; and
3. Ability to comply with applicable and regulatory requirements.

Evaluation Criteria Level 3 - Ability to Satisfy Health and Safety Concerns Identified by Residents and Public Officials

Again, this evaluation criterion is not applicable for the on-site landfill option. The primary concern of this evaluation criteria level includes local issues such as transportation of the debris from each of the six debris sites. Since all of the proposals for the on-site landfill will have to transport the waste to the same on-site landfill location, the relative impacts on the local community from each of the on-site landfill option proposals will be the same. All proposers will use the same routes and will have to handle their trucks in a similar fashion including covering the truck loads and dust suppression. Stone & Webster, as the project Construction Manager, will verify compliance from the successful bidders to minimize the impacts on the local community.

Evaluation Criteria Level 4 - Cost

Costs provided in the proposals were compared based on unit prices for specified quantities or firm fixed prices for fixed scopes of supply. The quantities are based on the estimated quantities in the USACE-NAE design plans and specifications. Refer to Appendix B for additional cost details.

Note that as part of the evaluation of the cost criterion for the on-site disposal alternative, a community concern credit of \$5,619,376 will be added to the final cost of the on-site disposal option. The value represents the cost of post-closure care and the future loss of use of property associated with the on-site disposal alternative.

2.2 OFF-SITE ALTERNATIVE DISPOSAL EVALUATION

This section describes the general activities completed and the methods utilized to evaluate the off-site alternative and respective proposals as a waste management remedy for the six Devens debris sites. The Off-Site Alternative is to manage and transport waste off-site for ultimate landfill disposal. This alternative provides the option of off-site waste removal for further land development and also introduces the option of recycling/reuse.

2.2.1 Vendor Bidding

Stone & Webster performed a market survey prior to soliciting bids to identify the capacity of local/regional Small Businesses (SBs), Small Disadvantaged Businesses (SDBs) and Women-Owned Small Businesses (WOSBs) to provide off-site waste transport/disposal services. The survey considered such factors as capacity, prior experience, competitiveness, and financial condition. The results were utilized to target subcontract goals and maximize SB, SDB and WOSB participation for the off-site disposal alternative. Bids for off-site transport/disposal were solicited from companies with a socio-economic status consistent with the target goals. In addition, a public forum was held at Devens for local/regional companies to inform them of the

potential opportunity for off-site transport and disposal subcontracting. Notice that RFPs are available was advertised in the regional newspapers as well as in the Commercial Business Daily, Massachusetts Central Register, Dodge Report, and on a local cable channel.

Off-Site Waste Transport, Management and Disposal:

- Five proposals were received out of 59 RFPs

2.2.2 Evaluation Process

Proposals were required to include information and pertinent documentation on the following checklist:

- Qualifications/Experience References;
- Proposed Schedule;
- Separate Priced Proposal for Alternate Proposed Work;
- Certifications and Representations;
- Letter Of Assent to the PLA;
- Bid Bond;
- Assurance that the receiving waste disposal facility(s) is willing and able to accept the waste material;
- Proposed Solid Waste Transportation and Management Plan;
- Notices of Non-Compliance and Notices of Violation;
- Resume of Transportation and Disposal Coordinator; and
- Small Business Documentation.

The results to the proposal checklist are provided in Appendix D.

In addition, proposers for the off-site contract were required to present their qualifications. Each proposer was required to propose a Solid Waste Transportation and Management Plan, which was evaluated on the following elements:

- Proposed Haul Routes, Methodologies, and Transportation Capacities;
- Key Elements to Transportation and Management Plan;
- Details of Transport Vehicles; and
- Hauling Rate in tons/day.

Also, each proposer was required to present their proposed disposal facility(s). Disposal facility(s) were evaluated on the following elements:

- Required licensing and permitting;
- Remaining disposal capacity at the proposed disposal facility;
- Capacity which can be handled at the disposal facility in ton/day;

- Copies of permits, permit status, and violations.

The proposed disposal facility(s) was additionally evaluated based on its design and ultimately compared to the on-site landfill design. The evaluation was based on the following elements:

- Liner Design;
- Leachate Collection Design and Treatment;
- Storm Water Handling;
- Depth to Groundwater;
- Closure Plan; and
- Post Closure Plan.

Of the five proposals received for the off-site waste transport, management and disposal, four proposed landfill disposal and one proposed a recycling/disposal alternative. Based on the four proposals that proposed landfill disposal, three designed their Solid Waste Transportation and Management Plan for rail transport, and one bidder proposed truck transport.

Waste management methodologies were evaluated on four levels of criteria. Criteria are outlined below:

Evaluation Criteria Level 1 - Protection of Human Health and Environment

Evaluation was based on the health and safety concerns with regards to the off-site landfill design and location as well as the site of the proposed off-site landfill. The off-site landfill evaluation was compared to the on-site landfill alternative.

Evaluation Criteria Level 2 - Contractors Past Performance

Evaluation was based on three components:

1. Experience on similar projects;
2. Financial resources; and
3. Ability to comply with applicable and regulatory requirements.

Evaluation Criteria Level 3 - Ability to Satisfy Health and Safety Concerns Identified by Residents and Public Officials

Evaluation was based on the safe transportation of waste in a manner to minimize traffic, the ability of the proposed off-site landfill to accept waste, and the presentation of a transportation plan.

Evaluation Criteria Level 4 - Cost

Refer to Appendix D for additional details.

3.0 RESULTS OF OFF-SITE AND ON-SITE ALTERNATIVES EVALUATION

This section summarizes the results of the OOSBs evaluation of the on-site versus off-site disposal alternatives. Results are presented in tabular form and concise text. Each alternative was evaluated by comparing the proposals against the evaluation criteria. The results of the evaluation are tabulated below. The complete OOSB results are included in Appendix E

3.1 RESULTS OF ON-SITE ALTERNATIVE EVALUATION

3.1.1 On-site Landfill Construction Evaluation Results

Bidder Evaluation Criteria	Subcontractor 1	Subcontractor 2	Subcontractor 3	Subcontractor 4 (Unsolicited)
Level 1 - Protection of Human Health and Environment	N/A ⁽¹⁾	N/A	N/A	N/A
Level 2 – Contractor's Past Performance	Passed	Failed ⁽²⁾	Passed	Failed ⁽³⁾
Level 3 – Safety and Health	N/A	N/A	N/A	N/A
Level 4 – Cost	Passed - \$3,165,893 – lowest	Not Evaluated	Passed - \$3,947,538	Not Evaluated

Notes:

1. N/A indicates not applicable to this alternative; equivalent for all bidders by definition of the alternative.
2. Subcontractor 2 failed Evaluation Criteria Level 2 because the proposal lacked evidence of corporate experience constructing landfills. The Site Manger and Construction Manager proposed were employed by a different company, and the company-to-company contractual arrangement was not provided. Subcontractor 2 employees were not experienced.
3. Subcontractor 4 failed Evaluation Criteria Level 2 because the proposal lacked evidence of corporate experience in actually constructing landfills, though the company did show experience in construction oversight of landfills. Their civil subcontractor proposed did not show any landfill construction experience.

3.1.2 On-site Landfill Construction Narration and Justification of Results

The results are outlined below and demonstrate the qualifications and justification for identifying the qualified proposal with the lowest cost. Subcontractor 1 provided a qualified proposal having the lowest cost option. Additional bidder information is provided in Appendix D.

Subcontractor 1: Demonstrated good overall experience in all aspects of this project including in-placing clay and high-density polyethylene (HDPE) liner systems. Project site management has completed numerous “like” projects.

Subcontractor 2: Lacked qualified staff and did not demonstrate experience in landfill construction. Contractor was notified of the deficiency in management staff and provided alternate management staff from another company. Contractual arrangement between the companies was unclear. Company failed evaluation process.

Subcontractor 3: Company plans to subcontract construction work, and the proposed subcontractor shows more than adequate experience in performing the scope of work. Proposed site management has completed numerous “like” projects.

Subcontractor 4 (unsolicited): Showed minimal experience actually constructing landfills, especially lacking work with clay and HDPE liner systems. Company plans to subcontract out the construction work, however their proposed subcontractor did not provide or demonstrate acceptable experience either. The proposed schedule did not seem realistic, too short and optimistic. Company failed evaluation process.

3.1.3 On-site Landfill Operation/Closure Evaluation Results

Bidder Evaluation Criteria	Subcontractor 2	Subcontractor 4	Subcontractor 5	Subcontractor 6
Level 1 – Protection of Human Health and Environment	N/A ⁽¹⁾	N/A	N/A	N/A
Level 2 – Contractor's Past Performance	Failed ⁽²⁾	Passed	Passed	Passed
Level 3 – Safety and Health	N/A	N/A	N/A	N/A
Level 4 – Cost	Not Reviewed	Passed - \$6,432,437	Passed - \$5,374,082 – Lowest	Passed - \$5,694,044

Notes:

1. N/A indicates not applicable to this alternative; equivalent for all bidders by definition of the alternative.
2. Subcontractor 2 failed Evaluation Criteria Level 2 because their proposal lacked documentation of prior corporate experience operating and closing landfills. The Site Manager and Construction Manager proposed were employed by a different company, and the company-to-company contractual arrangement was not provided. Subcontractor 2 employees were not experienced.

3.1.4 On-site Landfill Operation/Closure Narration and Justification of Results

The results are outlined below and demonstrate the qualifications and justification for identifying the firm that has provided a qualified proposal with the lowest cost. Subcontractor 5 provided qualified proposal having the lowest cost option.

Subcontractor 2: Showed minimal corporate experience in landfill operations, gas venting systems and liner installation. Adequate experience was presented for other associated work tasks. The original proposed site management staff was not qualified to operate and close a landfill. Contractor was notified of the deficiency in management staff and provided alternate management staff from another company. Contractual arrangement between the companies was unclear. Overall, the company is not qualified to perform the scope of work. Company failed evaluation process.

Subcontractor 4: The company's experience with landfill operations, gas venting systems and HDPE liner installations is not extensive. Company experience is based as an owner's

engineer/construction manager than a constructor. The proposed site management is adequate. However, overall, the company is adequately qualified to perform the scope of work.

Subcontractor 5: Company has experience performing “like” projects including numerous projects involving operating and closing landfills. Experience also includes installation of HDPE liners, gas venting systems and leachate collection and handling systems. The proposed site management is qualified, especially the superintendent who has worked on numerous landfills.

Subcontractor 6: Company has experience in the field of landfill operations and closure, having completed three landfills in the past two years. The company has demonstrated their ability to perform all aspects of the project. The proposed site management team is qualified to manage the work having performed similar duties in “like “ projects.

3.2 RESULTS OF OFF-SITE ALTERNATIVE EVALUATION

3.2.1 Off-site Transportation and Disposal Evaluation Results

Bidder Evaluation Criteria	Subcontractor A	Subcontractor B	Subcontractor C	Subcontractor D	Subcontractor E
Level 1 - Protection of Human Health and Environment	Passed	Passed	Passed	Passed	Failed ⁽¹⁾
Level 2 – Contractor’s Past Performance	Passed	Passed	Passed	Passed	Not Evaluated
Level 3 – Safety and Health	Passed	Passed	Failed ⁽²⁾	Passed	Not Evaluated
Level 4 – Cost	Passed - \$29,840,824	Passed - \$26,119,300 – lowest	Not Evaluated	Passed - \$28,003,238	Not Evaluated

Notes:

1. Subcontractor E provided a proposal based on recycling that did not provide sufficient information to further analyze the proposal.
2. The proposal did not provide a transportation plan and Transportation and Disposal Coordinator. Without this information, the proposal could not be further reviewed and failed.

3.2.2 Off-site Transport and Disposal Narration and Justification of Results

The results are outlined below and demonstrate the qualifications of bidders.

Subcontractor A: Company proposes to transport waste via truck to a rail spur where waste will be loaded and transported via gondola to a disposal facility in South Carolina. Cover material will be transported via truck to a facility in Fitchburg, Massachusetts. Company provided necessary documentation to complete the proposal package and provided a detailed Solid Waste Transportation and Management Plan and Evaluation of Proposed Disposal Facility. Company exhibits compliance with regulatory requirements, has past experience on transportation and disposal projects and possesses a good relationship with the local and county community.

Subcontractor B: Company proposes to transport the majority of waste in rail containers via truck to a local rail spur for ultimate loading into gondolas for transport to a disposal facility in Waynesburg, Ohio. The company also identifies several alternative regional facilities for trucking a small portion of the waste. Company provided necessary documentation to complete the bid package and provided a detailed Solid Waste Transportation and Management Plan, and Evaluation of Proposed Disposal Facility. Company exhibits compliance with regulatory requirements, has past experience on transportation and disposal projects and possesses a good relationship with the local and county community.

Subcontractor C: Company proposes to truck materials to various waste disposal facilities in the New England area. Company did not provide a detailed Solid Waste Transportation and Disposal Plan, as well as did not include the schedule or resume / information of a Transportation and Disposal Coordinator. This bid failed the evaluation process.

Subcontractor D: Company proposes to transport waste in dump trailers to a consolidation area for loading into gondolas. Waste will be transported to Bishopville, South Carolina for disposal. Company has provided a detailed Solid Waste Transportation and Disposal Plan, and Evaluation of Proposed Disposal Facility. Company exhibits compliance with regulatory requirements, has past experience on transportation and disposal projects and possesses a good relationship with the local and county community. This is the same landfill as proposed by Subcontractor A.

Subcontractor E: The company provided an alternative proposal involving the recycling/re-use of materials. The proposal could not be properly evaluated due to lack of detailed information and failed the evaluation process.

4.0 CONCLUSIONS & REMEDY SELECTION

In summary, the remedy selection process began with the request for proposals from solicited firms. The participation of small businesses, small disadvantaged businesses and woman-owned small businesses was encouraged. Proposals were received for both the on-site and off-site disposal alternatives. The on-site alternative consists of two separate contracts: on-site landfill construction; and on-site landfill operation and closure. The off-site alternative is one contract for waste management, off-site transportation and disposal or recycling.

Based on presented proposal data (refer to Appendix D) and performed evaluations (refer to Section 2.0), the OOSB concluded that the on-site disposal alternative is the most cost-effective alternative which also conforms to the requirements of the ROD and RFP. Waste materials will be managed on site and will be disposed in a to-be-constructed on-site landfill. The on-site landfill design satisfies all requirements for health and safety concerns and the received proposals demonstrate that there are qualified bidders able to perform the scope of work. In general, the off-site alternative additionally satisfies all health and safety concerns, and qualified proposers demonstrated interest, however the off-site alternative is the higher cost alternative.

Based on the evaluation of on-site alternative proposals (refer to Section 3.0), several potential subcontractors have demonstrated the required qualifications and experience on past similar projects. Successful subcontractors have proposed knowledgeable on-site management staff and have demonstrated the technical background to perform a successful project.

The OOSB has selected the on-site disposal alternative as the waste management remedy. It has been agreed that the on-site alternative and corresponding proposals conform to the ROD and RFP, and is most advantageous and provides the best value to the Government.

5.0 SOURCES OF INFORMATION

Statement of Work, Landfill Remediation; Devens Reserve Forces Training Area, Devens Massachusetts; August 1999

Final Record of Decision, Landfill Remediation, Study Areas 6, 12, and 13 and Areas of Contamination (AOC) 9, 11, 40, and 41, U.S. Army reserve forces Training Area, Devens, Massachusetts, July 1999

Appendix A

Acquisition Plan

**ACQUISITION PLAN FOR
ON-SITE VERSUS OFF-SITE WASTE DISPOSAL
LANDFILL REMEDIATION PROJECT
DEVENS RESERVE FORCES TRAINING AREA
DEVENS, MASSACHUSETTS**

Prepared for:

Department of the Army
New England District, Corps of Engineers
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Prepared by:

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FIGURES

Figure 1 Site Plan

APPENDICES

Appendix A Criteria Implementation

1.0 INTRODUCTION

1.1 *Background*

The former Fort Devens is a United States Environmental Protection Agency (USEPA) Comprehensive Environmental Response Compensation and Liability Act (CERCLA) National Priorities List (NPL) site located in the Towns of Ayer and Shirley (Middlesex County) and Harvard and Lancaster (Worcester County), approximately 35 miles northwest of Boston, Massachusetts. Prior to closure, the installation (now referred to as "Devens") occupied approximately 9,600 acres and was divided into the North Post, Main Post, and South Post.

The Record of Decision (ROD) addressed landfill debris at Devens' Study Areas (SAs) -6, -12, and -13, and Areas of Contamination (AOCs) -9, -11, -40, and -41 [Final Record of Decision, Landfill Remediation, Study Areas -6, -12, and -13 and Areas of Contamination (AOC) 9, 11, 40, and 41, U.S. Army Reserve Forces Training Area, Devens, Massachusetts, July 1999, Harding Lawson Associates]. AOC-9 is located on the Former North Post of Devens. AOCs -11 and -40, and SA-13 are located on the Former Main Post of Devens. SAs -6 and -12, and AOC-41 are located on the South Post Reserve Forces Training Area (RFTA). Figure 1 shows the location of these seven debris disposal areas.

The ROD requires excavation and restoration of six debris disposal areas (the ROD specified a "No Action" remedy for SA-6), and disposal of the excavated material in either an on-site landfill to be constructed specifically for the debris or off-site disposal. In total, approximately 300,000 cubic yards (CY) of debris will be addressed. As indicated in the ROD, selection of the disposal approach (on site versus off site) will be based on a "Best Value" evaluation of proposals to be solicited upon completion of the design for both options.

The Army Corps of Engineers/New England District (USACE/NAE) is developing the design of the excavation and restoration for each site. An on-site for consolidation of the excavated wastes is being designed in accordance with Massachusetts Solid Waste Regulations. That landfill, if the on-site disposal alternative is selected, will be constructed at Devens' Former Golf Course Driving Range (FGCDR). EA Engineering has prepared performance specifications for the off-site disposal of the excavated wastes for the NAE.

1.1 *Purpose*

This document presents the general methodology that will be used by the Government, with the assistance of its contractor, Stone & Webster, to evaluate the on-site and off-site disposal alternatives for wastes to be removed from the six sites mentioned above. The purpose of the evaluation is to select the disposal alternative that will provide Best Value, in accordance with the ROD.

2.0 SITE INFORMATION

2.1 *Facility History*

Fort Devens is located approximately 35 miles northwest of Boston, Massachusetts. In 1996, it covered approximately 9,600 acres of land in the Towns of Shirley, Ayer, Harvard and Lancaster, Massachusetts. The base was split into three areas, the North Post, the Main Post and the South Post.

The subject property was established as Camp Devens, a temporary United States military training facility, in 1917. The base was made a permanent installation, known as Fort Devens, in 1931 and was operated as a military induction center as well as a unit mobilization and demobilization post.

Fort Devens had a peak population of 65,000 during World War II. The primary use of the facility was to command, train and provide logistical support for non-divisional troops as well as supporting the New England area Army Readiness Region and National Guard units. As such, the facility consisted of training facilities, residential dwellings, a hospital, a wastewater treatment plant and numerous support facilities and complexes.

Developed areas of the facility currently consist of residential and light commercial areas with paved roadways, sewer and storm-water collection, public water, gas and electric services. Undeveloped areas of the site consist of woodland areas, ponds and wetlands, as well as the Nashua River, which runs south through the west portion of the base.

2.2 *Site Descriptions*

In 1989, the USEPA placed Devens on the National Priority List (NPL) under CERCLA [as amended by the Superfund Amendments and Reauthorization Act (SARA)]. Between 1989 and 1998, numerous assessments and investigations were conducted at Devens to evaluate the site conditions, compliance status, potential clean up alternatives and pre-design development.

As previously mentioned, waste materials excavated from the six above-mentioned sites will be removed for either disposal in an on-site landfill or will be transported off site for disposal at commercial landfill facility(s). A brief discussion of each of the six sites follows. The location of the six sites and the potential on-site landfill are shown on Figure 1.

2.2.1 Area AOC-9

AOC-9 consists of one large disposal area and four smaller areas adjacent to the wetlands to the south. The disposal area is partially vegetated, with the four smaller areas containing debris at the near surface level. Approximately 121,000 CY of debris are estimated to be located in AOC-9.

AOC-9 is located on the North Post, north of Walker Road and west of the wastewater treatment plant. AOC-9 was used from the late 1950's through 1978 for disposal of primarily demolition debris (wood, concrete, asphalt, metal, brick, glass and stumps).

2.2.2 Area AOC-11

Located east of Lovell Road on the Main Post, AOC-11 is adjacent to the Nashua River. AOC-11 was primarily used for the disposal of demolition debris from the wood frame base hospital from 1975 to 1980.

AOC-11 is approximately two acres in size and is bordered to the north and south by wetlands. A 40-foot wide berm segregates the landfill from the Nashua River to the east. An estimated 35,000 CY are contained within AOC-11.

2.2.3 Area SA-12

SA-12 is located across from Dixie Road on the South Post. This site was utilized from 1960 to the mid 1980s for disposal of construction and range debris (wood, concrete, sheet metal, soil and leaves).

SA-12 is approximately 0.5 acres in size and contains roughly 8,700 CY of debris. This area is situated on a steep wooded slope adjacent to the Nashua River flood plain and wetland areas.

2.2.4 Area SA-13

Located on the west side of Lake George Street, near Hattonsville Road on the Main Post, SA-13 was used from 1965 to 1990 for disposal of construction debris, stumps and brush.

Approximately 10,000 CY of debris are estimated to be contained within the one-acre site. SA-13 is bordered by trees, as well as a wetland area at the base of the steep slope to the south.

2.2.5 Area AOC-40

AOC-40 is located along the edge of Patton Road, in the southeastern portion of the Main Post. This area was used for the disposal of construction debris (masonry, asphalt, wire and metal), ash, stumps, and logs.

AOC-40 covers an area of approximately four acres and contains an estimated 125,400 CY of debris. Portions of the landfill area are situated in a wetland, and are currently submerged under Cold Spring Brook Pond. The area is densely populated with small trees and other vegetative cover. The landfill area is within a recharge zone for the Patton water supply well.

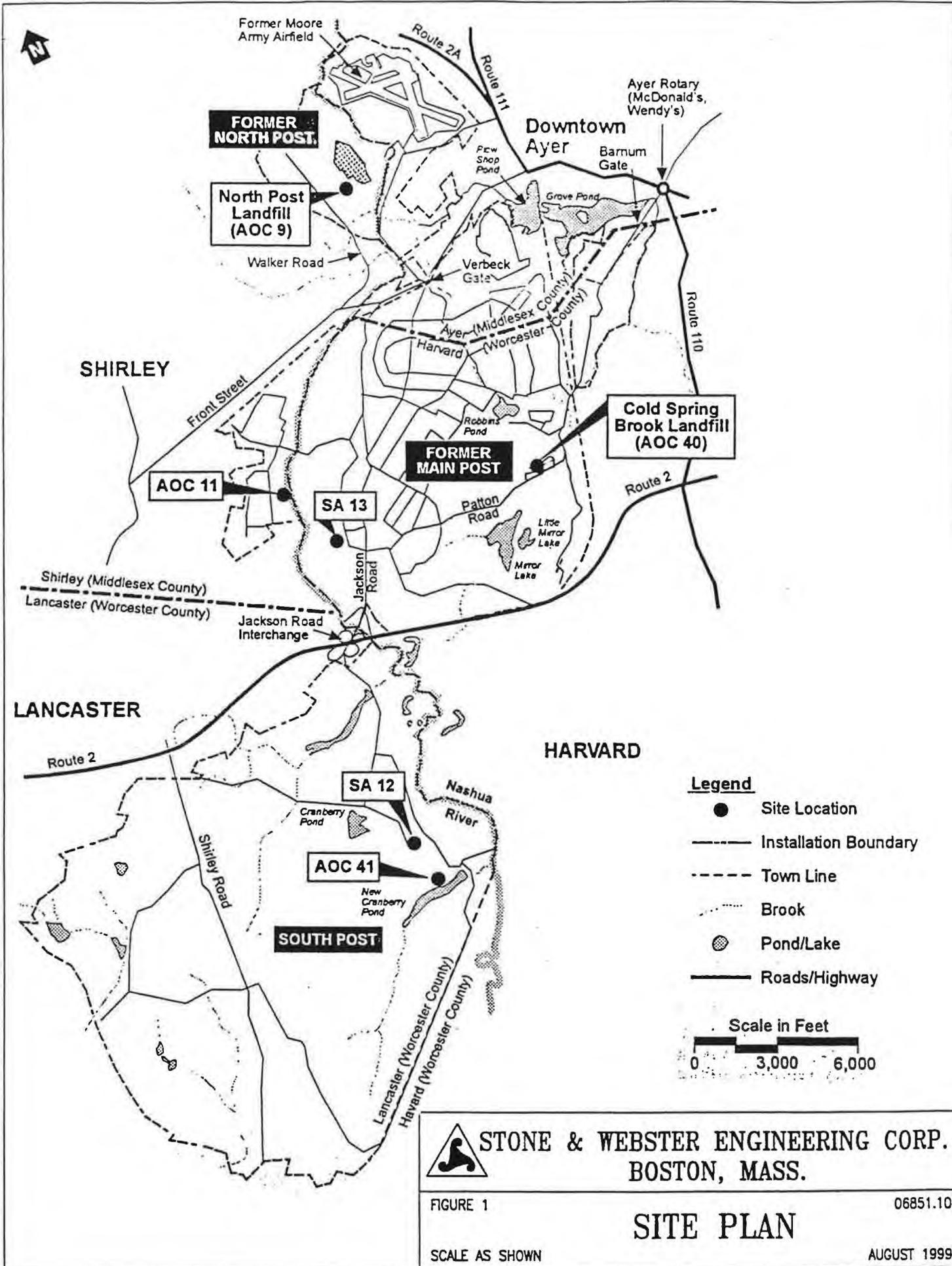
2.2.6 Area AOC-41

AOC-41 is located on the South Post, west of the Still River Gate, on the north shore of New Cranberry Pond. This area was used until the 1950s for disposal of non-explosive military (including vehicle parts) and household debris.

AOC-41 contains approximately 1,500 CY of debris over less than 0.25 acres. This site is overgrown with trees and brush.

2.2.7 On-site Landfill

As indicated in the ROD, the location selected for the proposed landfill for the on-site disposal alternative is on the main post at the old golf course driving range adjacent to Patton Road. The landfill site consists of 15 acres and covers the old 2nd, 3rd, and 4th fairways as well as the driving range of the former golf course. This site is currently owned by MassDevelopment, the agency responsible for redevelopment of the former military base. As documented in the ROD, this site was determined to be the most suitable location on the former military base which met the regulatory Landfill Siting Criteria defined by the Massachusetts Department of Environmental Protection and non-regulatory criteria based on local community input.



STONE & WEBSTER ENGINEERING CORP.
 BOSTON, MASS.

FIGURE 1 06851.10

SITE PLAN

SCALE AS SHOWN AUGUST 1999

3.0 EVALUATION OF DISPOSAL ALTERNATIVES

Consistent with the ROD, selection of the on-site or off-site disposal alternative will be based on an evaluation of formal bids. Bids solicited for the on-site and off-site disposal alternatives will be evaluated against the criteria described in Section 3.1. The process to be used to select which alternative represents Best Value is outlined in Section 3.2. Details on how the criteria will be implemented during evaluation are presented in Appendix A.

3.1 *Evaluation Criteria*

The selection of the on-site or off-site disposal alternative will be based on consideration of four criteria identified in the ROD. These four criteria will be considered in a top down "sieving" sequence. Until a higher level criterion is met, other lower criteria will not be considered. In other words, a bid must pass the first criterion prior to being considered for the next criterion. A failure of a criterion means the bid will not be evaluated further. Each criterion will be applied to both options as applicable. These four criteria and what will be evaluated for each level are identified below.

Level 1 – Protection of Human Health and Environment

The ability of off-site landfill(s) to provide an equivalent level of protectiveness to human health and the environment as the on-site landfill design/location will be assessed. This evaluation will consider siting issues. As required by the public and the ROD, the on-site landfill design will provide a baseline against which off-site landfills will be evaluated for disposal of the excavated debris.

Level 2 – Contractor's Past Performance

There are three components of the evaluation of past performance. First, contractors proposing to perform the work described herein must have sufficient experience on similar projects. This contract will not be used as a training vehicle for the selected contractor.

Contractors must demonstrate their solvency and that they possess the necessary financial resources to complete this work.

Finally, contractors must demonstrate they have been consistently successful in complying with applicable regulatory requirements on past projects. Contractor's ability to comply with licenses, permits, and regulations will be assessed.

Level 3 – Ability to Satisfy Health and Safety Concerns Identified by Residents and Public Officials

During the public meetings associated with the ROD residents and public officials both expressed concerns about transporting the wastes safely and in a manner that minimized the impact of traffic on the public, particularly for the off-site disposal alternative. Concern was also expressed about the ability of off-site landfill(s) to accept the wastes. Contractors bidding the off-site disposal alternative will be required to provide a transportation plan for

review along with their bids. Bidders for the off-site disposal alternative will also be required to demonstrate that off-site landfill(s) included in their bid can and will accept the debris.

Level 4 - Cost

Those bids passing the sieve of the first three criteria will then be compared first to each other for each of the two alternatives [e.g., lowest cost responsive bid(s) for each of the on-site and on-site disposal alternative] to identify which bids represent Best Value. Then, the cost for the on-site and off-site disposal alternatives will be compared using the lowest cost responsive bids for each alternative to select which alternative represents the Best Value. Consistent with the ROD, the Best Value evaluation will include the \$5.6 million credit to the off-site disposal alternative.

Note that the elements of cost making up an alternative may utilize multiple bids for a given activity. For example, multiple contractors would be likely to be used to transport and dispose of wastes (if the off-site disposal alternative is selected) to ensure that transport and disposal capacity meets the demand created by excavation activities. Accordingly, more than one low cost responsive bid may be included for a given activity in developing a cost for the alternatives.

3.2 Evaluation Process

3.2.1 Bid Solicitation and Initial Review

Proposals will be solicited for firm bids for both the on-site and off-site disposal alternatives. Bids will initially be reviewed for compliance with the bid documents, including the estimated quantities of work to be done, as shown in Requests for Proposals (RFPs) (see Section 4.0). The bid prices will include full compensation for all materials, equipment, tools, labor and incidental work necessary to complete the work. Bidders will be providing bid bond security to back up their cost proposals. Bidders determined to have provided deficient bids will be contacted and given one chance to make their bid compliant with the scope required by the bid documents.

All of the responsive bids received will then be evaluated by a team of engineering, construction, procurement, cost professionals from both Stone & Webster. That team will review and evaluate the proposals and contractors using the "sieve" approach identified in Section 3.1.

The Stone & Webster review team will consolidate the results of their analysis into a bid evaluation/ comparison spreadsheet, which will form the basis of a presentation to a Remedy Selection Board, who will select the remedy (Section 3.2.2). A summary of all bids received, whether competitive or not, will be presented to the Board for their review. The summary spreadsheet will not identify specific bidder company names, and will present cost data in summary form to maintain the confidentiality of bidder pricing.

3.2.2 Remedy Selection Board

The NAE will appoint a Remedy Selection Board to select which alternative (on-site or off-site disposal) best meets the four criteria identified in Section 3.1. This panel will have independent team membership from the NAE and the United States Army Forces Command (FORSCOM), with one member from the USEPA with no connection to the project. Board membership, at the discretion of the NAE, may also include officials from other agencies.

A summary of all contractor bids for both the on-site and off-site disposal alternatives, as well, as the results of the bid evaluation process described in Section 3.2.1, will be made available to the Remedy Selection Board. The Board will utilize the four criteria described above in their evaluation of the bids and in selecting the on-site or off-site disposal alternative. Results of the Board's evaluation and selection of the remedy will be presented to the public and documented in a Remedy Selection Report, which will be made available to the public for review. The report will provide summary-level cost information and will not identify the bidders by name to maintain the confidentiality of bidder pricing.

4.0 SOLICITATION OF BIDS

Formal bids will be solicited for both the off-site and on-site disposal alternatives. The competitive bidding process will be used to solicit prices for the off-site disposal alternative. Stone & Webster will solicit sole- (single-) source bids from one or more of its RAC Core Team subcontractors for the on-site disposal alternative, all of whom are small businesses (SBs) and/or small disadvantaged businesses (SDBs). Portions of the on-site disposal alternative may be bid to different RAC Core Team subcontractors (e.g., landfill construction, landfill operation, and landfill closure/cap construction). For both the off-site and on-site disposal alternatives, bids will be firm fixed and unit prices backed by a bid bond.

Stone & Webster will perform a market survey prior to soliciting bids to identify the capacity of local/regional SBs, SDBs and small woman-owned businesses (SWOBs) to provide off-site waste transport/disposal services. That survey will consider factors such as capacity, prior experience, competitiveness, and financial condition. The results of the survey will be used to identify target subcontract goals intended to maximize SB, SDB, and SWOB participation for the off-site disposal alternative. Bids for off-site transport/disposal will be solicited from companies with an socio-economic status consistent with the target goals.

4.1 *Subcontracting Approach for On-site Disposal Alternative*

It is anticipated that for the on-site disposal option Stone & Webster will solicit a firm fixed price proposals from primarily RAC Core Team Member(s) (all of which are SBs, and some of which are SDBs). This is based on the assumption that the selected team member(s) can meet the applicable criteria identified in Section 3.1 and provide a fair and equitable firm fixed price for the work.

4.2 *Subcontracting Approach for Off-site Disposal Alternative*

Goods and services for the off-site disposal alternative will be acquired from qualified vendors (maximizing SB, SDB, and SWOB participation to the extent possible) by soliciting competitive firm fixed price bids. The selection of material and service suppliers will be accomplished by issuing Requests for Proposals (RFPs) from qualified suppliers. Stone & Webster maintains lists of qualified suppliers based on qualifications, past performance, and socio-economic factors. Stone & Webster also has access to many internet-based search engines and resources for finding companies with various capabilities and socio-economic backgrounds, including Pro-net, a Small Business Administration-based site. Consistent with the Government's and Stone & Webster's objective of maximizing utilization of qualified SBs, SDBs and SWOBs, these resource lists will be supplemented on this project by performing a project-specific survey of local/regional suppliers providing waste transport and off-site disposal services. The results of the survey, which will include an assessment of capabilities, capacity, experience and competitiveness, will be used in identifying set-aside (percentage) goals for SBs, SDBs and SWOBs for the off-site transport and disposal alternative.

In addition to the above, a public forum will be held at Devens for local/regional companies to inform them of the potential opportunity for off-site transport/disposal subcontracting.

Notices that RFPs are available will be advertised in regional newspapers as well as in the Commercial Business Daily, Massachusetts Central Register, Dodge Report, and on a local cable channel.

4.3 Commercial/Cost Considerations

Commercial and cost considerations relevant to the solicitation of bids for both disposal alternatives are described below.

4.3.1 Commercial Considerations

All RFPs will contain or cover the following elements:

- Bid due date and identification number
- Terms and conditions applicable to the contemplated agreement/contract, including flow-down solicitation provisions and contract clauses
- Detailed scope of work/statement of work, which will be developed by personnel with the appropriate technical background. The scope/statement of work will clearly define the requirements of the work to be performed, time schedules, site conditions, and any other information that would be required to give all bidders a clear understanding of the bid requirements. These scopes will be based on the plans and specifications being developed by another NAE contractor
- Terms of payment
- Quality assurance requirements
- Insurance requirements (minimum insurance requirements will be driven by the RAC or by the Stone & Webster's Standard Terms and Conditions, whichever is greater)
- Bonding requirements [Performance and payment bonds will be required on all contracts over \$100,000. Penal amounts will be as set forth in FAR 28.102-2(b)]
- Representations & certifications (The completion of this form determines socio-economic status, debarment, and other required certifications)
- Bid evaluation criteria such as pricing, delivery schedules, socio-economic status, past performance, and others will be listed

In addition, bidders will be required to strictly adhere to the requirements of the following which will also facilitate competitive and fair pricing from bidders:

- Stone & Webster Government Procurement Procedures
- Requirements of the Federal Acquisition Regulations (FARs); and
- Requirements of the Department of Defense FAR Supplement (DFARs).

All offers must be received within the specified period of time. Late offers will not be accepted except under circumstances as described in sections 14.304 (a) to (e) of the FARs.

All offers will be carefully reviewed for completeness and compliance with the RFPs. All bids will be reviewed by the project management team, including the technical representative, and Stone & Webster Project Manager to ensure that the technical and delivery requirements are met. Procurement / contracts will review all offers for commercial

terms, pricing, socio-economic factors, and all other requirements. A bid analysis will be prepared showing a side-by-side comparison of pricing and all other selection criteria (see Section 3).

Stone & Webster will discuss each offer with the offeror to ensure both parties have properly represented their position. Any clarifications and/or changes to the RFP will be shared with all offerors so that no offeror has an unfair advantage over the other. Obvious clerical errors in bids disclosed prior to award may be corrected after a written correction is secured from the bidder. Best and final offers may be used depending on the number and significance of the clarifications and changes to the original RFP.

Contract award will be made as soon as possible after the RFP due date to the offeror whose offer is conforming to the RFP, and will be most advantageous and provide best value to the Government, and Stone & Webster. Award will follow remedy selection by the Board, and Stone & Webster receipt of a Delivery Order/Modification for the work from the NAE. Ordinarily awards will be made on the basis of the lowest price, with consideration given to quality, delivery, socio-economic status, past performance, health & safety records, terms & conditions and other important factors. Approvals/consent will be obtained within the Stone & Webster organization and from the Government prior to contract award.

It is the policy and intent of Stone & Webster to act at all times and places as a law-abiding, responsible, and responsive corporate citizen, and conducts its affairs under the highest standards of business ethics. Compliance with FARs Part 3 –“ Improper Business Practices and Personal Conflicts of Interest” is mandatory. Stone & Webster is cognizant of and avoids any action(s) that might be construed as improper or favorable treatment of any supplier as defined by FAR Parts 3.104-3 & 4. It is understood that most transactions relating to procurement are of a confidential nature, especially with regards to suppliers, and subcontractors, and will be handled accordingly.

4.3.2 Cost Issues

Comparison of bids between competing bids (e.g., bids for the on-site landfill) and between disposal options will be based on either unit prices for specified quantities or firm fixed prices for fixed scopes of supply. The quantities will be based on the estimated quantities presented in the NAE's design plans and specifications. Since the quantities are estimates, the bids will include a cost adjustment for different final quantities. These adjustments will be in cost per cubic yard/ton of debris, or per trip. These cost adjustments will be examined during the bid review process to determine if substantially different final quantities will have an impact on selection of the alternative and supplier(s).

As part of the evaluation of the cost criterion for the (on-site versus off-site) disposal alternatives, a community concern credit of \$5,600,000 will be added to the final cost of the on-site disposal option. This value represents the cost of post-closure care and the future loss of use of property associated with the on-site disposal alternative.

**APPENDIX A
DISPOSAL CRITERIA IMPLEMENTATION**

APPENDIX A

DISPOSAL CRITERIA IMPLEMENTATION

A.1 Off-site Disposal Criteria Implementation

Landfill Selection

As previously stated above (Section 3.1), as required by the public and the ROD, the off-site disposal alternative will be required to provide equal environmental protection as the on-site disposal alternative. The on-site landfill design is intended to meet the current requirements of Chapter 310, Section 19.00 of the Code of Massachusetts Regulations (310 CMR 19.00) and the guidance set forth in the Massachusetts Department of Environmental Protection's Landfill Technical Guidance Manual. If the on-site disposal alternative is selected, the landfill will be constructed prior to excavation of the debris areas. The excavated debris will be temporarily stockpiled at each excavation site by others and then hauled and placed in the consolidation landfill. The on-site landfill design includes a level of protection that will be used as a benchmark for prospective off-site landfills. This level of protection includes:

- Synthetic liner over two feet of impervious soil located a minimum of four feet over high groundwater level
- Leachate collection and treatment
- Storm water collection and treatment
- Synthetic cap with passive gas collection
- Post closure care

It is noteworthy that a similar design for off-site landfills may provide the equivalent degree of protection for contaminated materials and debris excavated from the six Devens sites discussed herein. However, uncontaminated materials excavated from the sites could be disposed of at off-site landfills with a less rigorous design and still provide an equivalent level of environmental protection.

Implementation of Criteria

The selection criteria discussed in Section 3.1 will be used to develop questionnaires that will be included in the RFP documentation. Some of the items to be included in the questionnaire are discussed below.

Survey of Prospective Landfills

As part of the bidding process, the prospective bidders will be required to supply information on the intended off-site landfill(s) to be used, including:

- Remaining capacity and capacity that can be handled per day;
- Copies of all permits and their status, including violations;
- Design documentation of the landfill, including liner design, leachate collection design and treatment, storm water handling, depth to groundwater, closure plan and post closure plan; and

- Written assurances that the receiving facility(s) can accept the waste material, including correlating documentation from state agencies (e.g., permits).

This information will be used to implement Criteria 1 and 2 during the evaluation.

Transportation Considerations

As part of the bidding process, the prospective bidders will be requested to provide a transportation plan. The purpose of this plan is to provide information as to whether the facility will adequately meet the requirements of Criteria 3. This plan will include the following:

- Proposed haul route(s) and capacity(s);
- Evidence of ability to obtain all required licensing and permitting;
- Approved transport vehicles;
- Schedule to include estimate of rate (CY or tons /day) for transporting solid waste from the subject sites; and
- Method of transport (truck or rail).

The primary method of transportation is assumed to be by trucks. If a contractor offers rail as its transport mechanism and is considered cost competitive, the rail option will be considered. Any such rail option will be required to take into consideration the additional time and costs associated with additional debris handling and development of rail infrastructure at Devens.

This information will be used to implement Criteria 3 and 4 during the evaluation.

A.2 On-site Disposal Criteria Implementation

The main criteria for the on-site landfill are Criteria 2 and 4. To address these criteria, the prospective contractors will have to provide experience in landfill construction, operation and/or closure. (These elements may be bid as separate components to allow for small business participation.) The experience of the bidding contractors should be similar and have the same components as required by the landfill design. The design of the on-site landfill alternative is described below.

Landfill Design

The consolidation landfill for the on-site disposal alternative is being designed to receive debris from the six disposal sites identified in Section 2.2, totaling approximately 300,000 CY in capacity. The excavated debris will be temporarily stockpiled at each excavation site by others and then hauled and placed in the consolidation landfill following verification of acceptability based on laboratory analytical results.

Site Layout

Approximately 15 acres of land is available for constructing the landfill. The site is currently naturally screened to the north by an esker, to the east by a stand of large trees, and to the west by a row of trees which currently line Queenstown Street. Approximately 300 feet of the site is currently exposed along Patton Road to the south. The landfill cell footprint is

approximately nine acres and is located entirely within the Regulatory Restriction Boundary. The leachate pump station and force main are located east of the landfill cell, also within the Regulatory Restriction Boundary. The access road traverses the eastern perimeter of the landfill cell, from Patton Road to the leachate pump station. The storm water management pond is located in the northeast corner of the site, at the lowest elevation.

Cell Grading and Capacity

The landfill cells are located horizontally within the Boundary. The bottom of the cell liner will be located a minimum of four feet above bedrock and a minimum of four feet above the high groundwater table. The cell grading follows the existing contours of the site, which slope toward the northeast. This provides sufficient slope for the leachate to drain efficiently to the leachate pump station and will minimize the cost of site grading. The landfill cell is hydraulically isolated from the remainder of the site by a perimeter earthen berm.

Cell Liner System

The cell liner system is designed to minimize infiltration of leachate into the subsurface and provides a means of collecting the leachate for treatment and disposal. The system is constructed in layers beginning with a low-permeability soil layer, a flexible polyethylene membrane liner, a geotextile leachate collection layer and a soil leachate drainage layer.

Leachate Management

Leachate collected in the cell liner system will be pumped to the sanitary sewer along Patton Road where it will be conveyed to the existing Devens wastewater treatment plant for treatment and disposal. Leachate will be generated primarily while the landfill is active over an 18 to 24 month period. Upon closure of the landfill, leachate generation will be significantly reduced. The leachate management system will be maintained during debris placement and after capping is completed.

Storm Water Management / Site Drainage

The landfill will be fully contained within an existing drainage area and does not significantly affect the runoff. Runoff is collected in swales and discharges into a sediment basin to improve storm water quality. Erosion and sediment controls will be placed around the site before clearing begins and will be maintained during waste placement and capping activities.

Landfill Operation

The consolidation landfill will be constructed, filled, and capped within an estimated 18 to 24 month period. The landfill will be operated to compact and consolidate debris, achieve the capping grades, and minimize leachate generation. Minimization of leachate generation is accomplished by filling the landfill subcells in a specific order.

Landfill Closing

Capping will occur when the debris areas have been removed and the final grade has been achieved. The cap will isolate the waste from the environment and will limit rainfall infiltration through the waste, thus limiting leachate generation. The final cover system is graded to promote surface runoff, reduce erosion potential, and provide an adequate factor of safety against slope stability. The vegetated cover layer is the primary support layer for growth of vegetation on the cap. It will be six inches of topsoil and will be seeded with grass.

A passive gas venting system will be installed with the cap. The gas venting system is necessary for removing landfill gas that would be trapped under the low-permeability membrane liner.

Appendix B

On/Off-Site Selection Plan

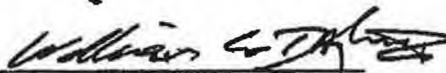
CENAE-PP-M

January 11, 2000

MEMORANDUM FOR Director of Engineering
Director of Construction
District Counsel
Mr. Charles W. Coe (Contracting Directorate)

SUBJECT: On/Off-Site Selection (OOSS) Plan for Devens Landfill Consolidation Project (LFCP) for Study Areas (SA) 6,12, & 13 and Areas of Contamination (AOC) 9,11,40,& 41

1. Attached for your review is the OOSSP for the subject project. Please initial this memorandum if the document is acceptable.
2. The OSSP will be sent to the Director of Contracting for approval after your review is completed on it.
3. Please contact me at 7-8084 if there are any questions.

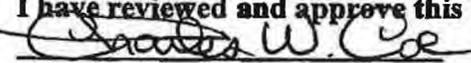

 William C. {Bud } Taylor II.
 Project Manager

I have reviewed the attached OOSSP and am forwarding for your review and approval. If you have any questions please contact me at 7-8895.


 Mark J. Otis
 Chairman (Proposed), Source Selection
 Advisory Council

	Kenneth Hitch	CENAE-EP
	Richard Carlson	CENAE-CO
	Mary Byers	CENAE-OC

I have reviewed and approve this OOSSP.


 Charles W. Coe, Contracting Officer

**ON/OFF-SITE SELECTION (OOSS) PLAN
FOR
DEVENS LANDFILL CONSOLIDATION PROJECT (LFCP)
Study Areas (SA) 6,12, & 13 and Areas of Contamination (AOC) 9,11,40,& 41**

1. General. This plan establishes the criteria and methodology used in evaluating proposals received in response to Request for Proposal (RFP) 068511000-001 & 068511000-002 by Stone & Webster, Inc. (S&W), to determine the "Best Value" for disposal of material generated by the LFCP at the Former Fort Devens, Massachusetts.

S&W was directed to solicit the RFP's by the Corps of Engineers, New England District (CENAE), under an existing Remedial Action Contract (RAC) DACW33-97-D-0002, Delivery order 0010, modification number 00002. The RAC is a negotiated procurement that was solicited previously and awarded competitively in accordance with the Federal Acquisition Regulations (FAR). The use of the RAC for this purpose was approved by the Contracting Officer (KO) based on the provisions of the Acquisition Strategy as recommended by the project team, prepared by the Project Manager, and reviewed by the Source Selection Advisory Council of CENAE.

The scope of the LFCP is to remove historical debris and construction waste from six sites classified as landfills under the Commonwealth of Massachusetts, Solid Waste Regulations, Subtitle D and restore the sites. The main six sites are known and identified as SA12, SA 13, AOC 9, AOC 11, AOC 40, and AOC 41. The specific details concerning these sites are outlined in the Record of Decision (ROD) and the plans and specifications (P&S) for the LFCP provided to S&W for their RFP and evaluation process. An estimated total volume of approximately 275,000 cubic yards of debris and material will be generated from the removal and restoration (R&R) work from the six sites. The ROD provided for two options in the transportation and disposal (T&D) of the debris and material generated from the R&R work at the six sites. The LFCP ROD establishes the acceptability of generated debris and material disposal at a pre-selected site on the former Fort Devens known as the "Former Golf Course Driving Range" or at off-site locations meeting the same level of protection to human health and the environment.

This plan is to provide guidance for the determination of the "Best Value" of the On-site disposal option versus the Off-site disposal option. **The sole purpose for the On/Off-site Selection Board (OOSSB) is to answer to the question: "Which is the best value to the Army, re-use, community, and U.S. taxpayer as a whole, On-site or Off-site disposal of generated debris and material?"** The purpose of the OOSSB is not to make Source Selections or determine methodologies of execution. The scope of the OOSSB responsibilities is limited to evaluating the On/Off-site disposal options with regard to the "Best Value" based on the criteria provided in the ROD, which are further defined in this plan.

2. Request for Proposals. S&W provided prospective parties the opportunity to submit proposals for the T&D work by soliciting in a very broad and intensive public announcements effort. The solicitation was done in multiple media on multiple occasions to facilitate the widest dissemination of the availability of the work. At the direction of the Army, S&W made specific efforts to ensure that prospective parties in the local communities, Small Businesses, Small Disadvantaged Businesses, and Women Owned Businesses had the opportunity to provide proposals to accomplish the work. At a minimum, S&W solicitations for RFP's were carried in Commerce Business Daily (CBD), Dodge Reports, six large regional daily newspapers, and through public information sessions for prospective bidders.

3. Receipt of Proposals. Proposals submitted by potential contractors had to be received by S&W prior to the time and date established in the RFP. Designated representatives of S&W opened properly submitted proposals. The S&W representatives are required to treat all information as confidential and have been instructed to not release information to anybody except the CENAE project manager, prior to the convening of the OOSSB. There is no formal bid opening.

All proposals submitted to S&W will be reviewed by their procurement team. The failure to submit information required by the RFP may result in the rejection of the prospective contractor's proposal, if the omissions are critical to the proposal's proper evaluation. Such proposals will be forwarded to the OOSSB with a clear explanation of why the proposal is not responsive to the requirements of the RFP. The OOSSB will examine the packages prior to deliberations and confirm the appropriateness of omitting any proposal, with the help of Counsel and Contracting Directorate, as non-responsive. Properly submitted proposals will be submitted to the OOSSB for further consideration and evaluation.

The OOSSB Chairman shall require the individuals authorized to examine the proposals to sign a confidentiality agreement stating that no information concerning the proposals, or any information contained in the proposals, will be released to anyone not authorized by the Source Selection Authority.

4. Source Selection Authority. Charles Coe, Chief, Contracting Division, New England District, is the designated Source Selection Authority (SSA).

5. Source Selection Advisory Council. The Source Selection Advisory Council (SSAC) will be comprised of New England District senior management officials from Contracting, Project Management, Engineering, Construction, and Office of Counsel. The SSAC will review the evaluation procedures used by the OOSSB. The SSAC will ensure that these procedures comply with those contained in the RFP, this OOSS Plan, and the FAR. The SSAC will review the OOSSB's documentation ratings (go/no-go), completeness of rationale in explanations of negative ratings, and submit their recommendations to the SSA.

6. On/Off-site Selection Board. The On/Off-site Selection Board (OOSSB) will be comprised of qualified technical representatives and other experts. The OOSSB will be supported by the Office of Counsel, Contracting Directorate, and others as necessary. The Board will be subject to the call of the Chairperson.

The OOSSB is responsible for reviewing the information submitted with each proposal and for rating each proposal in accordance with the criteria in the ROD, RFP, and this plan. Designated voting members will participate in the rating of each responsive proposal received by S&W. The non-voting members will act in an advisory capacity. Additional non-voting advisory personnel may be appointed to aid in the evaluation of selected elements of the proposal. A simple majority of voting members together with any required advisory member will constitute a quorum for transaction of normal business. Final rating decisions must be made by the full Board including the Chairperson. Prior to the commencement of proposal evaluations, the OOSB will meet to review this plan. The OOSSB will review this plan, familiarize themselves with its contents, and scoring system.

7. On/Off-site Selection Board Members. The On/Off-site Selection Board (OOSSB) is comprised of the following members:

<u>Name</u>	<u>Function</u>	<u>Organization</u>
Timothy Beauchemin, PE	Chairman (voting)	CENAE-PP-E
James Doucakis, PE	Voting	CENAE-CO-NC-S
Jonathan Kullberg, PE	Voting	CENAE-EP-GG
Sheila Winston-Viculla	Advisory (non-voting)	CENAE-CT-C
Joseph Mcinerny, Esq.	Advisory (non-voting)	CENAE-OC
Richard Leighton	Public Observer (non-voting)	EPA Region 1

8. Source Selection Advisory Council. The Source Selection Advisory Council (SSAC) is comprised of the following members:

<u>Name</u>	<u>Organization</u>
Mark Otis	CENAE-PP-E (Proposed - Chairman)
Kenneth Hitch	CENAE-EP
Richard Carlson	CENAE-CO
Mary Byers	CENAE-OC
Michelle Kewer	CENAE-CT

9. Training. The OOSSB will receive training, as necessary, in the following areas:

- a. Knowledge of the function and reason for the work involved in this plan.
- b. Security procedures directed by the FAR.
- c. Familiarization with the elements of the, ROD, RFP, and evaluation criteria.

- d. Procedures for the evaluation and documentation of findings on the Levels of Acceptability, application of the Community Concern Credit, and "Best Value" determination of proposals relative to each other.
- e. Procurement Integrity Act.

10. Pre-Proposal Conference. S&W held a pre-proposal conference open to all prospective contractors on Wednesday, November 3, 1999, at the Devens Conference Center.

11. Evaluation Criteria. The ROD and RFP establish the criteria to be used in the evaluation and decision process. The relative importance of the criteria is also established in the ROD and RFP. The following criteria will be used in the evaluation process:

All criteria apply to both options "On-site" & "Off-site" to maintain both equality of remedy comparison and level of safety to human health & the environment.

Subcontractors may only be solicited for work in their main field of specialization. This job is not to be used as a learning experience.

"Sieve" approach - Must pass level before going to next level in sequential numerical order.

Each proposal for {T&D} option must provide conclusive evidence at the time of bid presentation that will demonstrate unambiguous (yes or no) clearance of each "Level of Acceptability"

Option Selection Criteria for {T&D}:
"Levels of Acceptability":

Level 1 - Protection of human health & the environment

Level 2 - Contractor's Past Performance

Level 3 - Ability to satisfy health and safety concerns identified by residents and public officials

Level 4 - Cost

{Same criteria as "Threshold Criteria and the Primary Balancing Criteria contained in Section XI of the ROD and as listed in the RFP}

Level 1 - Protection of human health & the environment

The proposed receiving TSDF must provide an equivalent level of protection to human health & the environment as the On-site location at former driving range.

- Siting requirements

- Design & construction criteria

Level 2 - Contractor's Past Performance

- 1.) Contractor's experience on similar projects.
- 2.) Review TSDf solvency for protection of U.S. Government's Interest
{taxpayer not future PRP}
- 3.) Review the financial strength
 - assets vs. liabilities
 - future earning power
 - future capacity
 - existing & future contracts
 - business plan
 - other business interests
- 4.) Conditions of Licensing
- 5.) Regulatory relationships
- 6.) History of violations & inspections

Level 3 - Ability to satisfy health and safety concerns identified by residents and public officials:

Provide a Transportation Plan

Proposed route(s) & capacity.

Evidence of ability to obtain all required licensing and permitting.

Indemnifies Federal government in their proposal from delays & costs.

Evidence TSDf will accept disposal material

Level 4 - Cost

Financial competitiveness

Option 2 (Off-site)

- 1.) Compare cost of remaining Off-site proposals against themselves to determine best price value.

- 2.) Select the one proposal with the best cost value

Option 1 (On-site)

- 1.) Compare cost of remaining On-site proposals against themselves to determine best price value.
- 2.) Select the one proposal with the best cost value

Finally, select best value for remedy

Compare best On-site proposal price against Off-site proposal price with a community concern credit of \$5,619,376.00 million dollars, which is an absolute threshold.

Select the least of the two:

- The remaining On-site option with the least cost plus \$5,619,376.00
- The remaining Off-site option with the least cost.

Significant Factors to note

Bidders provided bid bond security to back up firm proposals to RAC contractor.

Option 1 (On-site)

- 1.) Bidders competed against multiple other contractors to build landfill according to same plans & specifications.
- 2.) Bidders knew they must not only beat On-site bidders, but must be below best value Off-site less the Community Concern Credit to win award.

Option 2 (Off-site)

- 1.) Bidders price cannot be more than an "On-site" landfill price plus the Community Concern Credit from highly competitive field of contractors using one specific detailed design.

2.) *Community Concern Credit value {\$5,619,376.00} threshold is absolute!*

12. Point Score Criteria. There will be no assignment of point scores in this evaluation due to the potential diversity of proposals. It would be presumptuous to try to establish any relative scale objective enough to rank any diverse proposals against each other in a numerical model. All proposals must be assumed to be proposing an equivalent remedy and, as such, must compete in a head to head competition of pass/fail criteria. Proposals

can only continue to compete if they continue to prove viable through each criterion applied to them. Therefore, this plan does not require point scores or weighting factors.

13. Rating Criteria. The above items are designated to be evaluated and rated. Evaluators will assess the proposals acceptability compared to evaluation criteria as further defined in the ROD and RFP requirements.

Each level of acceptability will be considered in numerical order because the Army has established them in priority of importance for the criteria, with human health and the environment being most important and cost being the least important of the criteria.

Each level of acceptability contains specific elements to be considered by the evaluators. The OOSB must first establish the elements that are not met for a particular proposal and define clearly why the OOSB made that determination in a narrative explanation. The OOSB should then consider the remaining elements in the level of acceptability for that particular proposal that meet the necessary requirements. The voting members should reach a consensus on whether that particular proposal passes that level of acceptability based on the remaining elements.

14. Proposal Evaluation. Any factor discussed in support of or against any specific element for a proposal should be recorded in writing for the decision report. The professional judgement and exchange of ideas between the professionals on the independent board based on the extensive experience in their fields will be the most important contribution to this decision process. The application of common sense and sound reasoning can not be provided for when comparing extremely diverse choices. A mechanical solution will not be possible to achieve in this selection. The members will be required to examine the proposals carefully and reach a majority decision each step of the way through the decision process with public oversight by representation on the OOSB.

15. Cost Evaluation. The purpose for the OOSB is to decide the "Best Value" remedy option and not to determine a Source Selection. A subjective evaluation of "cost information" was previously accomplished during the government's acquisition process for this RAC with S&W. This selection process should not be confused with the Source Selection process.

The cost evaluation for the OOSB will be considered as prescribed in the Evaluation Criteria cited in section (10) above.

Appendix C

Subcontract Statements of Work Issued for Bids/Proposals

Appendix C

Subcontract Statements of Work Issued for Bids/Proposals

PART I OFF-SITE OPTION



ATLANTA, GA
BOSTON, MA
CHATTANOOGA, TN
CHERRY HILL, NJ
DENVER, CO
HOUSTON, TX
NEW YORK, NY
WASHINGTON, DC
MIAMI, FL
PLEASANTON, CA

Stone & Webster

FOUNDED
1889

October 27, 1999

Request for Proposal

No.068511000-01

ABU DHABI, UAE
AL KHOBAR, SAUDI ARABIA
BANGKOK, THAILAND
DAMMAM, SAUDI ARABIA
KUALA LUMPUR, MALAYSIA
KUWAIT CITY, KUWAIT
MILTON KEYNES, ENGLAND
JAKARTA, INDONESIA
SEOUL, KOREA
TORONTO, CANADA

Provide Transportation & Disposal Services
of Construction Debris

AT THE

LANDFILL REMEDIATION PROJECT, DEVENS, MA

To All Offerors:

You are invited to submit a firm, fixed price proposal to perform the referenced services for Stone & Webster Engineering Corporation (SWEC) at the DEVENS LANDFILL REMEDIATION PROJECT in support of SWEC's New England RAC Contract# DACW33-97-D-0002 with the NE USACE. The work to be procured and the requirements for performance are described more fully in the enclosed Scope of Work and subcontract documents.

Address your proposal and all questions concerning this solicitation to:

Stone & Webster
245 Summer Street
Boston, MA 02210-1127
Attn: Don Fournier (617) 589-7057
Senior Contracts Administrator

All technical questions should be directed to Bruce McCampbell at (617) 589-2626.

All proposals must be received NO LATER THAN MONDAY, DECEMBER 6, 1999, 4:00 PM. Questions should be received by SWEC within a reasonable time to allow for a reply to reach all Offerors before the proposal due date. Answers to any questions will be furnished to all Offerors as an amendment to this Request for Proposal. DO NOT ADDRESS QUESTIONS TO ANYONE OTHER THAN THE INDIVIDUALS DESIGNATED IN THIS LETTER.

The following criteria will be used in evaluating your proposal:

1. Availability of labor, and equipment resources.
2. Qualifications and work experience in these methods.
3. Price
4. Socio-Economic Status
5. All other factors as specified in the "Scope of Work".

If you do not intend to submit a proposal, a prompt negative response would be appreciated.

Your attention is called to the following enclosed documents and notifications:

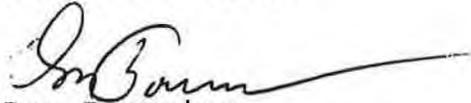
1. PROPOSAL INSTRUCTIONS - Please carefully review these instructions for the submission of your proposal.
2. SCOPE OF WORK - Please carefully review the scope of services requested, and include with your proposal any specific exceptions you take to the requirements. Alternative, cost-effective approaches recommended should also be detailed in your proposal.
3. PRICING FORM - Please submit your prices on the enclosed pricing form.
4. SUBCONTRACT PROVISIONS - The provisions of the Stone & Webster's General Conditions for Subcontracts for Government Funded Contracts, and applicable FAR and Flow-down Clauses, will apply to the resulting subcontract covering services awarded as a result of this solicitation. All attachments and enclosures will be incorporated into, and become part of the resulting subcontract.
5. This project is governed by Davis Bacon Wage Rates. The submission of certified payrolls will be required. The applicable wage determination is enclosed for your convenience.
6. The work is scheduled to take place as indicated in the Scope of Work. Contractor must be able to mobilize within five (5) days after receiving notice to proceed.
7. 40 Hour Hazwopper trained personnel will be required for the performance of work on this portion of the project.
8. Due to the size of this project, it is likely that more than one subcontract will be issued as a result of this RFP.
9. Bonding & Insurance requirements - The subcontractor(s) will be required to obtain bid/performance/payment bonds for 100%

of the original contract price. These bond levels will change if/as contract price levels change. Insurance requirements are set forth in the enclosed general conditions.

If you have any questions, please call the undersigned at (617) 589-7057.

Sincerely,

STONE & WEBSTER



Don Fournier
Senior Contracts Administrator

Enclosures:

- (X) Proposal Instructions
- (X) Scope of Work
- (X) Health and Safety Plan (To be developed)
- (X) Pricing Form
- (X) Representations & Certifications
- (X) Maps (See Scope of Work)
- (X) Site Plan(s) (See Scope of Work)
- (X) Applicable FAR/Flow-down Clauses
- (X) Applicable Wage Rate Schedule
- (X) Project Labor Agreement / Letter of Assent (See Scope of Work)
- (X) Stone & Webster General Conditions for Subcontracts for Government Funded Contracts
- (X) Standard Form 1413

X=Enclosed
*=Previously Sent
#=To be sent under separate cover.

**PRICING FORM
TRANSPORTATION AND OFFSITE DISPOSAL**

<u>Pay Item</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>	<u>Add</u>	<u>Deduct</u>
1. Debris Handling and Disposal in Offsite Landfill						
1.1 AOC - 9	Ton	180,000	_____	_____	_____	_____
1.2 AOC - 11	Ton	42,000	_____	_____	_____	_____
1.3 Study Area - 12	Ton	6,300	_____	_____	_____	_____
1.4 Study Area - 13	Ton	6,700	_____	_____	_____	_____
1.5 AOC - 40	Ton	175,000	_____	_____	_____	_____
1.6 AOC - 41	Ton	900	_____	_____	_____	_____
1.7 Daily Cover Pile	Ton	26,500	_____	_____	_____	_____
Total Proposed Price				_____		

2. Truck Demurrage cost for unscheduled loading waits in excess of 1-hour _____ per hour
3. Truck Cancellation cost for unscheduled changes less than 24-hour notice _____ each

Bidders' Checklist

Have the following been included with the proposal:

	Yes	No
1. Schedule	<input type="checkbox"/>	<input type="checkbox"/>
2. Solid Waste Transportation and Management Plan	<input type="checkbox"/>	<input type="checkbox"/>
3. Contractor Statement of Qualifications	<input type="checkbox"/>	<input type="checkbox"/>
4. TSD Facility Statement of Qualifications	<input type="checkbox"/>	<input type="checkbox"/>
5. Notices of Non-compliance and Notices of Violations	<input type="checkbox"/>	<input type="checkbox"/>
6. Resume of Transportation and Disposal Coordinator	<input type="checkbox"/>	<input type="checkbox"/>
7. Small Business Documentation (includes WOSB, SDB, and SBA)	<input type="checkbox"/>	<input type="checkbox"/>
8. Representations & Certifications	<input type="checkbox"/>	<input type="checkbox"/>
9. Project Labor Agreement (PLA) Letter of Assent	<input type="checkbox"/>	<input type="checkbox"/>

Bidder's Company Name

Bidder's Authorized Representative (Print)

Bidder's Authorized Representative (Signature)

Date Signed

SECTION K
REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS

K.1 52.203-2 CERTIFICATE OF INDEPENDENT PRICE DETERMINATION (APR 1985)

(a) The offeror certifies that--

(1) The prices in this offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other offeror or competitor relating to (i) those prices, (ii) the intention to submit an offer, or (iii) the methods or factors used to calculate the prices offered;

(2) The prices in this offer have not been and will not be knowingly disclosed by the offeror, directly or indirectly, to any other offeror or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the offeror to induce any other concern to submit or not to submit an offer for the purpose of restricting competition.

(b) Each signature on the offer is considered to be a certification by the signatory that the signatory--

(1) Is the person in the offeror's organization responsible for determining the prices being offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above; or

(2)(i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above _____

(insert full name of person(s) in the offeror's organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the offeror's organization);

(ii) As an authorized agent, does certify that the principals named in subdivision (b)(2)(i) above have not participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above; and

(iii) As an agent, has not personally participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above.

(c) If the offeror deletes or modifies subparagraph (a)(2) above, the offeror must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

(End of provision)

K.2 52.203-4 CONTINGENT FEE REPRESENTATION AND AGREEMENT (APR 1984)

(a) Representation. The offeror represents that, except for full-time bona fide employees working solely for the offeror; the offeror--
[Note: The offeror must check the appropriate boxes. For interpretation of the representation, including the term "bona fide employee," see Subpart 3.4 of the Federal Acquisition Regulation.]

(1) /_/_ has, /_/_ has not employed or retained any person or company to solicit or obtain this contract; and

(2) /_/_ has, /_/_ has not paid or agreed to pay to any person or company employed or retained to solicit or obtain this contract any commission, percentage, brokerage, or other fee contingent upon or resulting from the award of this contract.

(b) Agreement. The offeror agrees to provide information relating to the above Representation as requested by the Contracting Officer and, when subparagraph (a)(1) or (a)(2) is answered affirmatively, to promptly submit to the Contracting Officer--

(1) A completed Standard Form 119, Statement of Contingent or Other Fees, (SF 119); or

(2) A signed statement indicating that the SF 119 was previously submitted to the same contracting office, including the date and applicable solicitation or contract number, and representing that the prior SF 119 applies to this offer or quotation.

(End of provision)
(R 7-2002.1 1974 APR)
(R 1-1.505)

K.3 52.203-8 1 REQUIREMENT FOR CERTIFICATE OF PROCUREMENT INTEGRITY (NOV 1990)--
ALTERNATE 1 (SEP 1990)

(a) Definitions. The definitions at FAR 3.104-4 are hereby incorporated in this provision.

(b) Certifications. As required in paragraph (c) of this provision, the officer or employee responsible for this offer shall execute the following certification:

CERTIFICATE OF PROCUREMENT INTEGRITY

(1) I, _____ [Name of certifier], as the officer or employee responsible for the preparation of this offer and hereby certify that, to the best of my knowledge and belief, with the exception of any information described in this certificate, I have no information concerning a violation or possible violation of subsection 27(a), (b), (d), or (f) of the Office of Federal Procurement Policy Act, as amended (41.U.S.C. 423), (hereinafter referred to as "the Act"), as implemented in the FAR, occurring during the conduct of this procurement _____ (solicitation number).

(2) As required by subsection 27(e)(1)(B) of the Act, I further certify that, to the best of my knowledge and belief, each officer, employee, agent, representative, and consultant of _____ (Name of Offeror) who has participated personally and substantially in the preparation or submission of this offer has certified that he or she is familiar with, and will comply with, the requirements of subsection 27(a) of the Act, as implemented in the FAR, and will report immediately to me any information concerning a violation or possible violation of subsections 27(a), (b), (d), or (f) of the Act, as implemented in the FAR, pertaining to this procurement.

(3) Violations or possible violations: (Continue on plain bond paper if necessary and label Certificate of Procurement Integrity (Continuation Sheet), ENTER NONE IF NONE EXIST)

(4) I agree that, if awarded a contract under this solicitation, the certifications required by subsection 27(e)(1)(B) of the Act shall be maintained in accordance with paragraph (f) of this provision.

[Signature of the officer or employee responsible for the offer and date]

[Typed name of the officer or employee responsible for the offer]

+ Subsections 27(a), (b), and (d) are effective on December 1, 1990.
Subsection 27(f) is effective on June 1, 1991.

THIS CERTIFICATION CONCERNS A MATTER WITHIN THE JURISDICTION OF AN AGENCY OF THE UNITED STATES AND THE MAKING OF A FALSE, FICTITIOUS, OR FRAUDULENT CERTIFICATION MAY RENDER THE MAKER SUBJECT TO PROSECUTION UNDER TITLE 18, UNITED STATES CODE, SECTION 1001.

(End of certification)

(c) For procurements, including contract modifications, in excess of \$100,000 made using procedures other than sealed bidding, the signed certifications shall be submitted by the successful Offeror to the Contracting Officer within the time period specified by the Contracting Officer when requesting the certificates except as provided in subparagraphs (c)(1) through (c)(5) of this clause. In no event shall the certificate be submitted subsequent to award of a contract or execution of a contract modification:

(1) For letter contracts, other unpriced contracts, or unpriced contract modifications, whether or not the unpriced contract or modification contains a maximum or not to exceed price, the signed certifications shall be submitted prior to the award of the letter contract, unpriced contract, or unpriced contract modification, and prior to the definitization of the letter contract or the establishment of the price of the unpriced contract or unpriced contract modification. The second certification shall apply only to the period between award of the letter contract and execution of the document definitizing the letter contract, or award of the unpriced contract or unpriced contract modification and execution of the document establishing the definitive price of such unpriced contract or unpriced contract modification.

(2) For basic ordering agreements, prior to the execution of a priced order; prior to the execution of an unpriced order, whether or not the unpriced order contains a maximum or not to exceed price; and, prior to establishing the price of an unpriced order. The second certificate to be submitted for unpriced orders shall apply only to the period between award of the unpriced order and execution of the document establishing the definitive price for such order.

(3) A certificate is not required for indefinite delivery contracts (see Subpart 16.5) unless the total estimated value of all orders eventually to be placed under the contract is expected to exceed \$100,000.

(4) For contracts and contract modifications which include options, a certificate is required when the aggregate value of the contract or contract modification and all options (see 3.104-4(e)) exceeds \$100,000.

(5) For purposes of contracts entered into under section 8(a) of the SBA, the business entity with whom the SBA contracts, and not the SBA, shall be required to comply with the certification requirements of subsection 27(e). The SBA shall obtain the signed certificate from the business entity and forward the certificate to the Contracting Officer prior to the award of a contract to the SBA.

(6) Failure of an Offeror to submit the signed certificate within the

time prescribed by the Contracting Officer shall cause the offer to be rejected.

(d) Pursuant to FAR 3.104-9(d), the Offeror may be requested to execute additional certifications at the request of the Government. Failure of an Offeror to submit the additional certifications shall cause its offer to be rejected.

(e) A certification containing a disclosure of a violation or possible violation will not necessarily result in the withholding of award under this solicitation. However, the Government, after evaluation of the disclosure, may cancel this procurement or take any other appropriate actions in the interests of the Government, such as disqualification of the Offeror.

(f) In making the certification in paragraph (2) of the certificate, the officer or employee of the competing Contractor responsible for the offer may rely upon a one-time certification from each individual required to submit a certification to the competing Contractor, supplemented by periodic training. These certifications shall be obtained at the earliest possible date after an individual required to certify begins employment or association with the Contractor. If a Contractor decides to rely on a certification executed prior to the suspension of section 27 (i.e., prior to December 1, 1989), the Contractor shall ensure that an individual who has so certified is notified that section 27 has been reinstated. These certifications shall be maintained by the Contractor for 6 years from the date a certifying employee's employment with the company ends or, for an agent, representative, or consultant, 6 years from the date such individual ceases to act on behalf of the Contractor.

(g) Certifications under paragraphs (b) and (d) of this provision are material representations of fact upon which reliance will be placed in awarding a contract.

(End of provision)

K.4 52.203-11 CERTIFICATION AND DISCLOSURE REGARDING PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (APR 1991)

(a) The definitions and prohibitions contained in the clause, at FAR 52.203-12, Limitation on Payments to Influence Certain Federal Transactions, included in this solicitation, are hereby incorporated by reference in paragraph (b) of this certification.

(b) The offeror, by signing its offer, hereby certifies to the best of

his or her knowledge and belief that on or after December 23, 1989,--

(1) No Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan, or cooperative agreement;

(2) If any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with this solicitation, the offeror shall complete and submit, with its offer, OMB standard form LLL, Disclosure of Lobbying Activities, to the Contracting Officer; and

(3) He or she will include the language of this certification in all subcontract awards at any tier and require that all recipients of subcontract awards in excess of \$100,000 shall certify and disclose accordingly.

(c) Submission of this certification and disclosure is a prerequisite for making or entering into this contract imposed by section 1352, title 31, United States Code. Any person who makes an expenditure prohibited under this provision or who fails to file or amend the disclosure form to be filed or amended by this provision, shall be subject to a civil penalty of not less than \$10,000, and not more than \$100,000, for each such failure.

(End of provision)

K.5 52.204-3 TAXPAYER IDENTIFICATION (MAR 1994)

(a) Definitions.

"Common parent," as used in this solicitation provision, means that corporate entity that owns or controls an affiliated group of corporations that files its Federal income tax returns on a consolidated basis, and of which the offeror is a member.

"Corporate status," as used in this solicitation provision, means a

designation as to whether the offeror is a corporate entity, an unincorporated entity (e.g., sole proprietorship or partnership), or a corporation providing medical and health care services.

"Taxpayer Identification Number (TIN)," as used in this solicitation provision, means the number required by the IRS to be used by the offeror in reporting income tax and other returns.

(b) All offerors are required to submit the information required in paragraphs (c) through (e) of this solicitation provision in order to comply with reporting requirements of 26 U.S.C. 6041, 6041A, and 6050M and implementing regulations issued by the Internal Revenue Service (IRS). If the resulting contract is subject to the reporting requirements described in FAR 4.903, the failure or refusal by the offeror to furnish the information may result in a 31 percent reduction of payments otherwise due under the contract.

(c) Taxpayer Identification Number (TIN).

TIN: _____

TIN has been applied for.

TIN is not required because:

Offeror is a nonresident alien, foreign corporation, or foreign partnership that does not have income effectively connected with the conduct of a trade or business in the U.S. and does not have an office or place of business or a fiscal paying agent in the U.S.;

Offeror is an agency or instrumentality of a foreign government;

Offeror is an agency or instrumentality of a Federal, state, or local government;

Other. State basis. _____

(d) Corporate Status.

Corporation providing medical and health care services, or engaged in the billing and collecting of payments for such services;

Other corporate entity;

Not a corporate entity;

Sole proprietorship

Partnership

Hospital or extended care facility described in 26 CFR 501(c)(3) that is exempt from taxation under 26 CFR 501(a).

(e) Common Parent.

Offeror is not owned or controlled by a common parent as defined in paragraph (a) of this clause.

Name and TIN of common parent:

Name _____

TIN _____

(End of provision)

K.6 52.204-5 WOMEN-OWNED BUSINESS (OCT 1995)

(a) Representation. The offeror represents that it [] is, [] is not a women-owned business concern.

(b) Definition. "Women-owned business concern," as used in this provision, means a concern which is at least 51 percent owned by one or more women; or in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and whose management and daily business operations are controlled by one or more women.

(End of provision)

K.7 52.209-5 CERTIFICATION REGARDING DEBARMENT, SUSPENSION, PROPOSED DEBARMENT, AND OTHER RESPONSIBILITY MATTERS (MAY 1989)

(a)(1) The Offeror certifies, to the best of its knowledge and belief, that--

(i) The Offeror and/or any of its Principals--

(A) Are / / are not / / presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency;

(B) Have / / have not / / within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property; and

(C) Are / / are not / / presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in subdivision (a)(1)(i)(B) of this provision.

(1) The Offeror has / / has not / /, within a three-year period preceding this offer, had one or more contracts terminated for default by any Federal agency.

(2) "Principals," for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

THIS CERTIFICATION CONCERNS A MATTER WITHIN THE JURISDICTION OF AN AGENCY OF THE UNITED STATES AND THE MAKING OF A FALSE, FICTITIOUS, OR FRAUDULENT CERTIFICATION MAY RENDER THE MAKER SUBJECT TO PROSECUTION UNDER SECTION 1001, TITLE 18, UNITED STATES CODE.

(b) The Offeror shall provide immediate written notice to the Contracting Officer if, at any time prior to contract award, the Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(c) A certification that any of the items in paragraph (a) of this provision exists will not necessarily result in withholding of an award under this solicitation. However, the certification will be considered in connection with a determination of the Offeror's responsibility. Failure of the Offeror to furnish a certification or provide such additional information as requested by the Contracting Officer may render the Offeror nonresponsible.

(d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of an Offeror is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly rendered an erroneous certification, in addition to other remedies available to the Government, the Contracting Officer may terminate the contract resulting from this solicitation for default.

(End of provision)

The offeror or quoter, by checking the applicable box, represents that--
 (a) It operates as a corporation incorporated under the laws of the State of _____, an individual, a partnership, a nonprofit organization, or a joint venture.

(b) If the offeror or quoter is a foreign entity, it operates as an individual, a partnership, a nonprofit organization, a joint venture, or a corporation, registered for business in

 (country).

(End of provision)

K.9 52.215-11 AUTHORIZED NEGOTIATORS (APR 1984)

The offeror or quoter represents that the following persons are authorized to negotiate on its behalf with the Government in connection with this request for proposals or quotations:

Name	Title	Telephone number
_____	_____	_____
_____	_____	_____
_____	_____	_____

(list names, titles, and telephone numbers of the authorized negotiators).

(End of provision)
 (R 3-501(b) Sec K (iv))

K.10 52.215-20 PLACE OF PERFORMANCE (APR 1984)

(a) The offeror or quoter, in the performance of any contract resulting from this solicitation, intends, does not intend (check applicable block) to use one or more plants or facilities located at a different address from the address of the offeror or quoter as indicated in this proposal or quotation.

(b) If the offeror or quoter checks "intends" in paragraph (a) above, it shall insert in the spaces provided below the required information:

Place of Performance (Street Address, City, County, State, Zip Code)	Name and Address of Owner and Operator of the Plant or Facility if Other than Offeror or Quoter
--	---

(End of provision)
(R 3-501(b) Sec K (viii))

K.11 52.215-30 FACILITIES CAPITAL COST OF MONEY (SEP 1987)

(a) Facilities capital cost of money will be an allowable cost under the contemplated contract, if the criteria for allowability in subparagraph 31.205-10(a)(2) of the Federal Acquisition Regulation are met. One of the allowability criteria requires the prospective contractor to propose facilities capital cost of money in its offer.

(b) If the prospective Contractor does not propose this cost, the resulting contract will include the clause Waiver of Facilities Capital Cost of Money.

(End of provision)

K.12 52.219-1 SMALL BUSINESS PROGRAM REPRESENTATIONS (OCT 1995)

(a)(1) The standard industrial classification (SIC) code for this acquisition is _____

(2) The small business size standard is _____

(3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.

(b) Representations. (1) The offeror represents and certifies as part of its offer that it is, is not a small business concern.

(2) (Complete only if offeror represented itself as a small business concern in block (b)(1) of this section.) The offeror represents as part of its offer that it is, is not a small disadvantaged business concern.

(3) (Complete only if offeror represented itself as a small business

concern in block (b)(1) of this section.) The offeror represents as part of its offer that it [] is, [] is not a women-owned small business concern.

(c) Definitions. Small business concern, as used in this provision, means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR Part 121 and the size standard in paragraph (a) of this provision.

"Small disadvantaged business concern," as used in this provision, means a small business concern that (1) is at least 51 percent unconditionally owned by one or more individuals who are both socially and economically disadvantaged, or a publicly owned business having at least 51 percent of its stock unconditionally owned by one or more socially and economically disadvantaged individuals, and (2) has its management and daily business controlled by one or more such individuals. This term also means a small business concern that is at least 51 percent unconditionally owned by an economically disadvantaged Indian tribe or Native Hawaiian Organization, or a publicly owned business having at least 51 percent of its stock unconditionally owned by one or more of these entities, which has its management and daily business controlled by members of an economically disadvantaged Indian tribe or Native Hawaiian Organization, and which meets the requirements of 13 CFR Part 124.

"Women-owned small business concern," as used in this provision, means a small business concern--

(1) Which is at least 51 percent owned by one or more women or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and

(2) Whose management and daily business operations are controlled by one or more women.

(d) Notice. (1) If this solicitation is for supplies and has been set aside, in whole or in part, for small business concerns, then the clause in this solicitation providing notice of the set-aside contains restrictions on the source of the end items to be furnished.

(2) Under 15 U.S.C. 645(d), any person who misrepresents a firm's status as a small or small disadvantaged business concern in order to obtain a contract to be awarded under the preference programs established pursuant to sections 8(a), 8(d), 9, or 15 of the Small Business Act or any other provision of Federal law that specifically references section 8(d) for a definition of program eligibility, shall--

(i) Be punished by imposition of fine, imprisonment, or both;

- (ii) Be subject to administrative remedies, including suspension and debarment; and
- (iii) Be ineligible for participation in programs conducted under the authority of the Act.

(End of provision)

K.13 52.222-21 CERTIFICATION OF NONSEGREGATED FACILITIES (APR 1984)

(a) "Segregated facilities," as used in this provision, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin because of habit, local custom, or otherwise.

(b) By the submission of this offer, the offeror certifies that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The offeror agrees that a breach of this certification is a violation of the Equal Opportunity clause in the contract.

(c) The offeror further agrees that (except where it has obtained identical certifications from proposed subcontractors for specific time periods) it will--

(1) Obtain identical certifications from proposed subcontractors before the award of subcontracts under which the subcontractor will be subject to the Equal Opportunity clause;

(2) Retain the certifications in the files; and

(3) Forward the following notice to the proposed subcontractors (except if the proposed subcontractors have submitted identical certifications for specific time periods):

NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENT FOR CERTIFICATIONS OF NONSEGREGATED FACILITIES.

A Certification of Nonsegregated Facilities must be submitted before the award of a subcontract under which the subcontractor will be subject to the Equal Opportunity clause. The certification may

be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semiannually, or annually).
NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

(End of provision)
(R 7-2003.14(b)(1)(A) 1970 AUG)
(R 1-12.803-10(d))

K.14 52.222-22 PREVIOUS CONTRACTS AND COMPLIANCE REPORTS (APR 1984)

The offeror represents that--

(a) It /_/ has, /_/ has not, participated in a previous contract or subcontract subject either to the Equal Opportunity clause of this solicitation, the clause originally contained in Section 310 of Executive Order No. 10925, or the clause contained in Section 201 of Executive Order No. 11114;

(b) It /_/ has, /_/ has not, filed all required compliance reports; and

(c) Representations indicating submission of required compliance reports, signed by proposed subcontractors, will be obtained before subcontract awards.

(End of provision)
(R 7-2003.14(b)(1)(B) 1973 APR)

K.15 52.222-25 AFFIRMATIVE ACTION COMPLIANCE (APR 1984)

The offeror represents that (a) it /_/ has developed and has on file, /_/ has not developed and does not have on file, at each establishment, affirmative action programs required by the rules and regulations of the Secretary of Labor (41 CFR 60-1 and 60-2), or (b) it /_/ has not previously had contracts subject to the written affirmative action programs requirement of the rules and regulations of the Secretary of Labor.

(End of provision)
(R 7-2003.14(b) 1979 SEP)
(R 1-12.805-4)

K.16 52.223-1 CLEAN AIR AND WATER CERTIFICATION (APR 1984)

The Offeror certifies that--

(a) Any facility to be used in the performance of this proposed contract is is not listed on the Environmental Protection Agency (EPA) List of Violating Facilities;

(b) The Offeror will immediately notify the Contracting Officer, before award, of the receipt of any communication from the Administrator, or a designee, of the EPA, indicating that any facility that the Offeror proposes to use for the performance of the contract is under consideration to be listed on the EPA List of Violating Facilities; and

(c) The Offeror will include a certification substantially the same as this certification, including this paragraph (c), in every nonexempt subcontract.

(End of provision)
(AV 7-2003.71 1977 JUN)
(AV 1-1.2302-1)

K.17 52.223-5 CERTIFICATION REGARDING A DRUG-FREE WORKPLACE (JUL 1995)

(a) Definitions. As used in this provision,

"Controlled substance" means a controlled substance in schedules I through V of section 202 of the Controlled Substances Act (21 U.S.C. 812) and as further defined in regulation at 21 CFR 1308.11 - 1308.15.

"Conviction" means a finding of guilt (including a plea of nolo contendere) or imposition of sentence, or both, by any judicial body charged with the responsibility to determine violations of the Federal or State criminal drug statutes.

"Criminal drug statute" means a Federal or non-Federal criminal statute involving the manufacture, distribution, dispensing, possession or use of any controlled substance.

"Drug-free workplace" means the site(s) for the performance of work done by the Contractor in connection with a specific contract at which employees of the Contractor are prohibited from engaging in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance.

"Employee" means an employee of a Contractor directly engaged in the performance of work under a Government contract. "Directly engaged" is defined to include all direct cost employees and any other Contractor employee who has other than a minimal impact or involvement in contract

performance.

"Individual" means an offeror/contractor that has no more than one employee including the offeror/contractor.

(b) By submission of its offer, the offeror (other than an individual) responding to a solicitation that is expected to exceed the simplified acquisition threshold, certifies and agrees, that with respect to all employees of the offeror to be employed under a contract resulting from this solicitation, it will--no later than 30 calendar days after contract award (unless a longer period is agreed to in writing), for contracts of 30 calendar days or more performance duration; or as soon as possible for contracts of less than 30 calendar days performance duration, but in any case, by a date prior to when performance is expected to be completed--

(1) Publish a statement notifying such employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the Contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition;

(2) Establish an ongoing drug-free awareness program to inform such employees about--

(i) The dangers of drug abuse in the workplace;

(ii) The Contractor's policy of maintaining a drug-free workplace;

(iii) Any available drug counseling, rehabilitation, and employee assistance programs; and

(iv) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

(3) Provide all employees engaged in performance of the contract with a copy of the statement required by subparagraph (b)(1) of this provision;

(4) Notify such employees in writing in the statement required by subparagraph (b)(1) of this provision, that as a condition of continued employment on the contract resulting from this solicitation, the employee will--

(i) Abide by the terms of the statement; and

(ii) Notify the employer in writing of the employee's conviction under a criminal drug statute for a violation occurring in the workplace no later than 5 calendar days after such conviction;

(5) Notify the Contracting Officer in writing within 10 calendar days after receiving notice under subdivision (b)(4)(ii) of this provision, from an employee or otherwise receiving actual notice of such conviction. The notice shall include the position title of the employee; and

in 30 calendar days after receiving notice under subdivision
) of this provision of a conviction, take one of the following
 with respect to any employee who is convicted of a drug abuse
 occurring in the workplace:
 take appropriate personnel action against such employee, up to
 including termination; or
 require such employee to satisfactorily participate in a drug
 assistance or rehabilitation program approved for such purposes
 Federal, State, or local health, law enforcement, or other
 State agency.
 make a good faith effort to maintain a drug-free workplace through
 the implementation of subparagraphs (b)(1) through (b)(6) of this provision.
 In connection with the submission of its offer, the offeror, if an individual who is
 the offeror of any dollar value, certifies and agrees that the offeror
 is not a party to the unlawful manufacture, distribution, dispensing,
 or use of a controlled substance in the performance of the
 work resulting from this solicitation.
 Failure of the offeror to provide the certification required by
 (b) or (c) of this provision, renders the offeror unqualified
 to be awarded the contract. (See FAR 9.104-1(g) and 19.602-1(a)(2)(f).)
 In addition to other remedies available to the Government, the
 offeror's failure to comply with paragraphs (b) or (c) of this provision concerns a matter
 within the jurisdiction of an agency of the United States and the making
 of a false, fictitious, or fraudulent certification may render the maker
 liable for prosecution under Title 18, United States Code, Section 1001.
 (End of provision)

BUY AMERICAN CERTIFICATE (DEC 1989)

The offeror certifies that each end product, except those listed
 as domestic end product (as defined in the clause entitled
 "Buy American Act--Supplies"), and that components of unknown origin
 are not known to have been mined, produced, or manufactured outside
 the United States.

End Products

Country of Origin

(List as necessary)
Offerors may obtain from the contracting officer lists of articles,
materials, and supplies excepted from the Buy American Act.
(End of provision)

K.19 252.209-7001 DISCLOSURE OF OWNERSHIP OR CONTROL BY THE GOVERNMENT OF A TERRORIST
COUNTRY (SEP 1994)

(a) Definitions.

As used in this provision--

(1) "Government of a terrorist country" includes the state and the government of a terrorist country, as well as any political subdivision, agency, or instrumentality thereof.

(2) "Terrorist country" means a country determined by the Secretary of State, under section 6(j)(1)(A) of the Export Administration Act of 1979 (50 U.S.C. App. 2405(j)(1)(A)), to be a country the government of which has repeatedly provided support for acts of international terrorism. As of the date of this provision, terrorist countries include: Cuba, Iran, Iraq, Libya, North Korea, Sudan, and Syria.

(3) "Significant interest" means--

(i) Ownership of or beneficial interest in 5 percent or more of the firm's or subsidiary's securities. Beneficial interest includes holding 5 percent or more of any class of the firm's securities in "nominee shares," "street names," or some other method of holding securities that does not disclose the beneficial owner;

(ii) Holding a management position in the firm, such as a director or officer;

(iii) Ability to control or influence the election, appointment, or tenure of directors or officers in the firm;

(iv) Ownership of 10 percent or more of the assets of a firm such as equipment, buildings, real estate, or other tangible assets of the firm; or

(v) Holding 50 percent or more of the indebtedness of a firm.

(b) Prohibition on award.

In accordance with 10 U.S.C. 2327, no contract may be awarded to a firm

or a subsidiary of a firm if the government of a terrorist country has a significant interest in the firm or subsidiary, unless a waiver is granted by the Secretary of Defense.

(c) Disclosure.

If the government of a terrorist country has a significant interest in the Offeror or a subsidiary of the Offeror, the Offeror shall disclose such interest in an attachment to its offer. If the Offeror is a subsidiary, it shall also disclose any significant interest the government of a terrorist country has in any firm that owns or controls the subsidiary. The disclosure shall include--

- (1) Identification of each government holding a significant interest; and
- (2) A description of the significant interest held by each government.

(End of provision)

K.20 252.219-7000 . SMALL DISADVANTAGED BUSINESS CONCERN REPRESENTATION (D&D CONTRACTS) (APR 1994)

(a) Definition. "Small disadvantaged business concern," as used in this provision, means a small business concern, owned and controlled by individuals who are both socially and economically disadvantaged, as defined by the Small Business Administration at 13 CFR Part 124, the majority of earnings of which directly accrue to such individuals. This term also means a small business concern owned and controlled by an economically disadvantaged Indian tribe or Native Hawaiian organization which meets the requirements of 13 CFR 124.112 or 13 CFR 124.113, respectively. In general, 13 CFR Part 124 describes a small disadvantaged business concern as a small business concern--

- (1) Which is at least 51 percent unconditionally owned by one or more socially and economically disadvantaged individuals; or
- (2) In the case of any publicly owned business, at least 51 percent of the voting stock is unconditionally owned by one or more socially and economically disadvantaged individuals; and
- (3) Whose management and daily business operations are controlled by one or more such individuals.

(b) Representations. Check the category in which your ownership falls--

- _____ Subcontinent Asian (Asian-Indian) American (U.S. citizen with origins from India, Pakistan, Bangladesh, Sri Lanka, Bhutan, or Nepal)
- _____ Asian-Pacific American (U.S. citizen with origins from Japan,

China, the Philippines, Vietnam, Korea, Samoa, Guam, U.S. Trust Territory of the Pacific Islands (Republic of Palau), the Northern Mariana Islands, Laos, Kampuchea (Cambodia), Taiwan, Burma, Thailand, Malaysia, Indonesia, Singapore, Brunei, Republic of the Marshall Islands, or the Federated States of Micronesia)

Black American (U.S. citizen)

Hispanic American (U.S. citizen with origins from South America, Central America, Mexico, Cuba, the Dominican Republic, Puerto Rico, Spain, or Portugal)

Native American (American Indians, Eskimos, Aleuts, or Native Hawaiians, including Indian tribes or Native Hawaiian organizations)

Individual/concern, other than one of the preceding, currently certified for participation in the Minority Small Business and Capital Ownership Development Program under Section 8(a) of the Small Business Act

Other

(c) Certifications. Complete the following--

(1) The offeror is is not a small disadvantaged business concern.

(2) The Small Business Administration (SBA) has has not made a determination concerning the offeror's status as a small disadvantaged business concern. If the SBA has made a determination, the date of the determination was _____ and the offeror--

Was found by SBA to be socially and economically disadvantaged and no circumstances have changed to vary that determination.

Was found by SBA not to be socially and economically disadvantaged but circumstances which caused the determination have changed.

(d) Penalties and Remedies. Anyone who misrepresents the status of a concern as a small disadvantaged business for the purpose of securing a contract or subcontract shall--

(1) Be punished by imposition of a fine, imprisonment, or both;

(2) Be subject to administrative remedies, including suspension and debarment; and

(3) Be ineligible for participation in programs conducted under authority of the Small Business Act.

(End of provision)

The Offeror shall attach to its offer an identification of all documents or other media incorporating technical data or computer software it intends to deliver under this contract with other than unlimited rights that are identical or substantially similar to documents or other media that the Offeror has produced for, delivered to, or is obligated to deliver to the Government under any contract or subcontract. The attachment shall identify--

- (a) The contract number under which the data or software were produced;
- (b) The contract number under which, and the name and address of the organization to whom, the data or software were most recently delivered or will be delivered; and
- (c) Any limitations on the Government's right to use or disclose the data or software, including, when applicable, identification of the earliest date the limitations expire.

(End of provision)

K.22 52.223-5013 CERTIFICATION OF TOXIC CHEMICAL RELEASE REPORTING (OCT 1995)

(a) The offeror, by signing this offer, certifies that --

(NOTE: The offeror must check the appropriate box(es).)

(X) (1) To the best of its knowledge and belief, it is not subject to the filing and reporting requirements described in Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) sections 313(a) and (g) and Pollution Prevention Act of 1990 (PPA) section 6607 because none of its owned or operated facilities to be used in the performance of this contract currently --

(X) (i) Manufacture, process or otherwise use any toxic chemicals listed under section 313(c) of EPCRA, 42 U.S.C. 11023(c).

(X) (ii) Have 10 or more full-time employees as specified in section 313(b)(1)(A) of EPCRA, 42 U.S.C. 11023 (b)(1)(A).

(X) (iii) Meet the reporting thresholds of toxic chemicals established under section 313(f) of EPCRA, 42 U.S.C. 11023(f) (including the alternate thresholds at 40 CFR 372.27, provided an

appropriate certification form has been filed with EPA).

(X) (iv) Fall within Standard Industrial Classification Code (SIC) designations 20 through 39 as set forth in FAR section 19.102.

(X) (2) If awarded a contract resulting from this solicitation, its owned or operated facilities to be used in the performance of this contract, unless otherwise exempt, will file and continue to file for the life of the contract the Toxic Chemical Release Inventory Form (Form R) as described in EPCRA sections 313(a) and (g) and PPA section 6607 (42 U.S.C. 13106).

(b) Submission of this certification is a prerequisite for making or entering into this contract imposed by Executive Order 12969, August 8, 1995 (60 FR 40989-40992).

(End of provision)

K.23 52.219-19

SMALL BUSINESS CONCERN REPRESENTATION FOR THE SMALL BUSINESS
COMPETITIVENESS DEMONSTRATION PROGRAM (JUL 1991)

(a) Definition.

"Emerging small business" as used in this solicitation, means a ~~small~~ business concern whose size is no greater than 50 percent of the numerical size standard applicable to the standard industrial classification code assigned to a contracting opportunity.

(b) (Complete only if the Offeror has certified itself under the provision at 52.219-1 as a small business concern under the size standards of this solicitation.)

The Offeror represents and certifies as part of its offer that it / / is, / / is not an emerging small business.

(c) (Complete only if the Offeror is a small business or an emerging small business, indicating its size range.)

Offeror's number of employees for the past 12 months (check this column if size standard stated in solicitation is expressed in terms of number of employees) or Offeror's average annual gross revenue for the last 3 fiscal years (check this column if size standard stated in solicitation is expressed in terms of annual receipts). (Check one of the following.)

No. of Employees	Avg. Annual Gross Revenues
<u> </u> 50 or fewer	<u> </u> \$1 million or less
<u> </u> 51-100	<u> </u> \$1,000,001-\$2 million
<u> </u> 101-250	<u> </u> \$2,000,001-\$3.5 million
<u> </u> 251-500	<u> </u> \$3,500,001-\$5 million
<u> </u> 501-750	<u> </u> \$5,000,001-\$10 million
<u> </u> 751-1,000	<u> </u> \$10,000,001-\$17 million
<u> </u> Over 1,000	<u> </u> Over \$17 million

END OF SECTION K

1.2 LISTING OF CONTRACT CLAUSES INCORPORATED BY REFERENCESECTION I PART I
CONTRACT CLAUSES

1.1	52.252-2	CLAUSES INCORPORATED BY REFERENCE (JUN 1988)
1.2	52.219-14	LIMITATIONS ON SUBCONTRACTING (JAN 1991)
1.3	52.203-3	GRATUITIES (APR 1984)
1.4	52.203-5	COVENANT AGAINST CONTINGENT FEES (APR 1984)
1.5	52.203-6	RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT (JUL 1995)
1.6	52.203-7	ANTI-KICKBACK PROCEDURES (JUL 1995)
1.7	52.203-9	REQUIREMENT FOR CERTIFICATE OF PROCUREMENT INTEGRITY MODIFICATION (SEPT 1995)
1.8	52.203-10	PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY (SEPT 1990)
1.9	52.203-12	LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (JAN 1990)
1.10	52.204-4	PRINTING/COPYING DOUBLE-SIDED ON RECYCLED PAPER (MAY 1995)
1.11	52.209-6	PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT (AUG 1995)
1.12	52.215-2	AUDIT AND RECORDS--NEGOTIATION (OCT 1995)
1.13	52.215-22	PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA (OCT 1995)
1.14	52.215-24	SUBCONTRACTOR COST OR PRICING DATA (OCT 1995)
1.15	52.215-27	TERMINATION OF DEFINED BENEFIT PENSION PLANS (MAR 1996)
1.16	52.215-39	REVISION OR ADJUSTMENT OF PLANS FOR POSTRETIREMENT BENEFITS OTHER THAN PENSIONS (PRB) (MAR 1996)
1.17	52.215-40	NOTIFICATION OF OWNERSHIP CHANGES (FEB 1995)
1.18	52.219-8	UTILIZATION OF SMALL, SMALL DISADVANTAGED AND WOMEN-OWNED SMALL BUSINESS CONCERNS (OCT 1995)
1.19	52.219-9	SMALL, SMALL DISADVANTAGED AND WOMEN-OWNED SMALL BUSINESS SUBCONTRACTING PLAN (OCT 1995)
1.20	52.219-16	LIQUIDATED DAMAGES--SUBCONTRACTING PLAN (OCT 1995)

Subcontract No.

DEPARTMENT OF DEFENSE

- 1.47 252.203-7001 SPECIAL PROHIBITION ON EMPLOYMENT (NOV 1995)
- 1.48 252.203-7002 DISPLAY OF DOD HOTLINE POSTER (DEC 1991)
- 1.49 252.204-7000 DISCLOSURE OF INFORMATION (DEC 1991)
- 1.50 252.204-7003 CONTROL OF GOVERNMENT PERSONNEL WORK PRODUCT (APR 1992)
- 1.51 252.205-7000 PROVISION OF INFORMATION TO COOPERATIVE AGREEMENT HOLDERS (DEC 1991)
- 1.52 252.215-7000 PRICING ADJUSTMENTS (DEC 1991)
- 1.53 252.215-7002 COST ESTIMATING SYSTEM REQUIREMENTS (DEC 1991)
- 1.54 252.222-7001 RIGHT OF FIRST REFUSAL OF EMPLOYMENT--CLOSURE OF MILITARY INSTALLATIONS (APR 1993)
- 1.55 252.223-7001 HAZARD WARNING LABELS (DEC 1991)
- 1.56 252.223-7004 DRUG-FREE WORK FORCE (SEP 1988)
- 1.57 252.223-7006 PROHIBITION ON STORAGE AND DISPOSAL OF TOXIC AND HAZARDOUS MATERIALS (APR 1993)
- 1.58 252.225-7031 SECONDARY ARAB BOYCOTT OF ISRAEL (JUN 1992)
- 1.59 252.227-7022 GOVERNMENT RIGHTS (UNLIMITED) (MAR 1979)
- 1.60 252.227-7023 DRAWINGS AND OTHER DATA TO BECOME PROPERTY OF GOVERNMENT (MAR 1979)
- 1.61 252.227-7025 LIMITATIONS ON THE USE OR DISCLOSURE OF GOVERNMENT-FURNISHED INFORMATION MARKED WITH RESTRICTIVE LEGENDS (JUN 1995)
- 1.62 252.227-7030 TECHNICAL DATA--WITHHOLDING OF PAYMENT (OCT 1988)
- 1.63 252.227-7036 CERTIFICATION OF TECHNICAL DATA CONFORMITY (MAY 1987)
- 1.64 252.231-7000 SUPPLEMENTAL COST PRINCIPLES (DEC 1991)
- 1.65 252.232-7006 REDUCTION OR SUSPENSION OF CONTRACT PAYMENTS UPON FINDING OF FRAUD (AUG 1992)
- 1.66 252.233-7000 CERTIFICATION OF CLAIMS AND REQUESTS FOR ADJUSTMENT OR RELIEF (MAY 1994)
- 1.67 252.242-7000 POSTAWARD CONFERENCE (DEC 1991)
- 1.68 252.215-33 ORDER OF PRECEDENCE (JAN 1986)

Subcontract No.

- 1.69 52.215-41 REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COST OR PRICING DATA (OCT 1995)
- 1.70 52.215-42 REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COSTS OR PRICING DATA--MODIFICATIONS (OCT 1995)
- 1.71 52.216-18 ORDERING (OCT 1995)
- 1.72 52.216-22 INDEFINITE QUANTITY (OCT 1995)
- 1.73 52.217-9 OPTION TO EXTEND THE TERM OF THE CONTRACT (MAR 1989)
- 1.74 252.219-7003 SMALL, SMALL DISADVANTAGED AND WOMEN-OWNED SMALL BUSINESS SUBCONTRACTING PLAN (DOD CONTRACTS) (NOV 1995)
- 1.75 252.219-7005 INCENTIVE FOR SUBCONTRACTING WITH SMALL BUSINESSES, SMALL DISADVANTAGED BUSINESSES, HISTORICALLY BLACK COLLEGES AND UNIVERSITIES, AND MINORITY INSTITUTIONS (NOV 1995)
- 1.76 252.227-7037 VALIDATION OF RESTRICTIVE MARKINGS ON TECHNICAL DATA (NOV 1995)
- 1.77 252.247-7023 TRANSPORTATION OF SUPPLIES BY SEA (NOV 1995)
- 1.78 52.233-3 PROTEST AFTER AWARD (OCT 1995)
- 1.79 252-243-7001 PRICING OF CONTRACT MODIFICATIONS (DEC 1991)
- 1.80 252.251-7000 ORDERING FROM GOVERNMENT SUPPLY SOURCES (MAY 1995)
- 1.81 52.228-5 INSURANCE--WORK ON A GOVERNMENT INSTALLATION (SEP 1989)
- 1.82 52.229-3 FEDERAL, STATE, AND LOCAL TAXES (JAN 1991)

END OF SECTION 1

**SECTION I PART IV
APPLICABLE TO ALL FIRM PRICE CONSTRUCTION TASK ORDERS**

IV.1	52.202-1 I	DEFINITIONS (OCT 1995)--ALTERNATE I (APR 1984)
IV.2	52.204-2 II	SECURITY REQUIREMENTS (JUL 1995)--ALTERNATE II (APR 1984)
IV.3	52.222-6	DAVIS-BACON ACT (FEB 1995)
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IV.5	52.222-8	PAYROLLS AND BASIC RECORDS (FEB 1988)
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IV.7	52.222-10	COMPLIANCE WITH COPELAND ACT REQUIREMENTS (FEB 1988)
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IV.9	52.222-12	CONTRACT TERMINATION--EBARMENT (FEB 1988)
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IV.11	52.222-14	DISPUTES CONCERNING LABOR STANDARDS (FEB 1988)
IV.12	52.222-15	CERTIFICATION OF ELIGIBILITY (FEB 1988)
IV.13	52.222-16	APPROVAL OF WAGE RATES (FEB 1988)
IV.14	52.222-27	AFFIRMATIVE ACTION-- COMPLIANCE REQUIREMENTS FOR CONSTRUCTION (APR 1984)
IV.15	52.225-5	BUY AMERICAN ACT--CONSTRUCTION MATERIALS (MAY 1992)
IV.16	52.225-15	BUY AMERICAN ACT--CONSTRUCTION MATERIALS UNDER TRADE AGREEMENTS ACT AND NORTH AMERICAN FREE TRADE AGREEMENT (JAN 1996)
IV.17	52.227-4	PATENT INDEMNITY--CONSTRUCTION CONTRACTS (APR 1984)
IV.18	52.228-2	ADDITIONAL BOND SECURITY (APR 1984)
IV.19	52.228-11	PLEDGES OF ASSETS (FEB 1992)
IV.20	52.232-5	PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS (APR 1989)
IV.21	52.232-27	PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS (MAR 1994)
IV.22	52.236-1	PERFORMANCE OF WORK BY THE CONTRACTOR (APR 1984)
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Subcontract No.

IV.24	52.236-3	SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK (APR 1984)
IV.25	52.236-4	PHYSICAL DATA (APR 1984)
IV.26	52.236-5	MATERIAL AND WORKMANSHIP (APR 1984)
IV.27	52.236-6	SUPERINTENDENCE BY THE CONTRACTOR (APR 1984)
IV.28	52.236-7	PERMITS AND RESPONSIBILITIES (NOV 1991)
IV.29	52.236-8	OTHER CONTRACTS (APR 1984)
IV.30	52.236-9	PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS (APR 1984)
IV.31	52.236-10	OPERATIONS AND STORAGE AREAS (APR 1984)
IV.32	52.236-11	USE AND POSSESSION PRIOR TO COMPLETION (APR 1984)
IV.33	52.236-12	CLEANING UP (APR 1984)
IV.34	52.236-13 I	ACCIDENT PREVENTION (NOV 1991)--ALTERNATE I (NOV 1991)
IV.35	52.236-14	AVAILABILITY AND USE OF UTILITY SERVICES (APR 1984)
IV.36	52.236-15	SCHEDULES FOR CONSTRUCTION CONTRACTS (APR 1984)
IV.37	52.236-16	QUANTITY SURVEYS (APR 1984)
IV.38	52.236-16 I	QUANTITY SURVEYS (APR 1984)--ALTERNATE I (APR 1984)
IV.39	52.236-17	LAYOUT OF WORK (APR 1984)
IV.40	52.236-21	SPECIFICATION AND DRAWINGS FOR CONSTRUCTION (APR 1984)
IV.41	52.242.14	SUSPENSION OF WORK (OCT 1995)
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IV.43	52.245-2	GOVERNMENT PROPERTY (FIXED-PRICE CONTRACTS) (DEC 1989)
IV.44	52.246-12	INSPECTION OF CONSTRUCTION (JUL 1986)
IV.45	52.248-3 I	VALUE ENGINEERING--CONSTRUCTION (MAR 1989)--ALTERNATE I (APR 1984)
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IV.47	52.249-10	DEFAULT (FIXED-PRICE CONSTRUCTION) (APR 1984)
IV.48	252.227-7033	RIGHTS IN SHOP DRAWING (APR 1966)
IV.49	252-236-7000	MODIFICATION PROPOSALS--PRICE BREAKDOWN (DEC 1991)

IV.50 252.236-7001 CONTRACT DRAWINGS, MAPS, AND SPECIFICATIONS (DEC 1991)

IV.51 252.236-7003 PAYMENT FOR MOBILIZATION AND PREPARATORY WORK
(DEC 1991)

IV.52 252.236-7004 PAYMENT FOR MOBILIZATION AND DEMOBILIZATION
(DEC 1991)

IV.53 252.236-7008 CONTRACT PRICES--BIDDING SCHEDULES (DEC 1991)

END OF SECTION IV



General Decision Number MA990018

General Decision Number MA990018
 Superseded General Decision No. MA990018

CONSTRUCTION
 HEAVY MARINE

County(ies):
 BARNSTABLE ESSEX NORFOLK
 BRISTOL MIDDLESEX PLYMOUTH
 DUKES NANTUCKET SUFFOLK

HEAVY AND MARINE CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	03/12/1999
1	05/14/1999
2	05/21/1999
3	06/04/1999
4	06/11/1999
5	06/18/1999
6	06/25/1999
7	07/16/1999
8	07/30/1999

COUNTY(ies):
 BARNSTABLE ESSEX NORFOLK
 BRISTOL MIDDLESEX PLYMOUTH
 DUKES NANTUCKET SUFFOLK
 BOIL0029A 01/01/1997

	Rates	Fringes
BOILERMAKERS	23.28	12%+8.69

BRMA0001K 09/01/1997

	Rates	Fringes
BRISTOL (Attleboro, Berkley, Dighton, Mansfield, North Attleboro, Norton, Raynham, Rehoboth, Seekonk, Taunton); NORFOLK (Bellingham, Canton, Dedham, Foxboro, Franklin, Norfolk, Norwood, Plainville, Sharon, Walpole, Westwood, Wrentham); and PLYMOUTH (Lakeville) BRICKLAYERS & CEMENT MASONS	26.61	10.14

BRMA0001L 09/01/1997

	Rates	Fringes
MIDDLESEX (Acton, Ashby, Ayer, Bedford, Billerica, Boxboro, Carlisle, Chemsford, Dracut, Dunstabale, Ft Devens, Groton, Littleton, Lowell, North Acton, Pepperell, Shirley, South Acton, Tewksbury, Townsend, Tyngsboro, West Acton, Westford, Wilmington) BRICKLAYERS	25.36	11.39

BRMA0001M 09/01/1997

	Rates	Fringes
MIDDLESEX (Ashland, Framingham, Holliston, Hopkinton, Hudson, Maynard, Natick, Sherborn, Stow); and NORFOLK (Medfield, Medway, Millis) BRICKLAYERS	25.01	11.74

BRMA0003A 07/01/1998

	Rates	Fringes
MARBLE, TILE & TERRAZZO WORKERS	27.25	11.02

TERRAZZO FINISHERS	30.40	6.60
MARBLE & TILE FINISHERS	22.13	10.85

 BRMA0003C 02/01/1998

	Rates	Fringes
MIDDLESEX (Arlington, Cambridge, Everett, Malden, Medford, Melrose, Somerville); NORFOLK (Brookline, Milton); and SUFFOLK BRICKLAYERS	27.96	10.44

 BRMA0003K 02/01/1998

	Rates	Fringes
ESSEX (Amesbury, Andover, Beverly, Boxford, Danvers, Essex, Lawrence, Lynn, Lynnfield, Manchester, Marblehead, Merrimac, Methuen, Middleton, Nahant, Newbury, Newburyport, North Andover, Peabody, Rockport, Rowley, Salisbury, Salem, Saugus, Swampscott, Topsfield, Wakefield, Wenham, West Newbury); and MIDDLESEX (North Reading, Reading, Wakefield) BRICKLAYERS & CEMENT MASONS	27.71	10.69

 BRMA0003L 02/01/1998

	Rates	Fringes
MIDDLESEX (Belmont, Burlington, Concord, Lexington, Lincoln, Stoneham, Sudbury, Waltham, Watertown, Wayland, Weston, Winchester, Woburn) BRICKLAYERS	26.81	11.59
MIDDLESEX (Newton) AND NORFOLK (Dover, Needham, Wellesley) COUNTIES BRICKLAYERS & CEMENT MASONS	27.06	11.34

 BRMA0003M 02/01/1998

	Rates	Fringes
BARNSTABLE; BRISTOL (Acushnet, Darmouth, Fairhaven, Fall River, Freetown, New Bedford, Somerset, Swansea, Westport); DUKES; NANTUCKET; PLYMOUTH (Marion, Mattapoisett, Rochester, Wareham) BRICKLAYERS & CEMENT MASONS	27.41	10.99

 BRMA0003N 02/01/1998

	Rates	Fringes
PLYMOUTH COUNTY (Abington, Bridgewater, Brockton, Carver, Duxbury, East Bridgewater, Halifax, Hanover, Hanson, Hingham, Hull, Kingston, Marshfield, Middleboro, Norwell, Pembroke, Plymouth, Rockland, Scituate, West Bridgewater, Whitman) BRICKLAYERS & CEMENT MASONS	26.46	11.94

 BRMA0032D 02/01/1998

	Rates	Fringes
MIDDLESEX (Newton) AND NORFOLK COUNTIES BRICKLAYERS & CEMENT MASONS	27.06	11.34

 * CARP0026C 04/01/1999

	Rates	Fringes
BRISTOL (Attleborough, North Attleborough); ESSEX; MIDDLESEX (Except Belmont, Somerville); AND NORFOLK (Bellingham, Braintree, Canton, Cohasset, Foxboro, Franklin, Medfield, Medway, Millis, Needham, Norfolk, Norwood, Plainville, Quincy, Sharon, Walpole, Wellesley, Westwood, Weymouth, Wrentham) COUNTIES CARPENTERS	21.38	10.11

 CARP0033C 04/01/1999

	Rates	Fringes
MIDDLESEX (Belmont, Cambridge, Everett, Malden, Medford, Somerville); NORFOLK (Brookline, Dedham, Milton); AND SUFFOLK		

COUNTIES	Rates	Fringes
CARPENTERS	25.27	11.46

CARP0056A 08/01/1998		
	Rates	Fringes
All of SUFFOLK COUNTY; and those areas of BARNSTABLE, BRISTOL, ESSEX, MIDDLESEX, NORFOLK, and PLYMOUTH COUNTIES situated INSIDE Boston Beltway (I-495) and North of Cape Cod Canal		
PILEDRIVERMEN & DIVER TENDERS	24.29	10.91

CARP0056B 04/01/1999		
	Rates	Fringes
4/1/1999UKES and NANTUCKET COUNTIES; and those areas of BARNSTABLE, BRISTOL, PLYMOUTH, and NORFOLK COUNTIES situated OUTSIDE Boston Beltway (I-495) and South of Cape Cod Canal		
PILEDRIVERMEN & DIVER TENDERS	22.08	10.91

CARP0056C 04/01/1999		
	Rates	Fringes
Those areas of ESSEX and MIDDLESEX COUNTIES situated OUTSIDE Boston Beltway (I-495)		
PILEDRIVERMEN & DIVER TENDERS	22.82	10.91

CARP0056D 08/01/1998		
	Rates	Fringes
DIVERS	34.01	10.91

CARP0424A 04/01/1999		
	Rates	Fringes
NORFOLK (Braintree, Quincy, Cohasset, Weymouth, etc.) PLYMOUTH (Duxbury, Hanover, Hull, Mingham, Marshfield, Norwell, Pembroke Rockland, Scituate)		
CARPENTERS	21.38	10.11

CARP0624B 04/01/1999		
	Rates	Fringes
BARNSTABLE; BRISTOL (Except Attleboro & North Attleboro); DUKES; NANTUCKET; NORFOLK (Avon, Holbrook, Randolph, Stoughton); PLYMOUTH (Bridgewater, Kingston, Lakeville, Middleboro, Plymouth, S. Hanover, Whitman)		
CARPENTERS	19.89	10.11

CARP1121A 04/01/1999		
	Rates	Fringes
MILLWRIGHTS	23.71	12.16

ELEC0096A 12/01/1998		
	Rates	Fringes
MIDDLESEX (Ashby, Ashland, Ayer, Ft. Devens, Groton, Hopkinton, Hudson, Marlboro, Pepperell, Shirley, Stow, Townsend)		
ELECTRICIAN	24.44	8.46+3%
TELEDATE SYSTEM INSTALLERS	17.06	6.55

ELEC0099A 06/01/1999		
	Rates	Fringes
BRISTOL (Attleboro, North Attleboro, Seekonk)		
ELECTRICIANS	23.86	41%
TELEDATE SYSTEM INSTALLERS	17.55	4.06+8%

ELEC0103B 09/01/1998		
	Rates	Fringes
ESSEX (Amesbury, Andover, Boxford, Georgetown, Groveland, Haverhill, Lawrence, Merrimac, Methuen, Newbury, Newburyport, North Andover, Rowley, Salisbury, West Newbury); MIDDLESEX (Bedford, Billerica,		

Dracut, Dunstable littleton, Lowell, North Reading, Tewksbury, Tyngsboro, Westford, Wilmington)

	Rates	Fringes
ELECTRICIANS	23.41	12.883

ELEC0103D 09/01/1998

	Rates	Fringes
ESSEX (Beverly, Danvers, Essex, Gloucester, Hamilton, Ipswich, Manchester, Marblehead, Middleton, Peabody, Rockport, Salem, Topsfield, Wenham)		
ELECTRICIANS	22.36	11.22

ELEC0103E 09/01/1998

	Rates	Fringes
ESSEX (Lynn, Lynnfield, Nahant, Saugus, Swampscott); MIDDLESEX (Acton, Arlington Framingham, Holliston, Lexington, Lincoln, Malden, Maynard, Medford, Melrose, Natick, Newton, Reading, Sherborn, Somerville, Stoneham, Sudbury, Wakefield, Waltham, Watertown, Wayland, Weston, Winchester, Woburn); NORFOLK (Bellingham, Braintree, Brookline, Canton, Cohasset, Dedham, Dover, Foxboro, Franklino, Medfield, Medway, Millis, Milton, Needham, Norfolk, Norwood, Quincy, Sharon, Walpole, Wellesley, Westwood, Weymouth, Wrentham); PLYMOUTH (Hingham and Hull); SUFFOLK		
ELECTRICIANS	29.53	12.21

ELEC0104A 09/01/1998

	Rates	Fringes
LINE CONSTRUCTION:		
Lineman	26.00	7.96+3%A

FOOTNOTES:

A. PAID HOLIDAYS: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day; Christmas Day and Columbus Day, provided the employee has been employed 5 working days prior to any one of the listed holidays.

ELEC0223B 09/01/1998

	Rates	Fringes
BARNSTABLE, BRISTOL (Except Attleboro, North Attleboro, Seekonk); DUKES; NANTUCKET; PLYMOUTH (Except Hingham and Hull Twps); NORFOLK (Avon, Halbrook, Randolph, Sloughton)		
ELECTRICIANS	23.20	37%+1.27

ENGI0004I 06/01/1999

	Rates	Fringes
POWER EQUIPMENT OPERATORS:		
Group 1	26.77	10.62+A
Group 2	26.60	10.62+A
Group 3	21.11	10.62+A
Group 4	23.69	10.62+A
Group 5	17.84	10.62+A
Group 6	19.42	10.62+A

FOOTNOTE FOR POWER EQUIPMENT OPERATORS:

A. PAID HOLIDAYS: New Year's Day, Washington's Birthday, Labor Day, Memorial Day, Independence Day, Patriot's Day, Columbus Day, Veteran's Day, Thanksgiving Day, Christmas Day

HOURLY PREMIUM FOR BOOM LENGTHS (Including Jib):

Over 150 ft.	+1.17
Over 185 ft.	+2.06
Over 210 ft.	+2.89
Over 250 ft.	+4.38
Over 295 ft.	+6.07

POWER EQUIPMENT OPERATORS CLASSIFICATIONS [HEAVY CONSTRUCTION]

Group 1: Power shovel; crane; truck crane; derrick; pile driver;

trenching machine; mechanical hoist pavement breaker; cement concrete paver; dragline; hoisting engine; three drum machine; pumpcrete machine; loaders; shovel dozer; front end loader; mucking machine; shaft hoist; steam engine; backhoe; gradall; cable way; fork lift; cherry picker; boring machine; rotary drill; post hole hammer; post hole digger; asphalt plant on job site; concrete batching and/or mixing plant on job site; crusher plant on job site; paving concrete mixer; timber jack

Group 2: Sonic or vibratory hammer; grader; scraper; tandem scraper; bulldozer; tractor; mechanic - maintenance; York rake; mulching machine; paving screed machine; stationary steam boiler; paving concrete finishing machine; grout pump; portable steam boiler; portable steam generator; roller; spreader; asphalt paver; locomotives or machines used in place thereof; tamper (self propelled or tractor-draw); cal tracks; ballast regulator; rail anchor machine; switch tamper; tire truck

Group 3: Pumps (1-3 grouped); compressor; welding machines (1-3 grouped); generator; sighting plant; heaters (power driven, 1-5); syphon-pulsometer; concrete mixer; valves controlling permanent plant air steam, conveyor, wellpoint system (operating)

Group 4: Assistant engineer (fireman)

Group 5: Oiler (other than truck cranes and gradalls)

Group 6: Oiler (on truck cranes and gradalls)

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

[MARINE CONSTRUCTION]

Group 1: Shovel; crane; truck crane; cherry picker; derrick; pile driver; two or more drum machines; lighters; derrick boats; trenching machines; mechanic hoist pavement breakers; cement concrete pavers; draglines; hoisting engines; pumpcrete machines elevating graders; shovel dozer; front end loader; backhoe; gradall; cable ways; boring machine; rotary drill; post hole digger; fork lift; timber jack; asphalt plant batching and/or mixing plant (on site); paving concrete mixer

Group 2: Stationary steam boiler; portable steam generator; sonic or vibratory hammer; grader; scraper; tandem scraper; concrete pump; bulldozer; tractor; York rake; mulching machine; roller; spreader; tamper (self-propelled or tractor-drawn); asphalt paver; concrete mixer with side loader; mechanic - maintenance; cal tracks; ballast regulator; switch tamper; rail anchor machine; tire truck

Group 3: Pumps (1-3 grouped); compressor; welding machines (1-3 grouped); generator; lighting plant; heaters (power driven 1-5); syphon-pulsometer; concrete mixer; valves controlling permanent plant air or steam; conveyor; well point systems; auger (powered by independent engines and attached to pile drivers); hydraulic saws

Group 4: Fireman

Group 5: Assistant engineer (other than truck crane and gradall)

Group 6: Assistant engineer (on truck crane and gradall)

IRON0007A 03/16/1999

	Rates	Fringes
BRISTOL (Easton);	ESSEX (Beverly, Gloucester, Lynn, Lynnfield, Manchester, Marblehead, Nahant, Salem, Saugus, Swampscott);	
MIDDLESEX (Arlington, Bedford, Belmont, Burlington, Cambridge, Concord, Everett, Framingham, Lexington, Lincoln, Malden, Maynard, Medford, Melrose, Natick, Newton, Reading, Sherborn, Somerville, Stoneham, Sudbury, Wakefield, Waltham, Watertown, Wayland, Weston, Winchester, Woburn);	NORFOLK (Except Medway);	PLYMOUTH (Abington, Bridgewater, Brockton, Duxbury, East Bridgewater, Halifax, Hanover, Hanson, Hingham, Hull, Kingston, Marshfield, Norwell, Pembroke, Plymouth, Plympton, Rockland, Scituate, West Bridgewater, Whitman);
	SUFFOLK	

IRONWORKERS	24.75	13.44
ESSEX (Amesbury, Andover, Boxford, Danvers, Essex, Georgetown, Hamilton, Haverhill, Ipswich, Lawrence, Merrimac, Methuen, Newbury, Newburyport, North Andover, Rockport, Rowley, Salisbury, Topsfield, Wenham, West Newbury); MIDDLESEX (Action, Billerica, Carlisle, Chelmsford, Dracut, Dunstable, Groton, Groveland, Littleton, Lowell, Middleton, North Reading, Pepperell, Tewksbury, Tyngsboro, Westford, Wilmington)		
IRONWORKERS	20.34	13.44

IRON0037B 01/04/1999

	Rates	Fringes
BARNSTABLE; BRISTOL (Amherst, Attleboro, Berkley, Dartmouth, Dighton, Fairhaven, Fall River, Freetown, Mansfield, New Bedford, North Attleboro, Norton, Raynham, Rehoboth, Seekonk, Somerset, Swansea, Taunton, Westport); DUKES; NANTUCKET; NORFOLK (Billingham, Franklin, Plainville, Wrentham); PLYMOUTH (Lakeville, Marion, Mattapoisett, Middleboro, Rochester, Wareham)		
IRONWORKERS	23.33	11.40

IRON0057A 05/01/1999

	Rates	Fringes
MIDDLESEX (Ashby, Ashland, Ayer, Boxboro, Holliston, Hopkinton, Hudson, Marlboro, Shirley, Stow, Townsend); NORFOLK (Medway)		
IRONWORKERS	25.90	12.00

LABO0022F 06/01/1999

	Rates	Fringes
SUFFOLK COUNTY (Boston, Cambridge, Chelsea, Deer Island, Nut Island, Revere, Winthrop)		
LABORERS :		
GROUP 1	20.75	7.95
GROUP 2	21.00	7.95
GROUP 3	21.50	7.95
GROUP 4	21.75	7.95
GROUP 5	14.85	7.95
GROUP 6	22.75	7.95

LABORERS CLASSIFICATIONS

- GROUP 1: Laborers; carpenter tenders; cement finisher tenders
- GROUP 2: Asphalt raker; fence and guard rail erector; laser beam operator; mason tender; pipelayer; pneumatic drill operator; pneumatic tool operator; wagon drill operator
- GROUP 3: Air track operator; block paver; rammer; curb setter
- GROUP 4: Blaster; powderman
- GROUP 5: Flagger
- GROUP 6: Asbestos Abatement; Toxic and Hazardous Waste Laborers

LABO0022L 06/01/1999

	Rates	Fringes
BARNSTABLE, BRISTOL, DUKES, ESSEX, MIDDLESEX, NANTUCKET, NORFOLK AND PLYMOUTH COUNTIES		
LABORERS:		
GROUP 1	19.05	7.45
GROUP 2	19.30	7.45
GROUP 3	19.80	7.45
GROUP 4	20.05	7.45
GROUP 5	13.15	7.45
GROUP 6	21.05	7.45

LABORERS CLASSIFICATIONS

- GROUP 1: Laborers; carpenter tenders; cement finisher tenders
- GROUP 2: Asphalt raker; fence and guard rail erector; laser beam operator; mason tender; pipelayer; pneumatic drill operator; pneumatic tool operator; wagon drilloperator
- GROUP 3: Air track operator; block paver; rammer; curb setter

GROUP 4: Blaster; powderman
 GROUP 5: Flagger
 GROUP 6: Asbestos Abatement; Toxic and Hazardous Waste Laborers

LABO0022M 06/01/1999

	Rates	Fringes
LABORERS (TUNNELS, CAISSON & CYLINDER WORK IN COMPRESSED AIR)		
GROUP 1	20.70	7.20+A
GROUP 2	31.18	7.20+A
GROUP 3	31.18	7.20+A
GROUP 4	31.18	7.20+A
GROUP 5	33.18	7.20+A

LABORERS CLASSIFICATIONS

GROUP 1: Powder watchman; Top man on iron bolt; change house attendant
 GROUP 2: Brakeman; trackman; groutman; laborer; outside lock tender; lock tender; guage tender
 GROUP 3: Motorman
 GROUP 4: Blaster
 GROUP 5: Mucking machine operator

LABORERS (FREE AIR OPERATION):

SHIELD DRIVEN AND LINER PLATE IN FREE AIR)

GROUP 1	23.25	7.20+A
GROUP 2	23.25	7.20+A

LABORERS CLASSIFICATIONS

GROUP 1: Miner; miner welder; conveyor operator; motorman; mucking machine operator; nozzle man; grout man; shaft and tunnel steel and rodman; shield and erector arm operators

GROUP 2: Brakeman; trackman

CLEANING CONCRETE AND CAULKING TUNNEL (Both New & Existing)

GROUP 1	23.25	7.20+A
GROUP 2	23.25	7.20+A

LABORERS CLASSIFICATIONS

GROUP 1: Concrete workers; strippers and form movers (wood & steel rock shaft, concrete lining of same and tunnel in free air

GROUP 2: Form erector

ROCK SHAFT, CONCRETE LINING OF SAME AND TUNNEL IN FREE AIR

GROUP 1	20.70	7.20+A
GROUP 2	23.25	7.20+A
GROUP 3	23.25	7.20+A
GROUP 4	23.25	7.20+A

LABORERS CLASSIFICATIONS

GROUP 1: Change house attendants

GROUP 2: L

GROUP 3: Brakeman; trackman; tunnel laborers; shaft laborers

GROUP 4: Miner; cage tender; bellman

LABORERS (OPEN AIR CAISSONS, UNDERPINNING AND TEST BORING INDUSTRIES):

OPEN AIR CAISSON, UNDERPINNING WORK & BORING CREW

Laborers; Top man	20.75	7.20+A
Bottom man	21.70	7.20+A

TEST BORING & WELL DRILLING

Laborer	20.75	7.20+A
Driller	22.15	7.20+A

FOOTNOTE FOR LABORERS:

A. PAID HOLIDAYS: New Year's Day, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Columbus Day, Veteran's Day, Thanksgiving Day, and Christmas Day

LAB01421A 06/01/1999

	Rates	Fringes
ESSEX; SUFFOLK; MIDDLESEX; NORFOLK; AND PLYMOUTH COUNTIES		
WRECKING LABORERS:		
Yardmen Laborer (Salvage Yard only)	16.85	7.95
Yardmen Burners, Sawyers	19.95	7.95
Wrecking Laborers	20.85	7.95
Adzeman	20.85	7.95
Burners, Jackhammers	21.10	7.95
Small Front Loaders on Tracks and Bobcat Operators	21.35	7.95
Asbestos Removers	22.85	7.95
BARNSTABLE; BRISTOL; DUKES; AND NANTUCKET COUNTIES		
WRECKING LABORERS	20.85	7.95

PAIN0035A 07/01/1999

	Rates	Fringes
BARNSTABLE BRISTOL; DUKES; ESSEX; NANTUCKET; PLYMOUTH (Remainder of NORFOLK; MIDDLESEX AND SUFFOLK COUNTIES)		
PAINTERS:		
NEW CONSTRUCTION:		
Brush	24.75	9.17
Spray, Sandblast	25.75	9.17
Bridge	30.01	9.17
REPAINT:		
Brush	22.81	9.17
Spray, Sandblast	23.81	9.17
Bridge	30.01	9.17

PAIN00350 07/01/1999

	Rates	Fringes
MIDDLESEX (Cambridge, Everett, Malden, Medford, Somerville) SUFFOLK COUNTY (Boston, Chelsea) NORFOLK COUNTY (Brookline)		
PAINTERS:		
NEW CONSTRUCTION:		
Brush, Taper	28.05	9.17
Spray, Sandblast	29.05	9.17
REPAINT:		
Brush, Taper	26.11	9.17
Spray, Sandblast	27.11	9.17
Bridge	30.01	9.17

PAIN0035R 06/01/1998

	Rates	Fringes
SIGN PAINTERS	16.38	6.02

PLAS0534A 09/01/1998

	Rates	Fringes
ESSEX (Amesbury, Andover, Boxford, Georgetown, Groveland, Haverhill, Lawrence, Merrimac, Methuen, North Andover, Salisbury, West Newbury); MIDDLESEX (Acton, Arlington, Bedford, Billerica, Burlington, Cambridge, Carlisle, Chemsford, Dracut, Dunstable, Everett, Littleton, Lowell, Malden, Medford, Melrose, Reading, North Reading, Stoneham, Tewksbury, Tyngsboro, Wakefield, Westford, Wilmington, Winchester & Woburn); AND NORFOLK (Brookline, Milton) SUFFOLK COUNTY		
CEMENT MASONS	25.10	14.17

PLUM0004A 03/01/1999

	Rates	Fringes
MIDDLESEX (Ashby, Ayer - West of Greenville branch of Boston and Maine Railroad, Ft. Devens, Groton, Shirley, Townsend)		
PLUMBERS & PIPE FITTERS	23.46	9.20

PLUM0012A 03/01/1999

	Rates	Fringes
ESSEX (Lynn, Lynnfield, Nahant, Saugus, Swampscott); MIDDLESEX (Acton, Arlington of Boston & Maine RR, Bedford, Belmont, Billerica, Boxboro, Burlington, Cambridge, Carlisle, Chelmsford, Concord, Dracut, Dunstable, Everett, Framingham, Hudson, Holliston, Hopkinton, Lexington, Lincoln, Littleton, Lowell, Malden, Marlboro, Maynard, Medford, Melrose, Milton, Newton, North Reading, Pepperell, Reading, Sherborn, Somerville, Stoneham, Stow, Sudbury, Tewksbury, Tyngsboro, Wakefield, Waltham, Watertown, Wayland, Westford, Wilmington, Winchester, Woburn); NORFOLK (Bellingham, Braintree, Brookline, Canton, Cohasset, Dedham, Dover, Foxboro, Franklin, Medfield, Medway, Millis, Milton, Needham, Norfolk, Norwood, Plainville, Quincy, Sharon, Walpole, Wellesley, Westwood, Weymouth, Wrentham); PLYMOUTH (Hingham, Hull, Scituate); SUFFOLK		
PLUMBERS	28.22	11.68

PLUM0051E 09/01/1998

	Rates	Fringes
BARNSTABLE; BRISTOL; DUKES; NANTUCKET; NORFOLK (Avon, Holbrook, Randolph, Stoughton) PLYMOUTH (Remainder of County)		
PLUMBERS & PIPEFITTERS	23.45	9.77

PLUM0138A 09/01/1998

	Rates	Fringes
ESSEX (Ames, Andover, Beverly, Boxford, Byfield, Danvers, Essex, Georgetown, Gloucester, Groveland, Hamilton, Haverhill, Ipswich, Lawrence, Manchester, Marblehead, Merrimac, Methuen, Middleton, Newbury, Newburyport, North Andover, Peabody, Rockport, Rowley, Salem, Salisbury, Topsfield, Wenham, West Newbury)		
PLUMBERS, PIPEFITTERS, and STEAMFITTERS	23.57	10.35

PLUM0537A 03/01/1999

	Rates	Fringes
MIDDLESEX (Arlington, Cambridge, Everett, Malden, Medford, Melrose, Reading, Wakefield, Winchester and Woburn); NORFOLK (Bellingham, Braintree, Brookline, Canton, Cashasset, Dedham, Foxboro, Franklin, Millis, Milton, Sharon, Walpole, Westwood, and Wrentham); PLYMOUTH (Hingham, Hull, Scituate); ESSEX (Lynn, Lynnfield, Nahant, Saugus, Swampscott); SUFFOLK (Boston and Chelsea)		
PIPEFITTERS	28.26	11.69

TEAM0379A 12/01/1998

	Rates	Fringes
TRUCK DRIVERS:		
Group 1	21.03	8.36+A+B
Group 2	21.20	8.36+A+B
Group 3	21.27	8.36+A+B
Group 4	21.39	8.36+A+B
Group 5	21.49	8.36+A+B
Group 6	21.78	8.36+A+B
Group 7	22.07	8.36+A+B

POWER TRUCKS \$.25 DIFFERENTIAL BY AXLE

TUNNEL WORK (UNDERGROUND ONLY) \$.40 DIFFERENTIAL BY AXLE

TRUCK DRIVERS CLASSIFICATIONS

- Group 1: Station wagons; panel trucks; and pickup trucks
- Group 2: Two axle equipment; & forklift operator
- Group 3: Three axle equipment and tireman
- Group 4: Four and Five Axle equipment
- Group 5: Specialized earth moving equipment under 35 tons other than conventional type trucks; low bed; vachual;

- mechanics, paving restoration equipment
 Group 6: Specialized earth moving equipment over 35 tons
 Group 7: Trailers for earth moving equipment (double hookup)

FOOTNOTES:

- A. PAID HOLIDAYS: New Year's Day, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Patriot's Day, Columbus Day, Veteran's Day, Thanksgiving Day, and Christmas Day
- B. PAID VACATION: Employees with 4 months to 1 year of service receive 1/2 day's pay per month; 1 week vacation for 1 - 5 years of service; 2 weeks vacation for 5 - 10 years of service; and 3 weeks vacation for more than 10 years of service

 WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5(a)(1)(v)).

In the listing above, the "SU" designation means that rates listed under that identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
 Wage and Hour Division
 U. S. Department of Labor
 200 Constitution Avenue, N. W.
 Washington, D. C. 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

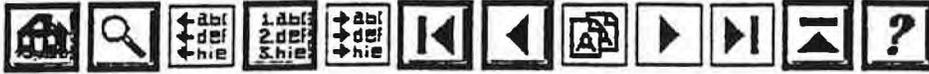
Wage and Hour Administrator
 U.S. Department of Labor
 200 Constitution Avenue, N. W.
 Washington, D. C. 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an

interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to: .
Administrative Review Board
U. S. Department of Labor
200 Constitution Avenue, N. W.
Washington, D. C. 20210

4.) All decisions by the Administrative Review Board are final.
END OF GENERAL DECISION



LETTER OF ASSENT

All prime Contractors and their Subcontractors (at whatever tier) shall agree to be bound by the terms and conditions of the project labor agreement by executing either the Agreement(s) directly or the following Letter of Assent:

(This Letter to be typed on the appropriate Contractor's letterhead)

Mr. Charles Sekinger
Manager, Labor Relations
Stone & Webster Construction Company, Inc.
245 Summer Street
Boston, MA 02210

date:

RE: DEVENS RESERVE FORCES TRAINING AREA LANDFILL
REMEDATION PROJECT LABOR AGREEMENT

_Dear Mr. Sekinger,

Pursuant to the terms of the bid specifications issued for the Devens Reserve Forces Training Area Landfill Project, by Stone & Webster Construction Company, Inc.; and the above-referenced Project Labor Agreement(s) with the Laborers International Union of North America Environmental Partnering Project Agreement, the International Union Of Operating Engineers, and the International Brotherhood of Teamsters National Environmental Remediation Project Agreement; the undersigned Contractor (or Subcontractor) hereby agrees that it will be bound by and comply with all terms and conditions of said labor agreement(s) originally entered into on _____, 1999, _____, 1999, and _____, 1999, respectively, and any Amendments thereto.

This Letter of Assent will remain effective for the duration of the Agreement, and for any extensions, after which this Understanding will automatically terminate.

Sincerely,

(Name of Contractor or Subcontractor)

By: _____
Title

STONE & WEBSTER ENGINEERING CORPORATION
ENVIRONMENTAL PARTNERING PROJECT AGREEMENT

with the

Laborers' International Union of North America, AFL-CIO



January 1995

LIUNA ENVIRONMENTAL PARTNERING PROJECT AGREEMENT -

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ENVIRONMENTAL PARTNERING PROJECT AGREEMENT

between

STONE & WEBSTER ENGINEERING CORPORATION

and the

LABORERS' INTERNATIONAL UNION OF NORTH AMERICA, AFL-CIO

This Agreement is made and entered into this _____ day of _____, 19 ____, by and between Stone & Webster Engineering Corporation (hereinafter referred to as the "Employer") and the Laborers' International Union of North America, AFL-CIO (hereinafter referred to as the "Union") for Environmental Remediation Projects.

ARTICLE I

PURPOSE

Section 1. The purpose of this Agreement is to promote efficiency of operations on the project and provide for peaceful settlement of labor disputes without strikes or lockouts, thereby promoting the public interest in assuring the timely and economical completion of the work.

Section 2. The Employer and the Union desire to mutually establish and stabilize wages, hours and working conditions for the workers employed under this Agreement by the Employer, and further, to encourage close cooperation between the Employer and the Union to the end that a satisfactory, continuous, and harmonious relationship will exist between the parties to this Agreement.

Section 3. The Union has established environmental remediation and hazardous waste training programs which meet or exceed all of the requirements of the federal regulations.

Section 4. The Union has in its Local Union membership throughout the United States the competent, skilled, qualified and certified workers required to perform the work incidental to the effective accomplishment of this project.

ARTICLE II
SCOPE OF AGREEMENT

Section 1. It is the intent of the parties that this Agreement be utilized as a stabilization agreement for environmental remediation projects. Extensions for this Agreement shall be sought by the Employer, in writing, on an individual location basis via the completion of Addendum "A".

Section 2. The Employer recognizes the Union as the sole and exclusive bargaining representatives for all employees performing work coming within the recognized trade jurisdiction of the Union. This Agreement is between the Employer and the International Union.

Section 3. This Agreement shall not apply to executives, engineers, technicians, draftsmen, supervisors, assistant supervisors, timekeepers, messengers, office workers, guards, or other nonmanual employees.

Section 4. This Agreement represents the complete understanding of the parties; and the Employer shall not be required to sign any other agreement during the performance of the work described herein, except such participation agreements, relating to the payment of fringe benefits, which may be required by any fringe benefit trust fund.

Section 5. Both parties recognize that there may be extenuating circumstances when it is to the mutual interest of both parties to modify the terms of this Agreement. In that event, it will not be a violation of this Agreement for the parties to meet and mutually agree to make such modifications to meet a specific need on a specific project.

Section 6. This Agreement shall supersede all other agreements between the Employer and any Local of the Union for any work covered herein.

Section 7. The liability of the Employer and the liability of the Union shall be several and not joint.

ARTICLE III
UNION SECURITY

Section 1. The employees covered by this agreement shall become and remain members of the Union as a condition of employment from the seventh (7th) but not later than the eighth (8th) day of employment, or the effective date of this Agreement, whichever is later.

Section 2. It is further agreed that all Union members employed by the Employer shall maintain their membership in good standing in the Union.

Section 3. Failure of any employee to pay or tender normal initiation fees or dues as required by this Agreement shall, upon the request of the Union in writing, result in the termination of such employee.

ARTICLE IV
REFERRAL OF EMPLOYEES

Section 1. The Employer shall have the right to select and hire directly all supervisors it considers necessary and desirable. Applicants for the various classifications covered by the Agreement required by the Employer on its projects shall be referred to the Employer by the Union and/or its respective Local Unions. The Employer shall have the right to determine the competency of all employees, the right to determine the number of employees required, and the sole responsibility for selecting the employees to be laid off, discharges, suspended or disciplined for proper cause. The Employer shall also have the right to reject any applicant referred by the Union and/or its respective Local Unions.

Section 2. The Union represents that its Local Unions administer and control their referrals and it is agreed that these referrals will be made in a nondiscriminatory manner and in full compliance with federal, state and local laws and regulations which require equal employment opportunities and nondiscrimination. Referrals shall not be affected in any way by the rules, regulations, by-laws, constitutional provisions, or any other aspect or obligation of Union membership, policies or requirements.

Section 3. In the event the referral facilities maintained by the Local Unions do not refer the employees as requested by the Employer within a forty-eight (48) hour period after such requisition is made by the Employer (Saturdays, Sundays and Holidays excluded), the Employer may employ applicants from any source.

Section 4. The Employer agrees to be bound by the hiring referral rules in a local area not inconsistent with the terms of this Agreement. Where the hiring referral rules that prevail in a local area are on other than an exclusive basis, such rules shall be applicable if not in violation of either state or federal law.

Section 5. The Union and its respective Local Unions will exert their utmost efforts to recruit sufficient number of skilled and certified craftsmen to fulfill the manpower requirements of the Employer.

Section 6. The Employer shall have the right to assign key employees to the project. Key employees are defined as craft employees who possess special skills or abilities and are not readily available in the area. Key personnel shall be named and agreed to by the parties at the pre-job conference.

Section 7. Where governmental agencies impose equal employment obligations on the Employer's project, referral procedures shall be subordinate to such obligations.

Section 8. The Employer shall have the right to recall to employment within six months of layoff employees previously assigned to work covered by this Agreement.

Section 9. In referring to employees in this Agreement, the masculine gender is used for convenience only and shall refer both to males and females.

ARTICLE V
MANAGEMENT RIGHTS

Section 1. The Employer retains and shall exercise full and exclusive authority and responsibility for the management of its operations, except as expressly limited by the terms of this Agreement.

ARTICLE VI
HOURS OF WORK, OVERTIME, SHIFTS AND HOLIDAYS

Section 1. The standard work day shall consist of eight (8) hours of work between 6:00 a.m. and 6:00 p.m. with one-half hour designated as an unpaid period for lunch. The standard work week shall be five (5) consecutive days of work commencing on Monday. Nothing herein shall be construed as guaranteeing any employee eight (8) hours of work per day or forty (40) hours of work per week.

Section 2. Any employee reporting for work and for whom no work is provided, due to inclement weather or other conditions beyond the control of the Employer, shall receive two (2) hours pay at the regular straight time hourly rate. Any employee who starts to work and works beyond the two (2) hours will be paid for actual time worked. Whenever minimum reporting pay is provided for employees, they will be required to remain at the project site available for work for such time as they receive pay, unless released sooner by the Employer's principal supervisor or designated representative. The provisions of this Section are not applicable where the employee voluntarily quits or lays off, in which case the employee shall be paid for the actual time worked.

Section 3. All time before and after the established work day of eight (8) hours, Monday through Friday, and all time on Saturday shall be paid at the rate of time and one-half. All time on Sundays and the Holidays stated in Section 8 shall be paid for at the rate of double time.

Section 4. It will not be a violation of this Agreement when the Employer considers it necessary to shut down to avoid the possible loss of human life because of an emergency situation that could endanger the life and safety of an employee. In such case, employees will be compensated only for the actual time worked. In the case of a situation described above whereby the Employer requests employees to wait in a designated area available for work, the employees will be compensated for the waiting time.

Section 5. Shifts may be established when considered necessary by the Employer.

A. Shift hours and rates will be as follows:

First Shift: Eight (8) hours pay for eight (8) hours worked plus one-half (1/2) hour unpaid lunch period.

Second Shift: Eight (8) hours pay for seven and one-half (7 1/2) hours worked plus one-half (1/2) hour unpaid lunch period.

Third Shift: Eight (8) hours pay for seven (7) hours worked plus one-half (1/2) hour unpaid lunch period.

B. Shifts may be established and continue for a minimum of three (3) consecutive work days.

C. If only two shifts are to be worked, the Employer may regulate starting times of the two shift operations to permit the maximum utilization of daylight hours.

Section 6. In lieu of Section 5 above, the Employer may establish one (1) or two (2) four (4) day ten (10) hour shifts at the regular straight time hourly rate of pay, Monday through Thursday. These shifts are exclusive of a thirty (30) minute unpaid lunch period. The day shift shall start work between the hours of 6:00 a.m. and 8:00 a.m. and the second shift shall start work at a time designated by the Employer. The day shift shall work four (4) days at ten (10) hours for ten (10) hours pay. The second shift shall work four (4) days at nine and one-half (9 1/2) hours for ten (10) hours pay. Straight time is not to exceed ten (10) hours a day or forty (40) hours per week. Staggered starting times may be established for various work operations. The Employer will notify the Union at least three (3) working days prior to starting a four (4) day ten (10) hour shift.

Section 6. A. If employees lose ten (10) or more straight time hours in any given week due to weather, or other conditions beyond the control of the Employer; the Employer, at his option, may schedule a voluntary make-up day on Friday (if a four (4) day week is scheduled).

Section 7. It is recognized by the parties to this Agreement that the standard work week may not be desirable or cost effective for some projects, and other arrangements for hours of work could be necessary. On projects where job conditions require a change in the work day, work week, and/or shifts, the parties may change these conditions to meet the requirements of the project.

Section 8. Recognized holidays shall be as follows: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Day after Thanksgiving and Christmas Day.

Under no circumstances shall any work be performed on Labor Day except in cases of emergency involving life or property. In the event a holiday falls on a Sunday; the following day, Monday, shall be observed as such holiday. There shall be no paid holidays. If employees are required to work on a holiday, they shall receive the appropriate rate, but in no case shall such overtime rate be more than double the straight time rate.

ARTICLE VII

WAGE SCALES AND BENEFITS

Section 1. The Employer and the Union agree that only those wages, fringes and premiums incorporated in the appropriate Davis-Bacon wage determination at the time the Employer is authorized to perform work will be paid.

The Employer adopts and agrees to be bound by the written terms of the applicable International Union or Local Union trust agreements. The Employer authorizes the parties to such trust agreements to appoint trustees and successor trustees to administer the trust funds and thereby ratifies and accepts the trustees so appointed as if appointed by the Employer. Nothing contained in this Section is intended to require the Employer to become a party to or be bound by any local collective bargaining agreement except for the employee benefit fund contributions as specified therein, nor is the Employer required to become a member of any employer group or association as a condition for making such contributions.

Section 2. It is agreed and understood that in the event a subcontractor becomes delinquent on the payment of required wages or fringe benefit contributions, the Employer, upon written notice from the Union, shall become liable therefore, provided however, that:

- (1) written notice of any such delinquency is received by the Employer within two weeks of the time payment was due from the subcontractor,
- (2) the delinquency is for contributions for hours performed on the Employer's project only, and
- (3) the Employer has not yet paid the subcontractor.

Section 3. Upon presentation of a proper authorization form executed by the individual employee, the Employer agrees to deduct union dues as well as other authorized deductions from net pay after taxes and remit same to the appropriate Local Union. The Employer will transmit dues to the Local Union in the manner and at the time established by local practice.

Section 4. The Employer agrees to make fringe benefit contributions for key men to the trust funds designated by the key men as their home trust funds, and shall not be obligated to contribute for the key men to any other trust funds, provided that the trust funds so designated agree to accept the contributions and credit the key men for those contributions in accordance with the trust funds' rules. The contributions shall be at the customary rates set by the home trust funds. In accordance with this Section, the key men for whom contributions are made to their designated home trust funds shall look only to those trust funds for benefits.

Section 5. Notwithstanding the first paragraph of Section 1 of this Article, the Employer agrees to submit to the Laborers' Employers Cooperation and Education Trust ("LECET") the amount of ten cents (\$.10) per hour for all hours worked by all employees of the Employer covered by this agreement, unless the applicable local agreement requires a contribution to a Regional or Local LECET, in which case the Regional or local agreement provision shall apply.

Section 6. In the event the Davis-Bacon determination does not meet the area minimum rates of the Union, the parties shall meet and establish comparable wage rates and fringe benefits in order to utilize the trained and certified crafts on the project.

ARTICLE VIII GRIEVANCE PROCEDURE

Section 1. It is specifically agreed that in the event any disputes arise out of the interpretation or application of this Agreement, excluding questions of jurisdiction of work, the dispute(s) shall be settled by means of the procedure set forth herein. No such grievance shall be recognized unless called to the attention of the Employer by the Union or to the attention of the Union by the Employer within ten (10) calendar days after the alleged violation was committed.

Section 2. A grievance shall be settled according to the following procedure:

STEP 1: The dispute shall be referred to the Business Manager of the Local Union involved or his designated representative and the Project Superintendent and/or the Employer's representative at the project.

STEP 2: In the event that the Business Representative of the Local Union and the Project Superintendent and/or the Employer representative at the project site cannot reach agreement within ten (10) calendar days after a meeting is arranged and held, the matter shall be referred to the International Union and the Labor Relations Representative of the responsible Employer.

STEP 3: In the event that the International Representative and the Labor Relations Representative of the Employer are unable to resolve the dispute within ten (10) calendar days after completion of Step 2, it shall be referred, in writing, to the General President of the Union involved and the Home Office representative of the Employer.

STEP 4: If the dispute is not resolved within ten (10) calendar days after completion of Step 3, the Employer and the Union shall choose a mutually agreed upon Arbitrator for final and binding arbitration. The impartial Arbitrator shall be selected from a panel of arbitrators submitted by and in accordance with the rules and regulations of the American Arbitration Association. The decision of the Arbitrator shall be binding upon all parties. The Arbitrator shall have no authority to change, amend, add to, or detract from any of the provisions of this Agreement. The expense of the impartial Arbitrator shall be borne equally by the Employer and the involved Union.

Section 3. The time limits specified in any step of the Grievance Procedure may be extended by mutual agreement of the parties initiated by the written request of one party to the other, at the appropriate Step of the Grievance Procedure. However, failure to process a grievance, or failure to respond in writing within the time limits provided above, without a request for an extension of time, shall be deemed a waiver of such grievance to the other without prejudice, or without precedent to the processing of and/or resolution of like or similar grievances or disputes.

Section 4. In order to encourage the resolution of disputes and grievances at Section 1 and 2 of this Grievance Procedure, the parties agree that such settlements shall not be precedent-setting.

ARTICLE IX
JURISDICTIONAL DISPUTES

Section 1. There will be no strikes, no work stoppages or slowdowns, or other interferences with the work because of jurisdictional disputes.

Section 2. Project conditions do not always justify strict adherence to craft lines which in itself does not establish precedent or change the appropriate jurisdiction of the crafts involved. Periodic review of the work assignments shall be made for the purpose of adjusting such assignments as appropriate to take care of changing needs.

Section 3. In the event of a jurisdictional dispute, the International Unions shall promptly assign International Representatives to meet with the Employer and attempt a settlement in the event of questions of assignment.

Section 4. If the International Representatives cannot reach agreement on the dispute, they shall jointly prepare and sign a complete statement of the facts and circumstances involved in the dispute, which shall be submitted to the respective General Presidents for final resolution.

ARTICLE X
GENERAL WORKING CONDITIONS

Section 1. The selection of craft foremen and/or general foremen and the number of foremen required shall be entirely the responsibility of the Employer, it being understood that in the selection of such foremen and/or general foremen the Employer will give primary consideration to qualified individuals available in the local area. After giving such consideration, the Employer may select individuals from other areas. All foremen and/or general foremen shall take orders from the designated Employer representatives. Craft foremen shall be designated working foremen at the discretion of the Employer.

Section 2. There shall be no limit on production by workmen nor restrictions on the full use of tools or equipment. Craftsmen using tools shall perform any of the work of the trade and shall work under the direction of the craft foremen. There shall be no restrictions on efficient use of manpower other than as may be required by safety regulations.

Section 3. Workers shall be at their place of work at the starting time and shall remain at their place of work performing their assigned functions under the supervision of the Employer until quitting time. The parties reaffirm their policy of a fair day's work for a fair day's wage.

Section 4. The Employer may utilize the most efficient methods or techniques of construction, tools or other labor saving devices to accomplish work. Practices not a part of the terms and conditions of this Agreement will not be recognized.

Section 5. Neither the Union nor its Local Unions shall coerce or in any way interfere with the Owner's personnel, operation or facilities at the project site. The Owner's right to contract directly with other companies for work at the project site shall not be limited, and the Union shall cooperate and not interfere with that Employer's operations. There shall be no intermingling of Owner personnel with the Employer's Union personnel.

Section 6. Slowdowns, standby crews, and featherbedding practices will not be tolerated.

Section 7. Individual seniority shall not be recognized or applied to employees working on projects under this Agreement.

Section 8. The Employer shall establish such reasonable project rules as the Employer deems appropriate. These rules will be reviewed at the pre-job conference and posted at the project site by the Employer, and may be amended thereafter as necessary.

Section 9. In order for this Agreement to be utilized, and prior to the commencement of any project under this Agreement, the Employer agrees to make notification to the Union at International Headquarters, 905 - 16th Street, N.W., Washington, DC 20006, (202) 737-8320, Fax: (202) 737-2754. This notification will include all information as specified on the Job Notification Form (see Addendum "A"). The Union agrees to acknowledge receipt of the job notification with written approval for the project specified in said notification. Each project extension request will be reviewed and approved on an individual basis.

Section 10. Employers and representatives of the International Unions, District Councils and/or Local Unions having jurisdiction shall hold a pre-job conference so that the start and continuation of work may progress without interruption. The Employer agrees to notify the Union at International Headquarters, 905 - 16th Street, N.W., Washington, DC 20006, (202) 737-8320, Fax: (202) 737-2754, prior to commencing any work covered by this Agreement. It shall be the purpose of the pre-job conference for the Employer and the Unions to agree on such matters as the length of the work week, the number of key employees to be brought in, the number of employees employed, the method of referral, the check-off of union dues, initiation fees or agency shop fees, the applicable wage rates and fringe benefit contributions in accordance with the local agreement, as well as review the site plan, site safety and health plan, site control, air monitoring, and all other aspects pertaining to the project; provided that it is agreed that the interpretation shall be a matter for the principal parties hereto.

Section 11. Employees required to wear protective clothing will be given sufficient time to go through the required procedures for dressing, undressing and decontamination and this shall be considered time worked.

ARTICLE XI

SAFETY

Section 1. The employees covered by the terms of this Agreement shall at all times while in the employ of the Employer be bound by the safety rules and regulations as established by the Employer in accordance with the Construction Safety Act, OSHA, 29 CFR 1910.120, and any other federal and state regulations. These rules and regulations will be published and posted at conspicuous places throughout the project.

Section 2. In accordance with all federal and state regulations, it shall be the exclusive responsibility of each Employer on a project site to which this Agreement applies, to assure safe working conditions for its employees and compliance by them with any safety rules contained herein or established by the Employer. Nothing in this Agreement will make the Union or any of its locals liable to any employees or to other persons in the event that injury or accidents occur.

ARTICLE XII

WORK STOPPAGES AND LOCKOUTS

Section 1. During the term of this Agreement there shall be no strikes, picketing, work stoppages, slowdowns, or other disruptive activity for any reason by the Union, its applicable Local Unions, or by any employee and there shall be no lockout by the Employer.

Section 2. The Union and its applicable Local Union shall not sanction, aid or abet, encourage or continue any work stoppage, strike, picketing, or other disruptive activity at the Employer's project site and shall undertake all reasonable means to prevent or to terminate any such activity. No employee shall engage in activities which violate this Article. Any employee who participates in or encourages any activity which interferes with the normal operation of the project shall be subject to disciplinary action, including discharge.

Section 3. Neither the Union nor its applicable Local Unions shall be liable for acts of employees for which it has no responsibility. The International Union General President will immediately instruct, order, and use the best efforts of his office to cause the Local Union or Unions to cease any violations of this Article. The principal officer or officers of a Local Union will immediately instruct, order, and use the best efforts of their office to cause the employees the Local Union represents to cease any violations of this Article. A Local Union complying with this obligation shall not be liable for unauthorized acts of the employees it represents. The failure of the Employer to exercise its right in any instance shall not be deemed a waiver of its right in any other instance.

ARTICLE XIII

PAYMENT OF WAGES - CHECKING IN AND OUT

Section 1. Employees shall be paid in full prior to normal quitting time on the project once each week (on the same day), but in no event shall more than three (3) days (Saturday, Sunday and Holidays excluded), wages be withheld. The Employer shall make arrangements with a local bank to cash regular out-of-state payroll checks.

A. If the regular pay day falls on a holiday, the employees shall be paid on the last regular work day before the holiday.

B. If payment is not made as provided herein, the employee shall be paid for waiting time. Waiting time is to be paid at the rate of two (2) hours pay at the appropriate wage rate for each twenty-four (24) hour period.

C. An employee's pay check stub or attached statement shall contain an itemized statement showing the breakdown of straight time hours, overtime hours and all authorized deductions, and must indicate the name and address of the Employer.

D. Notwithstanding the above, if circumstances beyond the control of the Employer occur, Section 1(B) will not apply.

Section 2. Employees who quit shall be paid no later than the next regular pay period.

Section 3. When employees are laid off or discharged, they shall be paid in full immediately. In the event that the employee is not paid immediately they shall receive two (2) hours pay at the appropriate hourly wage rate for each twenty-four (24) hour period or portion thereof until said check is mailed to an address of the employee's choice. The postmark on the envelope will serve as the cutoff for any penalty.

Section 4. The Employer may utilize brassing, time clocks, or other systems to check employees in and out. Each Employee must check himself in and out. The Employer will provide adequate facilities for checking in and out in an expeditious manner.

ARTICLE XIV UNION REPRESENTATION

Section 1. Authorized representatives of the Union and its Local Unions shall have access to the project, provided they do not interfere with the work of the employees and further provided that such representatives fully comply with the visitor and security rules established for the particular project.

Section 2. The Union, or its applicable Local Union, shall have the right to designate a working journeyman as a Steward. Such designated Steward shall be a qualified worker performing the work of the craft and shall not exercise any supervisory functions. The Steward shall be concerned with the employees of the Steward's employer and not with the employees of any other employer. The Employer shall notify the Union twenty-four (24) hours prior to discharge of the Steward.

Section 3. Where the Owner's personnel may be working in close proximity to the construction activities, the Union agrees that under any and all conditions Union representatives, Stewards, and individual workmen will not interfere in any manner with the Owner's personnel or with the work which is being performed by the Owner's personnel.

ARTICLE XV
SUBCONTRACTING

Subcontractors performing work at the project shall become signatory to and be bound by the terms and conditions of this Agreement. It is understood that qualified union, competitive subcontractors may not be available. If this is the case, the Union(s) will endeavor to locate suitable, qualified, competitive union subcontractors to perform the work. If in seven (7) days the Union(s) are unable to locate such qualified, competitive union subcontractors, it is understood and agreed that the Employer may employ a non-signatory subcontractor who shall become signatory to this agreement prior to starting work.

ARTICLE XVI
GENERAL SAVINGS CLAUSE

Section 1. If any Article or provision of this Agreement shall be declared invalid, inoperative, or unenforceable by any competent authority of the executive, legislative, judicial or administrative branch of the Federal or any State government, the Employer and the Union shall suspend the operation of such Article or provision during the period of its invalidity and shall substitute by mutual consent, in its place and stead, an Article or provision which will meet the objections to its validity and which will be in accord with the intent and purpose of the Article or provisions in question.

If any Article or provision of this Agreement shall be held invalid, inoperative, or unenforceable by operation of law or by any of the above mentioned tribunals of competent jurisdiction, the remainder of this Agreement or the application of such article or provision to persons or circumstances other than those to which it has been held invalid, inoperative or unenforceable shall not be affected thereby.

ARTICLE XVII

DURATION

This Agreement shall become effective the _____ day of _____, 19 _____, and shall continue in full force and effect for the duration of each project as specified through the application of "Addendum A".

This Agreement may be amended only by written agreement signed by the parties signatory hereto.

ACCEPTANCE OF AGREEMENT

SIGNED THIS _____ DAY OF _____,

LABORERS INTERNATIONAL UNION OF
NORTH AMERICA, AFL-CIO

FOR THE EMPLOYER:

General President



Signature

F. Pastor, Jr., Vice President

Name and Title

General Secretary-Treasurer

Stone & Webster Engineering Corporation
Company Name

245 Summer Street
Address

Boston, Massachusetts 02210
City State Zip

(617) 589-5111 Fax: (617) 589-1792
Telephone and Fax Numbers

INTERNATIONAL BROTHERHOOD OF TEAMSTERS

National Environmental Remediation Project Agreement



NATIONAL
ENVIRONMENTAL
REMEDICATION
PROJECT
AGREEMENT

NATIONAL ENVIRONMENTAL REMEDIATION PROJECT AGREEMENT

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NATIONAL ENVIRONMENTAL REMEDIATION PROJECT AGREEMENT
between
SIGNATORY CONTRACTOR
and the
INTERNATIONAL BROTHERHOOD OF TEAMSTERS

This Agreement is made and entered into this _____ day of _____, 19 ____, by and between _____ (hereinafter referred to as the "Employer") and the International Brotherhood of Teamsters, (hereinafter referred to as "Union") for Environmental Remediation Projects.

ARTICLE I
PURPOSE

Section 1. The purpose of this Agreement is to promote efficiency of operations on the project and provide for peaceful settlement of labor disputes without strikes or lockouts, thereby promoting the public interest in assuring the timely and economical completion of the work.

Section 2. The Employer and the Union desire to mutually establish and stabilize wages, hours and working conditions for the workers employed under this Agreement by the Employer and, further, to encourage close cooperation between the Employer and the Union to the end that a satisfactory, continuous, and harmonious relationship will exist between the parties to this Agreement.

Section 3. The Union has established environmental remediation and hazardous waste training programs which meet or exceed all of the requirements of the federal regulations.

Section 4. The Union has in its Local Union membership throughout the United States competent, skilled, qualified and certified workers required to perform the work incidental to the effective accomplishment of this project.

ARTICLE II
ADMINISTRATIVE PROCEDURE

Section 1. Extensions for this Agreement shall be on a location-to-location basis and shall be sought, in writing, for each location.

Section 2. This Agreement is between the Employer and the International Union only.

ARTICLE III
SCOPE OF AGREEMENT

Section 1. It is the intent of the parties that this Agreement be utilized as a stabilization agreement for environmental remediation projects.

Section 2. Employer, as used herein, refers to the signatory employer and subcontractors of any tier performing work on projects for which the signatory employer has management responsibility under its prime contract.

Section 3. This Agreement does not limit the selection or utilization of subcontractors for the performance of the work described herein; however, such subcontractors shall become signatory to this Agreement.

Section 4. The Employer recognizes the Union as the sole and exclusive bargaining representative for all employees performing work coming within the recognized trade jurisdiction of the Union.

Section 5. This Agreement shall not apply to executives, engineers, draftsmen, supervisors, assistant supervisors, timekeepers, messengers, office workers, guards, or other nonmanual employees.

Section 6. This Agreement represents the complete understanding of the parties; and the Employer shall not be required to sign any other agreement during the performance of the work described herein, except such participation agreements, relating to the payment of fringe benefits, which may be required by any fringe benefit trust fund.

Section 7. Both parties recognize that there may be extenuating circumstances when it is to the mutual interest of both parties to modify the terms of this Agreement. In that event, it will not be a violation of this Agreement for the parties to meet and mutually agree to make such modifications to meet a specific need on a specific project in the form of an addendum to this Agreement.

Section 8. This Agreement shall supersede all other agreements between the Employer and any Local of the Union for any work covered herein.

Section 9. The liability of the Employer and the liability of the Union shall be several and not joint.

Section 10. This Agreement shall have application only to work locations agreed upon between the Employer and the Unions in accordance with Article II, Section 1.

ARTICLE IV UNION SECURITY

Section 1. The Employees shall become and remain members of the Union as a condition of employment from the seventh (7th) but not later than the eighth (8th) day of employment, or the effective date of this Agreement, whichever is later.

Section 2. It is further agreed that all Union members employed by the Employer shall maintain their membership in good standing in the Union.

Section 3. Failure of any employee to pay or tender normal initiation fees or dues as required by this Agreement shall, upon the request of the Union in writing, result in the termination of such employee.

Section 4. The provisions of this Article shall not apply where and if such a requirement for continued employment is prohibited by state law; provided, however, that where an Agency Shop is lawful in any such state, conformity therewith shall be a condition of employment on the eighth day following the beginning of such employment, or the effective date of this Agreement, whichever is later.

ARTICLE V REFERRAL OF EMPLOYEES

Section 1. The Employer shall have the right to select and hire directly all supervisors it considers necessary and desirable. Applicants for the various classifications covered by the Agreement required by the Employer on its projects shall be referred to the Employer by the Union and/or its respective Local Unions. The Employer shall have the right to determine the competency of all employees, the right to determine the number of employees required, and the sole responsibility for selecting the employees to be laid off.

Section 2. The Union represents that its Local Unions administer and control their referrals and it is agreed that these referrals will be made in a nondiscriminatory manner and in full compliance with federal, state and local laws and regulations which require equal employment opportunities and nondiscrimination. Referrals shall not be affected in any way by the rules, regulations, by-laws, constitutional provisions, or any other aspect or obligation of union membership, policies or requirements.

Section 3. In the event the referral facilities maintained by the Local Unions do not refer the employees as requested by the Employer within a forty-eight (48) hour period after such request is made by the Employer (Saturdays, Sundays and Holidays excluded), the Employer may employ applicants from any source.

Section 4. The Employer agrees to be bound by the hiring referral rules in a local area not inconsistent with the terms of this Agreement. Notwithstanding Section 2 above, the hiring referral rules that prevail in a local area are on other than an exclusive basis, such rules shall be applicable if not in violation of either state or federal law.

Section 5. The Union and its respective Local Unions will exert their utmost efforts to recruit sufficient number of skilled and certified craftsmen to fulfill the manpower requirements of the Employer.

Section 6. The Employer shall have the right to assign key employees to the project. Key employees are defined as craft employees who possess special skills or abilities and are not readily available in the area. Key personnel shall be named and agreed to at the prejob conference.

Section 7. Where governmental agencies impose equal employment obligations on the Employer's project, referral procedures shall be subordinate to such obligations.

Section 8. In referring to employees in this Agreement, the masculine gender is used for convenience only and shall refer both to males and females.

ARTICLE VI MANAGEMENT RIGHTS

Section 1. The Employer retains and shall exercise full and exclusive authority and responsibility for the management of its operations, except as expressly limited by the terms of this Agreement.

ARTICLE VII HOURS OF WORK, OVERTIME, SHIFTS AND HOLIDAYS

Section 1. The standard work day shall consist of eight (8) hours of work between 6:00 a.m. and 6:00 p.m. with one-half hour designated as an unpaid period for lunch. The standard work week shall be five (5) consecutive days of work commencing on Monday. Nothing herein shall be construed as guaranteeing any employee eight (8) hours of work per day or forty (40) hours of work per week.

Section 2. Any employee reporting for work and for whom no work is provided, due to inclement weather or other conditions beyond the control of the Employer, shall receive two (2) hours pay at the regular straight time hourly rate. Any employee who starts to work and works beyond the two (2) hours will be paid for actual time worked except as provided in Section 3. Whenever minimum reporting pay is provided for employees, they will be required to remain at the project site available for work for such time as they receive pay, unless released sooner by the Employer's principal supervisor or designated representative. The provisions of this Section are not applicable where the employee voluntarily quits, in which case the employee shall be paid for the actual time worked.

Section 3. All time before and after the established work day of eight (8) hours, Monday through Friday, and all time on Saturday shall be paid at the rate of time and one-half. All time on Sundays and the Holidays stated in Section 8 shall be paid for at the rate of double time.

Section 4. It will not be a violation of this Agreement when the Employer considers it necessary to shut down to avoid the possible loss of human life because of an emergency situation that could endanger the life and safety of an employee. In such case, employees shall receive two (2) hours pay at the regular straight time hourly rate. Any employee who starts to work and works beyond the two (2) hours will be paid for actual time worked. In the case of a situation described above whereby the Employer requests employees to wait in a designated area available for work, the employees will be compensated for the waiting time.

Section 5. Shifts may be established when considered necessary by the Employer.

A. Shift hours and rates will be as follows:

- First Shift: Eight (8) hours pay for eight (8) hours worked plus one-half (1/2) hour unpaid lunch period.
- Second Shift: Eight (8) hours pay for seven and one-half (7 1/2) hours worked plus one-half (1/2) hour unpaid lunch period.
- Third Shift: Eight (8) hours pay for seven (7) hours worked plus one-half (1/2) hour unpaid lunch period.

B. Shifts shall be established and continue for a minimum of three (3) consecutive work days.

C. If only two shifts are to be worked, the Employer may regulate starting times of the two shift operations to permit the maximum utilization of daylight hours.

Section 6. In lieu of Section 5 above, the Employer may establish one (1) or two (2) four (4) day, ten (10) hour shifts at the regular straight time hourly rate of pay, Monday through Thursday. These shifts are exclusive of a thirty (30) minute unpaid lunch period. The day shift shall start work between the hours of 6:00 a.m. and 8:00 a.m. and the second shift shall start work at a time designated by the Employer. The day shift shall work four (4) days at ten (10) hours for ten (10) hours pay. The second shift shall work four (4) days at nine and one-half (9 1/2) hours for ten (10) hours pay. Straight time is not to exceed ten (10) hours a day for forty (40) hours per week. Staggered starting times may be established for various work operations. The Employer will notify the Union at least three (3) working days prior to starting a four (4) day, ten (10) hour shift.

A. If employees lose ten (10) or more straight time hours in any given week due to weather or other conditions beyond the control of the Employer, the Employer may, at his option, schedule a voluntary make-up day on Friday (if a four (4) day week is scheduled).

Section 7. It is recognized by the parties to this Agreement that the standard work week may not be desirable or cost effective for some projects, and other arrangements for hours of work could be necessary. On projects where job conditions require a change in the work day, work week, and/or shifts, the parties mutually may change these conditions to meet the requirements of the project.

Section 8. Recognized holidays shall be as follows: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Day after Thanksgiving and Christmas Day. In the event a holiday falls on a Sunday, the following day, Monday, shall be observed as such holiday; if any of the above holidays fall on Saturday, Friday shall be observed as the holiday. There shall be no paid holidays. If employees are required to work on a holiday, they shall receive the appropriate rate, but in no case shall such overtime rate be more than double the straight time rate.

ARTICLE VIII WAGE SCALES AND BENEFITS

Section 1. Wage rates shall be those as set forth in the current appropriate Labor Agreement of the affiliated Local Union where such work is to be performed, unless modified pursuant to Article III, Section 7 or Article VIII, Section 3 of this Agreement. With respect to premiums, only those premiums incorporated in the appropriate Davis-Bacon wage determination at the time the Employer is authorized to perform work will be paid. Premiums so incorporated will be paid on all work.

Section 2. The Employer agrees to pay the fringe benefit contribution rates contained in the Local Agreement referenced above, and adopts and agrees to be bound by the written terms of legally established trust agreements specifying the detailed basis on which payments are to be made to such trust funds. The Employer authorizes the parties to such trust agreements to appoint trustees and successor trustees to administer the trust funds and hereby ratifies and accepts the trustees so appointed as if made by the Employer. Nothing contained in this Section is intended to require the Employer to become a member of any employer group or association as a condition for making such contributions. In addition to the contributions required by the Local Agreement, Section 5 of this Article shall apply to all work.

Section 3. In the event the Davis-Bacon determination does not meet the local negotiated wage rates and fringes of the signatory Unions for that classification of work, the parties shall meet and establish comparable wages and fringe benefits, which will be attached as Appendix "A," in order to utilize the trained and certified crafts on the project.

Section 4. Upon presentation of a proper authorization form executed by the individual employee, the Employer agrees to deduct union dues from net pay after taxes and remit same to the Union in accordance with applicable law. It is understood the Employer will remit each month the Union dues deducted in accordance with this Article on the transmittal forms used for fringe benefit contributions and that the pro-rata costs of such forms and the collection and accounting thereof will be paid by the Union to the fringe benefit administrator.

Section 5. The Employer agrees to submit to the national training fund sponsored by the International Brotherhood of Teamsters the amount of ten cents (\$.10) per hour for all hours worked by all employees of the Employer covered by this Agreement.

ARTICLE IX GRIEVANCE PROCEDURE

Section 1. It is specifically agreed that in the event any disputes arise out of the interpretation or application of this Agreement, excluding questions of jurisdiction, the same shall be settled by means of the procedure set out herein. No such grievance shall be recognized unless called to the attention of the Employer by the Union and/or its respective Local Union or to the attention of the Union and/or its respective Local Union by the Employer within ten (10) calendar days after the alleged violation was committed.

Section 2. Grievances shall be settled according to the following procedure:

- STEP 1:** The dispute shall be referred to the Business Representative of the Local Union involved or his designated representative and the Project Superintendent and/or the Employer's representative at the project.
- STEP 2:** In the event that the Business Representative of the Local Union and the Project Superintendent and/or the Employer representative at the project site cannot reach agreement within ten (10) calendar days after a meeting is arranged and held, the matter shall be referred to the International Union and the Labor Relations Representative of the responsible Employer.
- STEP 3:** In the event that the International Representative and the Labor Relations Representative of the Employer are unable to resolve the dispute within ten (10) calendar days after completion of Step 2, it shall be referred, in writing, to the General President of the Union and the Home Office representative of the Employer.
- STEP 4:** If the dispute is not resolved within ten (10) calendar days after completion of Step 3, the Employer and the Union and/or its respective Local Union shall choose a mutually agreed upon Arbitrator for final and binding arbitration. The impartial Arbitrator shall be selected from a panel of arbitrators, who have knowledge and experience of the construction industry, submitted by and in accordance with the rules and regulations of the American Arbitration Association. The decision of the Arbitrator shall be binding upon all parties. The Arbitrator shall have no authority to change, amend, add to, or detract from any of the provisions of this Agreement. The expense of the impartial Arbitrator shall be borne equally by the Employer and the Union's respective Local Union.

Section 3. The time limits specified in any step of the Grievance Procedure may be extended by mutual agreement of the parties initiated by the written request of one party to the other, at the appropriate Step of the Grievance Procedure. However, failure to process a grievance, or failure to respond in writing within the time limits provided above, without a request for an extension of time, shall be deemed a waiver of such grievance to the other without prejudice, or without precedent to the processing of and/or resolution of like or similar grievances or disputes.

Section 4. In order to encourage the resolution of disputes and grievances at Section 1 and 2 of this Grievance Procedure, the parties agree that such settlements shall not be precedent-setting.

ARTICLE X JURISDICTIONAL DISPUTES

Section 1. There will be no strikes, no work stoppages or slowdowns, or other interferences with the work because of jurisdictional disputes.

Section 2. The parties to this Agreement agree to the concept that craft jurisdictional lines shall be followed, and work assignments shall be made in accordance with the Procedural Rules and Regulations of the Plan for the Settlement of Jurisdictional Disputes in the Construction Industry. However, jurisdictional disputes cannot and shall not interfere with the efficient and continuous operations required in the successful application of the intent of this Agreement. Periodic review of the work assignments shall be made for the purpose of adjusting such assignments as appropriate to take care of changing needs.

Section 3. The Local Unions involved agree that the International Unions shall be requested to promptly assign International Representatives to meet and attempt a settlement in the event of questions of assignment.

Section 4. If the International Representatives cannot reach agreement on the dispute, they shall jointly prepare and sign a complete statement of the facts and circumstances involved in the dispute, which shall be submitted to the respective General Presidents for final resolution.

ARTICLE XI GENERAL WORKING CONDITIONS

Section 1. The selection of craft foremen and/or master mechanic and the number of foremen shall be entirely the responsibility of the Employer, it being understood that in the selection of such foremen and/or master mechanic the Employer will give primary consideration to the qualified individuals available in the local area. After giving such consideration, the Employer may select individuals from other areas. All foremen shall take orders from the designated Employer representatives. Craft foremen shall be designated working foremen at the request of the Employer.

Section 2. There shall be no limit on production by workmen nor restrictions on the full use of tools or equipment. Craftsmen using tools shall perform any of the work of the trade and shall work under the direction of the craft foremen. There shall be no restrictions on efficient use of manpower other than as may be required by safety regulations.

Section 3. Employees shall be at their place of work at the designated starting time and shall remain at their place during working hours until the designated quitting time. Where the employees place of work requires Employer-furnished transportation, the employees shall be transported on the Employer's time. The parties reaffirm their policy of a fair day's work for a fair day's wage.

Section 4. The Employer may utilize the most efficient methods or techniques of construction, tools or other labor-saving devices to accomplish work. Practices not a part of the terms and conditions of this Agreement will not be recognized.

Section 5. Neither the Union nor its Local Unions shall coerce or in any way interfere with the Owner's personnel, operation or facilities at the job site. The Owner's right to contract

directly with other companies for work at the job site shall not be limited, and the Union shall cooperate and not interfere with the Employer's operations. There shall be no intermingling of Owner personnel with the Employer's Union personnel.

Section 6. Due to the nature of the work covered by this Agreement, Teamsters shall be allowed to take personal relief time not to exceed ten (10) minutes once during the first half of the shift and once during the second half of the shift. The Union agrees that this will not be abused. To the extent necessary, personal protective clothing shall be changed on company time. The Employer will determine the time during the shift when relief time will be taken. Relief time will not be taken simultaneously by all employees, unless directed by the Employer.

Section 7. Slowdowns, standby crews, and featherbedding practices will not be tolerated.

Section 8. Individual seniority shall not be recognized or applied to employees working on projects under this Agreement.

Section 9. The Employer shall establish such reasonable project rules as the Employer deems appropriate. These rules will be reviewed at the prejob conference and posted at the project site by the Employer, and may be amended thereafter as necessary.

Section 10. The Employer shall notify the International Union prior to the start of a new project of any work to be performed by the Employer within the scope of this Agreement.

Section 11. Employers and representatives of the International Union, or Local Unions having jurisdiction, shall hold a prejob conference so that the start and continuation of work may progress without interruption. It shall be the purpose of the prejob conference for the Employer and the Unions to agree on such matters as work assignments in accordance with Appendix B, the proper, safe manning of equipment, the length of the work week, the number of key employees to be brought in, the number of employees employed, the method of referral, the check-off of union dues, initiation fees or agency shop fees, the applicable wage rates and fringe benefit contribution in accordance with the contract, a review of the site plan, site safety and health plan, site control, air monitoring, and all other aspects pertaining to the project, provided it is agreed that the interpretation shall be a matter for the principal parties hereto.

Section 12. Employees required to wear protective clothing will be given sufficient time to go through the required procedures for dressing, undressing and decontamination, and this shall be considered time worked.

ARTICLE XII SAFETY

Section 1. The employees covered by the terms of this Agreement shall at all times while in the employ of the Employer be bound by the safety rules and regulations as established by

the Employer in accordance with the Construction Safety Act, OSHA, 29 CFR 1910.120, and any other federal and state regulations. These rules and regulations will be published and posted at conspicuous places throughout the project.

Section 2. In accordance with all federal and state regulations, it shall be the exclusive responsibility of each Employer on a job site to which this Agreement applies, to assure safe working conditions for its employees and compliance by them with any safety rules contained herein or established by the Employer. Nothing in this Agreement will make the Union or any of its Locals liable to any employees or to other persons in the event that injury or accidents occur.

ARTICLE XIII WORK STOPPAGES AND LOCKOUTS

Section 1. During the term of this Agreement there shall be no strikes, picketing, work stoppages, slowdowns, or other disruptive activity by the Union, its applicable Local Union, or by any employee, and there shall be no lockout by the Employer.

In the event of nonpayment of wages, fringes, and workers' compensation, the Union may take any appropriate action it deems necessary and the Union will not be considered in violation of this Article should a work stoppage occur.

Section 2. The Union and its applicable Local Union shall not sanction, aid or abet, encourage or continue any work stoppage, strike, picketing, or other disruptive activity relative of Section 1 above at the Employer's project site and shall undertake all reasonable means to prevent or to terminate any such activity. No employee shall engage in activities which violate this Article. Any employee who participates in or encourages any activity which interferes with the normal operation of the project shall be subject to disciplinary action, including discharge.

Section 3. Neither the Union nor its applicable Local Union shall be liable for acts of employees for which it has no responsibility. Upon being notified that the applicable Local Union is violating this Article, the International Union General President will immediately use the best efforts of his office to cause the applicable Local Union to cease any violations of this Article. Upon being notified that employees of the Local Union are violating this Article, the principal officer or officers of a Local Union will immediately use the best efforts of their office to cause the employees the Local Union represents to cease any violations of this Article. Compliance with this obligation shall render the Union or the applicable Local Union not liable for acts of employees. The failure of the Employer to exercise its right in any instance shall not be deemed a waiver of its right in any other instance.

ARTICLE XIV PAYMENT OF WAGES—CHECKING IN AND OUT

Section 1. Wages will be paid weekly by check on a designated day during working hours and in no case shall more than three (3) days pay be held back in any one payroll week.

Section 2. The Employer may utilize brassing, time clocks, or other systems to check employees in and out. Each employee must check himself/herself in and out. The Employer will provide adequate facilities for checking in and out in an expeditious manner.

Section 3. When employees are laid off or discharged, they shall be paid in full immediately. If not paid within twenty-four (24) hours, a four (4) hour penalty shall be levied upon the Employer.

ARTICLE XV UNION REPRESENTATION

Section 1. Authorized representatives of the Union and its Local Unions shall have access to the project provided they do not interfere with the work of the employees and further provided that such representatives fully comply with the visitor and security rules established for the particular project.

Section 2. The Union, or its applicable Local Union, shall have the right to designate a working journeyman as a Steward. Such designated Steward shall be a qualified worker performing the work of the craft and shall not exercise any supervisory functions. The Steward shall be concerned with the employees of the Steward's Employer and not with the employees of any other Employer.

Section 3. Where the Owner's personnel may be working in close proximity to the construction activities, the Union agrees that under any and all conditions Union representatives, Stewards and individual workmen will not interfere in any manner with the Owner's personnel or with the work which is being performed by the Owner's personnel.

ARTICLE XVI SUBCONTRACTING

Section 1. The Employer agrees that neither the Employer nor any of its subcontractors will subcontract any work to be done on the project except to a person, firm, or corporation which agrees to become party to this Agreement. Any contractor or subcontractor working on the project shall become signatory to and perform all work under the terms of this Agreement.

ARTICLE XVII GENERAL SAVINGS CLAUSE

Section 1. If any Article or provision of this Agreement shall be declared invalid, inoperative, or unenforceable by any competent authority of the executive, legislative, judicial or administrative branch of the federal or any state government, the Employer and the Union shall suspend the operation of such Article or provision during the period of its invalidity and shall substitute by mutual consent, in its place and stead, an Article or provision which will meet the objections to its validity and which will be in accord with the intent and purpose of the Article or provisions in question.

If any Article of provision of this Agreement shall be held invalid, inoperative, or unenforceable by operation of law or by any of the above mentioned tribunals of competent jurisdiction, the remainder of this Agreement or the applications of such Article or provision to persons or circumstances other than those as to which it has been held invalid, inoperative or unenforceable shall not be affected thereby.

**ARTICLE XVIII
DURATION**

This Agreement shall become effective the _____ day of _____ 19 ____, and shall continue in full force and effect for the duration of the project.

This Agreement may be amended only by written agreement signed by the parties signatory hereto.

SIGNED THIS _____ DAY OF _____, 19__

INTERNATIONAL BROTHERHOOD
OF TEAMSTERS, AFL-CIO

FOR THE EMPLOYER:

Company Name

Ron Carey, General President

Street Address

City State Zip

Area Code Phone Number

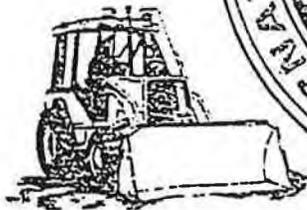
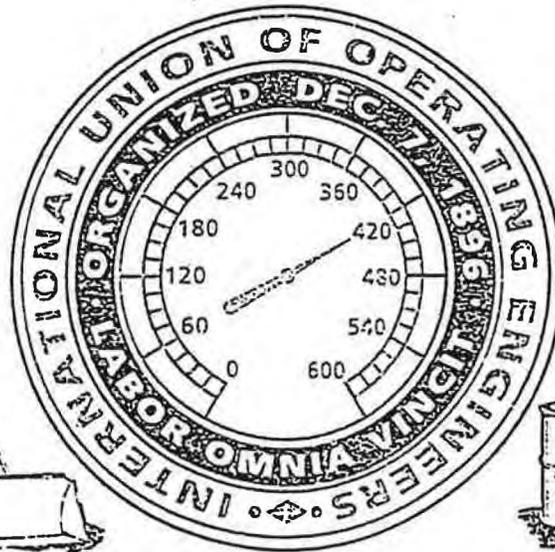
Signature

Name/Title Signature

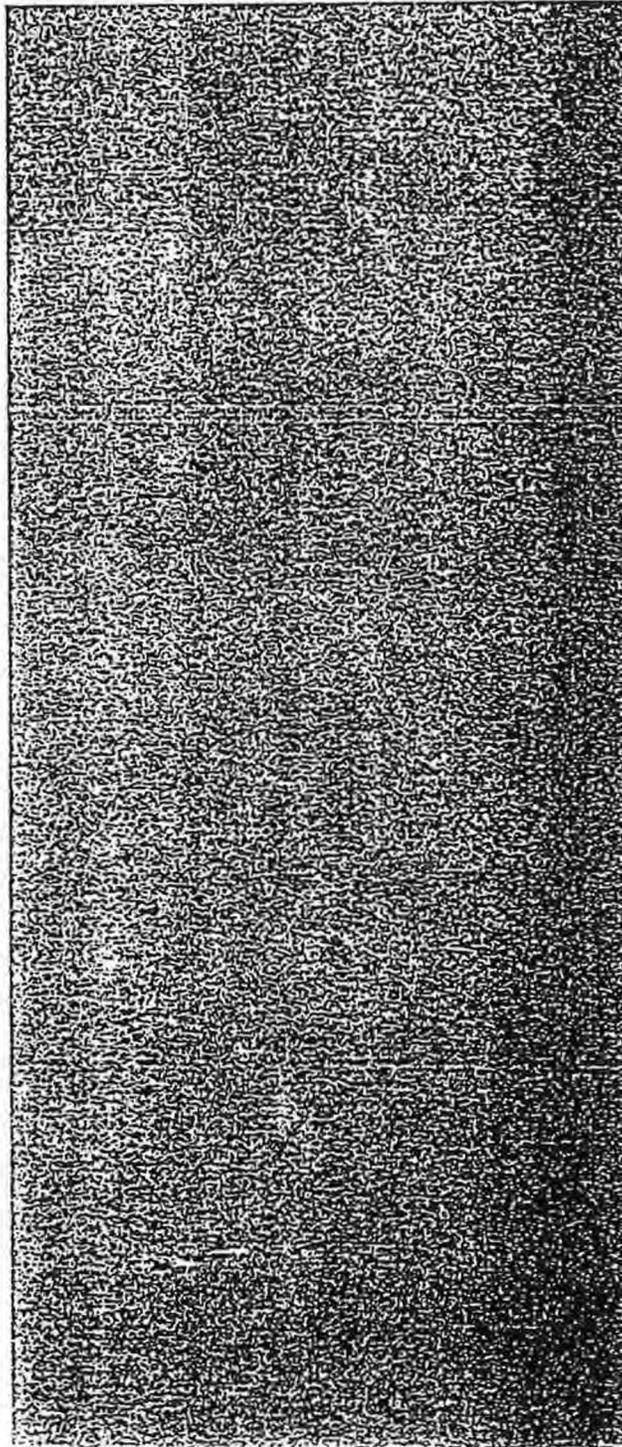
Date

INTERNATIONAL UNION OF OPERATING ENGINEERS

National Environmental Remediation Project Agreement



**NATIONAL
ENVIRONMENTAL
REMEDIATION
PROJECT
AGREEMENT**



NATIONAL ENVIRONMENTAL REMEDIATION PROJECT AGREEMENT

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NATIONAL ENVIRONMENTAL REMEDIATION PROJECT AGREEMENT
between
SIGNATORY CONTRACTOR
and the
INTERNATIONAL UNION OF OPERATING ENGINEERS

This Agreement is made and entered into this _____ day of _____, 19____, by and between _____ (hereinafter referred to as the "Employer") and the International Union of Operating Engineers, (hereinafter referred to as "Union") for Environmental Remediation Projects.

ARTICLE I
PURPOSE

Section 1. The purpose of this Agreement is to promote efficiency of operations on the project and provide for peaceful settlement of labor disputes without strikes or lockouts, thereby promoting the public interest in assuring the timely and economical completion of the work.

Section 2. The Employer and the Union desire to mutually establish and stabilize wages, hours and working conditions for the workers employed under this Agreement by the Employer and, further, to encourage close cooperation between the Employer and the Union to the end that a satisfactory, continuous, and harmonious relationship will exist between the parties to this Agreement.

Section 3. The Union has established environmental remediation and hazardous waste training programs which meet or exceed all of the requirements of the federal regulations.

Section 4. The Union has in its Local Union membership throughout the United States competent, skilled, qualified and certified workers required to perform the work incidental to the effective accomplishment of this project.

ARTICLE II
ADMINISTRATIVE PROCEDURE

Section 1. Extensions for this Agreement shall be on a location-to-location basis and shall be sought, in writing, for each location.

Section 2. This Agreement is between the Employer and the International Union only.

ARTICLE III
SCOPE OF AGREEMENT

Section 1. It is the intent of the parties that this Agreement be utilized as a stabilization agreement for environmental remediation projects.

Section 2. Employer, as used herein, refers to the signatory employer and subcontractors of any tier performing work on projects for which the signatory employer has management responsibility under its prime contract.

Section 3. This Agreement does not limit the selection or utilization of subcontractors for the performance of the work described herein; however, such subcontractors shall become signatory to this Agreement.

Section 4. The Employer recognizes the Union as the sole and exclusive bargaining representative for all employees performing work coming within the recognized trade jurisdiction of the Union.

Section 5. This Agreement shall not apply to executives, engineers, draftsmen, supervisors, assistant supervisors, timekeepers, messengers, office workers, guards, or other nonmanual employees.

Section 6. This Agreement represents the complete understanding of the parties; and the Employer shall not be required to sign any other agreement during the performance of the work described herein, except such participation agreements, relating to the payment of fringe benefits, which may be required by any fringe benefit trust fund.

Section 7. Both parties recognize that there may be extenuating circumstances when it is to the mutual interest of both parties to modify the terms of this Agreement. In that event, it will not be a violation of this Agreement for the parties to meet and mutually agree to make such modifications to meet a specific need on a specific project in the form of an addendum to this Agreement.

Section 8. This Agreement shall supersede all other agreements between the Employer and any Local of the Union for any work covered herein.

Section 9. The liability of the Employer and the liability of the Union shall be several and not joint.

Section 10. This Agreement shall have application only to work locations agreed upon between the Employer and the Unions in accordance with Article II, Section 1.

ARTICLE IV UNION SECURITY

Section 1. The Employees shall become and remain members of the Union as a condition of employment from the seventh (7th) but not later than the eighth (8th) day of employment, or the effective date of this Agreement, whichever is later.

Section 2. It is further agreed that all Union members employed by the Employer shall maintain their membership in good standing in the Union.

Section 3. Failure of any employee to pay or tender normal initiation fees or dues as required by this Agreement shall, upon the request of the Union in writing, result in the termination of such employee.

Section 4. The provisions of this Article shall not apply where and if such a requirement for continued employment is prohibited by state law; provided, however, that where an Agency Shop is lawful in any such state, conformity therewith shall be a condition of employment on the eighth day following the beginning of such employment, or the effective date of this Agreement, whichever is later.

ARTICLE V REFERRAL OF EMPLOYEES

Section 1. The Employer shall have the right to select and hire directly all supervisors it considers necessary and desirable. Applicants for the various classifications covered by the Agreement required by the Employer on its projects shall be referred to the Employer by the Union and/or its respective Local Unions. The Employer shall have the right to determine

the competency of all employees, the right to determine the number of employees required, and the sole responsibility for selecting the employees to be laid off.

Section 2. The Union represents that its Local Unions administer and control their referrals and it is agreed that these referrals will be made in a nondiscriminatory manner and in full compliance with federal, state and local laws and regulations which require equal employment opportunities and nondiscrimination. Referrals shall not be affected in any way by the rules, regulations, by-laws, constitutional provisions, or any other aspect or obligation of union membership, policies or requirements.

Section 3. In the event the referral facilities maintained by the Local Unions do not refer the employees as requested by the Employer within a forty-eight (48) hour period after such request is made by the Employer (Saturdays, Sundays and Holidays excluded), the Employer may employ applicants from any source.

Section 4. The Employer agrees to be bound by the hiring referral rules in a local area not inconsistent with the terms of this Agreement. Notwithstanding Section 2 above, the hiring referral rules that prevail in a local area are on other than an exclusive basis, such rules shall be applicable if not in violation of either state or federal law.

Section 5. The Union and its respective Local Unions will exert their utmost efforts to recruit sufficient number of skilled and certified craftsmen to fulfill the manpower requirements of the Employer.

Section 6. The Employer shall have the right to assign key employees to the project. Key employees are defined as craft employees who possess special skills or abilities and are not readily available in the area. Key personnel shall be named and agreed to at the pre-job conference.

Section 7. Where governmental agencies impose equal employment obligations on the Employer's project, referral procedures shall be subordinate to such obligations.

Section 8. In referring to employees in this Agreement, the masculine gender is used for convenience only and shall refer both to males and females.

ARTICLE VI MANAGEMENT RIGHTS

Section 1. The Employer retains and shall exercise full and exclusive authority and responsibility for the management of its operations, except as expressly limited by the terms of this Agreement.

ARTICLE VII HOURS OF WORK, OVERTIME, SHIFTS AND HOLIDAYS

Section 1. The standard work day shall consist of eight (8) hours of work between 6:00 a.m. and 6:00 p.m. with one-half hour designated as an unpaid period for lunch. The standard work week shall be five (5) consecutive days of work commencing on Monday. Nothing herein shall be construed as guaranteeing any employee eight (8) hours of work per day or forty (40) hours of work per week.

Section 2. Any employee reporting for work and for whom no work is provided, due to inclement weather or other conditions beyond the control of the Employer, shall receive two (2) hours pay at the regular straight time hourly rate. Any employee who starts to work and works beyond the two (2) hours will be paid for actual time worked except as provided in

Section 3. Whenever minimum reporting pay is provided for employees, they will be required to remain at the project site available for work for such time as they receive pay, unless released sooner by the Employer's principal supervisor or designated representative. The provisions of this Section are not applicable where the employee voluntarily quits, in which case the employee shall be paid for the actual time worked.

Section 3. All time before and after the established work day of eight (8) hours, Monday through Friday, and all time on Saturday shall be paid at the rate of time and one-half. All time on Sundays and the Holidays stated in Section 8 shall be paid for at the rate of double time.

Section 4. It will not be a violation of this Agreement when the Employer considers it necessary to shut down to avoid the possible loss of human life because of an emergency situation that could endanger the life and safety of an employee. In such case, employees shall receive two (2) hours pay at the regular straight time hourly rate. Any employee who starts to work and works beyond the two (2) hours will be paid for actual time worked. In the case of a situation described above whereby the Employer requests employees to wait in a designated area available for work, the employees will be compensated for the waiting time.

Section 5. Shifts may be established when considered necessary by the Employer.

A. Shift hours and rates will be as follows:

First Shift: Eight (8) hours pay for eight (8) hours worked plus one-half (1/2) hour unpaid lunch period.

Second Shift: Eight (8) hours pay for seven and one-half (7 1/2) hours worked plus one-half (1/2) hour unpaid lunch period.

Third Shift: Eight (8) hours pay for seven (7) hours worked plus one-half (1/2) hour unpaid lunch period.

B. Shifts shall be established and continue for a minimum of three (3) consecutive work days.

C. If only two shifts are to be worked, the Employer may regulate starting times of the two shift operations to permit the maximum utilization of daylight hours.

Section 6. In lieu of Section 5 above, the Employer may establish one (1) or two (2) four (4) day, ten (10) hour shifts at the regular straight time hourly rate of pay, Monday through Thursday. These shifts are exclusive of a thirty (30) minute unpaid lunch period. The day shift shall start work between the hours of 6:00 a.m. and 8:00 a.m. and the second shift shall start work at a time designated by the Employer. The day shift shall work four (4) days at ten (10) hours for ten (10) hours pay. The second shift shall work four (4) days at nine and one-half (9 1/2) hours for ten (10) hours pay. Straight time is not to exceed ten (10) hours a day for forty (40) hours per week. Staggered starting times may be established for various work operations. The Employer will notify the Union at least three (3) working days prior to starting a four (4) day, ten (10) hour shift.

A. If employees lose ten (10) or more straight time hours in any given week due to weather or other conditions beyond the control of the Employer, the Employer may, at his option, schedule a voluntary make-up day on Friday (if a four (4) day week is scheduled).

Section 7. It is recognized by the parties to this Agreement that the standard work week may not be desirable or cost effective for some projects, and other arrangements for hours of work could be necessary. On projects where job conditions require a change in the work day, work

week, and/or shifts, the parties mutually may change these conditions to meet the requirements of the project.

Section 8. Recognized holidays shall be as follows: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Day after Thanksgiving and Christmas Day. In the event a holiday falls on a Sunday, the following day, Monday, shall be observed as such holiday; if any of the above holidays fall on Saturday, Friday shall be observed as the holiday. There shall be no paid holidays. If employees are required to work on a holiday, they shall receive the appropriate rate, but in no case shall such overtime rate be more than double the straight time rate.

ARTICLE VIII WAGE SCALES AND BENEFITS

Section 1. Wage rates shall be those as set forth in the current appropriate Labor Agreement of the affiliated Local Union where such work is to be performed, unless modified pursuant to Article III, Section 7 or Article VIII, Section 3 of this Agreement. With respect to premiums, only those premiums incorporated in the appropriate Davis-Bacon wage determination at the time the Employer is authorized to perform work will be paid. Premiums so incorporated will be paid on all work.

Section 2. The Employer agrees to pay the fringe benefit contribution rates contained in the Local Agreement referenced above, and adopts and agrees to be bound by the written terms of legally established trust agreements specifying the detailed basis on which payments are to be made to such trust funds. The Employer authorizes the parties to such trust agreements to appoint trustees and successor trustees to administer the trust funds and hereby ratifies and accepts the trustees so appointed as if made by the Employer. Nothing contained in this Section is intended to require the Employer to become a member of any employer group or association as a condition for making such contributions. In addition to the contributions required by the Local Agreement, Section 5 of this Article shall apply to all work.

Section 3. In the event the Davis-Bacon determination does not meet the local negotiated wage rates and fringes of the signatory Unions for that classification of work, the parties shall meet and establish comparable wages and fringe benefits, which will be attached as Appendix "A," in order to utilize the trained and certified crafts on the project.

Section 4. Upon presentation of a proper authorization form executed by the individual employee, the Employer agrees to deduct union dues from net pay after taxes and remit same to the Union in accordance with applicable law. It is understood the Employer will remit each month the Union dues deducted in accordance with this Article on the transmittal forms used for fringe benefit contributions and that the pro-rata costs of such forms and the collection and accounting thereof will be paid by the Union to the fringe benefit administrator.

Section 5. The Employer agrees to submit to the national training fund sponsored by the International Union of Operating Engineers the amount of ten cents (\$.10) per hour for all hours worked by all employees of the Employer covered by this Agreement.

ARTICLE IX GRIEVANCE PROCEDURE

Section 1. It is specifically agreed that in the event any disputes arise out of the interpretation or application of this Agreement, excluding questions of jurisdiction, the same shall be settled by means of the procedure set out herein. No such grievance shall be recognized unless

called to the attention of the Employer by the Union and/or its respective Local Union or to the attention of the Union and/or its respective Local Union by the Employer within ten (10) calendar days after the alleged violation was committed.

Section 2. Grievances shall be settled according to the following procedure:

STEP 1: The dispute shall be referred to the Business Representative of the Local Union involved or his designated representative and the Project Superintendent and/or the Employer's representative at the project.

STEP 2: In the event that the Business Representative of the Local Union and the Project Superintendent and/or the Employer representative at the project site cannot reach agreement within ten (10) calendar days after a meeting is arranged and held, the matter shall be referred to the International Union and the Labor Relations Representative of the responsible Employer.

STEP 3: In the event that the International Representative and the Labor Relations Representative of the Employer are unable to resolve the dispute within ten (10) calendar days after completion of Step 2, it shall be referred, in writing, to the General President of the Union and the Home Office representative of the Employer.

STEP 4: If the dispute is not resolved within ten (10) calendar days after completion of Step 3, the Employer and the Union and/or its respective Local Union shall choose a mutually agreed upon Arbitrator for final and binding arbitration. The impartial Arbitrator shall be selected from a panel of arbitrators, who have knowledge and experience of the construction industry, submitted by and in accordance with the rules and regulations of the American Arbitration Association. The decision of the Arbitrator shall be binding upon all parties. The Arbitrator shall have no authority to change, amend, add to, or detract from any of the provisions of this Agreement. The expense of the impartial Arbitrator shall be borne equally by the Employer and the Union's respective Local Union.

Section 3. The time limits specified in any step of the Grievance Procedure may be extended by mutual agreement of the parties initiated by the written request of one party to the other, at the appropriate Step of the Grievance Procedure. However, failure to process a grievance, or failure to respond in writing within the time limits provided above, without a request for an extension of time, shall be deemed a waiver of such grievance to the other without prejudice, or without precedent to the processing of and/or resolution of like or similar grievances or disputes.

Section 4. In order to encourage the resolution of disputes and grievances at Section 1 and 2 of this Grievance Procedure, the parties agree that such settlements shall not be precedent-setting.

ARTICLE X JURISDICTIONAL DISPUTES

Section 1. There will be no strikes, no work stoppages or slowdowns, or other interferences with the work because of jurisdictional disputes.

Section 2. The parties to this Agreement agree to the concept that craft jurisdictional lines shall be followed, and work assignments shall be made in accordance with the Procedural Rules and Regulations of the Plan for the Settlement of Jurisdictional Disputes in the

Construction Industry. However, jurisdictional disputes cannot and shall not interfere with the efficient and continuous operations required in the successful application of the intent of this Agreement. Periodic review of the work assignments shall be made for the purpose of adjusting such assignments as appropriate to take care of changing needs.

Section 3. The Local Unions involved agree that the International Unions shall be requested to promptly assign International Representatives to meet and attempt a settlement in the event of questions of assignment.

Section 4. If the International Representatives cannot reach agreement on the dispute, they shall jointly prepare and sign a complete statement of the facts and circumstances involved in the dispute, which shall be submitted to the respective General Presidents for final resolution.

ARTICLE XI GENERAL WORKING CONDITIONS

Section 1. The selection of craft foremen and/or master mechanic and the number of foremen shall be entirely the responsibility of the Employer, it being understood that in the selection of such foremen and/or master mechanic the Employer will give primary consideration to the qualified individuals available in the local area. After giving such consideration, the Employer may select individuals from other areas. All foremen shall take orders from the designated Employer representatives. Craft foremen shall be designated working foremen at the request of the Employer.

Section 2. There shall be no limit on production by workmen nor restrictions on the full use of tools or equipment. Craftsmen using tools shall perform any of the work of the trade and shall work under the direction of the craft foremen. There shall be no restrictions on efficient use of manpower other than as may be required by safety regulations.

Section 3. Employees shall be at their place of work at the designated starting time and shall remain at their place during working hours until the designated quitting time. Where the employees place of work requires Employer-furnished transportation, the employees shall be transported on the Employer's time. The parties reaffirm their policy of a fair day's work for a fair day's wage.

Section 4. The Employer may utilize the most efficient methods or techniques of construction, tools or other labor-saving devices to accomplish work. Practices not a part of the terms and conditions of this Agreement will not be recognized.

Section 5. Neither the Union nor its Local Unions shall coerce or in any way interfere with the Owner's personnel, operation or facilities at the jobsite. The Owner's right to contract directly with other companies for work at the jobsite shall not be limited, and the Union shall cooperate and not interfere with the Employer's operations. There shall be no intermingling of Owner personnel with the Employer's Union personnel.

Section 6. Due to the nature of the work covered by this Agreement, Operating Engineers shall be allowed to take personal relief time not to exceed ten (10) minutes once during the first half of the shift and once during the second half of the shift. The Union agrees that this will not be abused. To the extent necessary, personal protective clothing shall be changed on company time. The Employer will determine the time during the shift when relief time will be taken. Relief time will not be taken simultaneously by all employees, unless directed by the Employer.

Section 7. Slowdowns, standby crews, and featherbedding practices will not be tolerated.

Section 8. Individual seniority shall not be recognized or applied to employees working on projects under this Agreement.

Section 9. The Employer shall establish such reasonable project rules as the Employer deems appropriate. These rules will be reviewed at the pre-job conference and posted at the project site by the Employer, and may be amended thereafter as necessary.

Section 10. The Employer shall notify the International Union prior to the start of a new project of any work to be performed by the Employer within the scope of this Agreement.

Section 11. Employers and representatives of the International Union, or Local Unions having jurisdiction, shall hold a pre-job conference so that the start and continuation of work may progress without interruption. It shall be the purpose of the pre-job conference for the Employer and the Unions to agree on such matters as work assignments in accordance with Appendix B, the proper, safe manning of equipment, the length of the work week, the number of key employees to be brought in, the number of employees employed, the method of referral, the check-off of union dues, initiation fees or agency shop fees, the applicable wage rates and fringe benefit contribution in accordance with the contract, a review of the site plan, site safety and health plan, site control, air monitoring, and all other aspects pertaining to the project, provided it is agreed that the interpretation shall be a matter for the principal parties hereto.

Section 12. Employees required to wear protective clothing will be given sufficient time to go through the required procedures for dressing, undressing and decontamination, and this shall be considered time worked.

ARTICLE XII SAFETY

Section 1. The employees covered by the terms of this Agreement shall at all times while in the employ of the Employer be bound by the safety rules and regulations as established by the Employer in accordance with the Construction Safety Act, OSHA, 29 CFR 1910.120, and any other federal and state regulations. These rules and regulations will be published and posted at conspicuous places throughout the project.

Section 2. In accordance with all federal and state regulations, it shall be the exclusive responsibility of each Employer on a job site to which this Agreement applies, to assure safe working conditions for its employees and compliance by them with any safety rules contained herein or established by the Employer. Nothing in this Agreement will make the Union or any of its Locals liable to any employees or to other persons in the event that injury or accidents occur.

ARTICLE XIII WORK STOPPAGES AND LOCKOUTS

Section 1. During the term of this Agreement there shall be no strikes, picketing, work stoppages, slowdowns, or other disruptive activity by the Union, its applicable Local Union, or by any employee, and there shall be no lockout by the Employer.

In the event of nonpayment of wages, fringes, and workers' compensation, the Union may take any appropriate action it deems necessary and the Union will not be considered in violation of this Article should a work stoppage occur.

Section 2. The Union and its applicable Local Union shall not sanction, aid or abet, encourage or continue any work stoppage, strike, picketing, or other disruptive activity relative of Section 1 above at the Employer's project site and shall undertake all reasonable means to prevent or to terminate any such activity. No employee shall engage in activities which violate this Article. Any employee who participates in or encourages any activity which interferes with the normal operation of the project shall be subject to disciplinary action, including discharge.

Section 3. Neither the Union nor its applicable Local Union shall be liable for acts of employees for which it has no responsibility. Upon being notified that the applicable Local Union is violating this Article, the International Union General President will immediately use the best efforts of his office to cause the applicable Local Union to cease any violations of this Article. Upon being notified that employees of the Local Union are violating this Article, the principal officer or officers of a Local Union will immediately use the best efforts of their office to cause the employees the Local Union represents to cease any violations of this Article. Compliance with this obligation shall render the Union or the applicable Local Union not liable for acts of employees. The failure of the Employer to exercise its right in any instance shall not be deemed a waiver of its right in any other instance.

ARTICLE XIV PAYMENT OF WAGES — CHECKING IN AND OUT

Section 1. Wages will be paid weekly by check on a designated day during working hours and in no case shall more than three (3) days pay be held back in any one payroll week.

Section 2. The Employer may utilize brassing, time clocks, or other systems to check employees in and out. Each employee must check himself/herself in and out. The Employer will provide adequate facilities for checking in and out in an expeditious manner.

Section 3. When employees are laid off or discharged, they shall be paid in full immediately. If not paid within twenty-four (24) hours, a four (4) hour penalty shall be levied upon the Employer.

ARTICLE XV UNION REPRESENTATION

Section 1. Authorized representatives of the Union and its Local Unions shall have access to the project provided they do not interfere with the work of the employees and further provided that such representatives fully comply with the visitor and security rules established for the particular project.

Section 2. The Union, or its applicable Local Union, shall have the right to designate a working journeyman as a Steward. Such designated Steward shall be a qualified worker performing the work of the craft and shall not exercise any supervisory functions. The Steward shall be concerned with the employees of the Steward's Employer and not with the employees of any other Employer.

Section 3. Where the Owner's personnel may be working in close proximity to the construction activities, the Union agrees that under any and all conditions Union representatives, Stewards and individual workmen will not interfere in any manner with the Owner's personnel or with the work which is being performed by the Owner's personnel.

**ARTICLE XVI
SUBCONTRACTING**

Section 1. The Employer agrees that neither the Employer nor any of its subcontractors will subcontract any work to be done on the project except to a person, firm, or corporation which agrees to become party to this Agreement. Any contractor or subcontractor working on the project shall become signatory to and perform all work under the terms of this Agreement.

**ARTICLE XVII
GENERAL SAVINGS CLAUSE**

Section 1. If any Article or provision of this Agreement shall be declared invalid, inoperative, or unenforceable by any competent authority of the executive, legislative, judicial or administrative branch of the federal or any state government, the Employer and the Union shall suspend the operation of such Article or provision during the period of its invalidity and shall substitute by mutual consent, in its place and stead, an Article or provision which will meet the objections to its validity and which will be in accord with the intent and purpose of the Article or provisions in question.

If any Article or provision of this Agreement shall be held invalid, inoperative, or unenforceable by operation of law or by any of the above mentioned tribunals of competent jurisdiction, the remainder of this Agreement or the applications of such Article or provision to persons or circumstances other than those as to which it has been held invalid, inoperative or unenforceable shall not be affected thereby.

**ARTICLE XVIII
DURATION**

This Agreement shall become effective the _____ day of _____, 19____, and shall continue in full force and effect for the duration of the project.

This Agreement may be amended only by written agreement signed by the parties signatory hereto.

SIGNED THIS _____ DAY OF _____ 19____.

INTERNATIONAL UNION OF OPERATING
ENGINEERS, AFL-CIO

FOR THE EMPLOYER:

Company Name _____

Frank Hanley-General President

Street Address

City State Zip

Area Code Phone Number

Signature

Name/Title Signature

Date

APPENDIX 'B' EQUIPMENT LIST

The following power equipment and machinery is recognized as within the jurisdiction of the International Union of Operating Engineers. The International Union of Operating Engineers claims jurisdiction of all equipment as granted by the AFL Convention, November 11-23, 1907, Resolution No. 124, and also claims jurisdiction of any new equipment introduced to the industry. This listing is not to be considered exclusive.

Air Compressor	Incinerators (different)
Associated Monitoring Instruments	Loader
Backhoe	Mechanic
Barrel Grappler Devices (all)	Pugmill
Batchplant	Pump & Treat Systems
Bobcats	Pumpcrete Machine
Boom Truck	Power Shovel
Clamshell	Robotic Equipment (all)
Concrete Breaker	Roller
Concrete Pump	Scraper (Self-propelled or tractor drawn)
Concrete Saw	Side Boom Tractor
Cranes (all)	Skid Steer Loader
Crusher	Slip Form Paver
Dozer	Sloper Paver
Dragline	Stationary Central Compressed Air Plant
Elevating Grader	Sweeper
Elevator	Tractor
Endloader	Trencher
Farm Tractor	Vertical Lifting Hoists
Filter Press	Vibrating Compaction Equipment—Self Propelled
Forklift	Welder
Generator	Welding Machine
Gradall	Well Drilling Rig
Grader	
Heater	

STONE & WEBSTER
GENERAL CONDITIONS FOR SUBCONTRACTS
FOR GOVERNMENT FUNDED CONTRACTS

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STONE & WEBSTER

GENERAL CONDITIONS FOR SUBCONTRACTS

FOR GOVERNMENT FUNDED CONTRACTS

1.0 **GENERAL**

1.1 **DEFINITIONS**

Unless the context clearly requires otherwise, each of the following terms, when used in this Subcontract with initial capitals, shall have the meaning set forth for such term below:

- a) "**Approved**" or "**Approval**" means approved in writing by Company and includes any subsequent written confirmation of a previous verbal approval. When applied by Company to Subcontractor's drawings or other submittals, these words mean that such drawings or other submittals appear to interface properly with Company-furnished components of the Project and Company has not identified any statement or feature that appears to deviate from the requirements of this Subcontract.
- b) "**Approved as Noted**", when applied by Company to Subcontractor's drawings or other submittals, means that, provided the comments noted by Company are incorporated by Subcontractor into its drawings or other submittals, such drawings or other submittals as revised appear to interface properly with Company-furnished components of the Project and, except as noted in Company's comments, Company has not identified any other statement or feature that appears to deviate from the requirements of this Subcontract.
- c) "**Change Order**" means a document prepared by Company to change this Subcontract, which document is signed by both Company and Subcontractor and which sets forth their agreement upon a change in the Work; the amount of the adjustment in the Subcontract Price, if any; and the extent of the adjustment in the Construction Schedule, if any.
- d) "**Commercial Operation Date**" means the date the Project is placed in service for commercial use.
- e) "**Company**" has the meaning set forth for that term in the Subcontract Agreement and, when the context implies such inclusion, shall include its successors or assigns, vendors, suppliers, officers, directors, agents, employees or other persons or entities performing work for Company.
- f) "**Construction Schedule**" means the detailed network schedule that is developed by Subcontractor using the critical path method of scheduling and planning the Work, and which may be revised from time to time. The Construction Schedule is to be approved by Company. In this regard, wherever used in this Subcontract, unless otherwise stated, "days" means "calendar days".
- g) "**Construction Works**" means all materials, supplies, construction equipment, construction tools, construction consumables and utilities, field office equipment, field office supplies, scaffolding and form lumber, templates and consumables, temporary buildings and facilities, computer software and computer hardware, used in the execution, performance, maintenance, completion or management of the Work by Subcontractor and all other items required for the Work but which are not intended to become a permanent part of the Project.
- h) "**Drawings**" mean the drawings referred to in this Subcontract which graphically or pictorially show the design, location and dimensions of the Work, including, but not limited to, plans, elevations, sections, details, schedules and diagrams, and any modifications to such drawings approved in writing by Company, and such other drawings as may from time to time be furnished or approved in writing by Company.
- i) "**Effective Date**" means the date set forth in the Subcontract Agreement as the date on which this Subcontract is effective.
- j) "**Field Work Order**" means a written order prepared and signed by Company which directs Subcontractor to perform a change in the Work and sets forth a proposed basis for adjustment, if any, in the Subcontract Price and/or the Construction Schedule.

- k) "**Final Acceptance**" shall occur when Company acknowledges to Subcontractor in writing that Final Completion has been achieved, as defined in Article 7.0.
- l) "**Final Completion**" means that all obligations of Subcontractor under this Subcontract have been completed as defined in Article 7.0, except for obligations which Company has waived or excused in writing, and except for obligations of Subcontractor that survive termination of this Subcontract, including but not limited to, warranty and indemnity.
- m) "**Goods**" means all of the materials, supplies, apparatus, equipment, machinery, reports, documentation, drawings and other submittals and all other items that Subcontractor is required to furnish pursuant to this Subcontract, including acceptance copies of this Subcontract and of any Change Order. Goods include Construction Works and Materials and Equipment.
- n) "**Government**" refers to the entity that will own the Work of Subcontractor following completion of Company's performance pursuant to its obligations with respect to said entity.
- o) "**Materials and Equipment**" means all materials, supplies, apparatus, equipment and machinery required for the Project to the extent they are included in the Work and will become a permanent part of the Project.
- p) "**Mechanical Completion**" means the stage in the progress of the Work when all Material and Equipment which Subcontractor is responsible to install: a) has been completely installed, connected mechanically and electrically, aligned, balanced, lubricated, charged with proper chemicals and/or gases; b) is otherwise mechanically and electrically sound in all respects; c) has successfully completed all pre-operational tests; and d) is capable of being operated within manufactures' recommended limits, in compliance with all applicable laws and without hazard or danger to any property and without danger of injury to persons.
- q) "**Modifications**" means: a) any Change Order; b) any Field Work Order or c) any written order for a minor change in the Work issued by Company.
- r) "**Notice To Proceed**" is the date Subcontractor is authorized by Company to start the Work.
- s) "**Project**" means the total construction undertaken by the Government, of which the Work performed under this Subcontract may be the whole or may be a part, and which may include construction by other subcontractors or sub-subcontractors to Company, or by Company, or by Government's own forces, including persons or entities under separate contracts with Government.
- t) "**Project Site**" means the land and other places on, under, in, or through which the Work is to be installed, executed or carried out, and any other lands or places provided by Government for the purposes of this Subcontract, together with such other places as may be specifically designated in this Subcontract as forming part of the Project Site. Where the Work is but a part of the Project, Subcontractor may be granted access to the particular part of the Project Site where the Work is to be performed, but not to the entire Project Site.
- u) "**Revise and Resubmit**", when applied by Company to Subcontractor's drawings or other submittals, means that the drawings or other submittals are unsatisfactory to Company because they do not interface properly with Company-furnished components of the Project and/or do not comply with the requirements of this Subcontract.
- v) "**Site Manager**" refers to Company's senior representative on the Project Site.
- w) "**Specifications**" means those Subcontract Documents consisting of the written requirements for Materials and Equipment, construction systems, standards and workmanship for the Work and for the performance of related services.
- x) "**Subcontract**" or "**Subcontract Documents**" means the contract between Company and Subcontractor (the "Parties"), and includes all of the documents listed within the Subcontract Agreement; and all Modifications issued after the signing of this Subcontract.
- y) "**Subcontractor**" refers to the Party who or which has agreed to assume full responsibility for undertaking the execution of the Work under the terms of this Subcontract and to be primarily liable for the acceptable performance of the Work and for the payment of all legal debts pertaining thereto.
- z) "**Subcontract Price**" means the total amount payable to Subcontractor pursuant to this Subcontract.

- aa) "**Substantial Completion**" means the stage in the progress of the Work when: a) Mechanical Completion has been achieved; b) operational testing, whether by Subcontractor, or Company, or both, has been successfully completed; c) performance guarantees, if any, have been demonstrated; d) the Work is ready for uninterrupted operation; and e) the Work or designated portion thereof is sufficiently complete in accordance with this Subcontract so that Company or Government can occupy the Work and utilize it for its intended use.
- bb) "**Sub-subcontractor**" means any person or entity, at any tier, who has a direct or indirect subcontract with Subcontractor to perform a portion of the Work at the Project Site.
- cc) "**Supplier**" means any person or entity providing or supplying any Goods to Subcontractor or to its Sub-subcontractors for the Work.
- dd) "**Work**" means the supply by Subcontractor of all labor, facilities, Goods and all services required by this Subcontract, whether completed or partially completed and whether provided by Subcontractor or provided to Subcontractor by Company, Government or others in order to fulfill Subcontractor's obligations under this Subcontract. Work also includes all duties, responsibilities and obligations undertaken by Subcontractor under this Subcontract, whether expressed or implied. The Work may constitute the whole Project or may constitute a part of the Project.

1.2 TIME IS OF THE ESSENCE

1.2.1 Subcontractor understands and agrees that time is of the essence regarding this Subcontract with respect to Final Completion and with respect to the completion of any intermediate milestones which may be described elsewhere in this Subcontract.

1.2.2 With the exception of delays resulting from Force Majeure events under the provisions of Article 6.0, in the event of any delay or anticipated delay in Subcontractor's performance, Subcontractor shall give Company notice of such delay or anticipated delay in writing within five (5) days after the occurrence of the event giving rise to the delay became known to, or, with the exercise of reasonable diligence on the part of Subcontractor, should have become known to, Subcontractor. The notice to Company shall include a description of the source or cause of the delay and of the actions Subcontractor is undertaking to recover the delay, which actions shall be subject to Company's approval. If Subcontractor fails to take steps that Company determines are necessary to recover the delay or fails to bring its performance into compliance with the requirements of this Subcontract, Company may direct Subcontractor to accelerate its Work by supplying additional labor, including, but not limited to, overtime or additional shifts, and/or additional supervision and equipment as Company may reasonably require, in order to recover and maintain the Construction Schedule. All costs incurred by Subcontractor to accelerate its Work shall be to the account of Subcontractor. In addition to its right to direct Subcontractor to accelerate its Work, Company may exercise any other remedy specified herein or otherwise available to it under applicable law. Company's receipt of Subcontractor's notice of delay and/or Company's approval of Subcontractor's proposed action to recover the delay and/or Company's directive to accelerate the Work shall not constitute a waiver of any right or remedy available to Company, nor shall be deemed a waiver of the requirements of this Subcontract.

1.3 ENGLISH LANGUAGE

Subcontractor hereby represents that it has sufficient knowledge of the English language to fully understand this Subcontract. This Subcontract shall be in the English language. All documentation related thereto, including without limitation, any documentation to be provided by Subcontractor, Sub-subcontractors or Suppliers, shall also be in the English language. Subcontractor shall bear all costs of translation and assumes all risk of such translation.

1.4 INTERPRETATION

The terms defined herein include the plural as well as the singular. Any reference to an article, section, exhibit, appendix or attachment refers to an article, section, exhibit, appendix or attachment of or to this Subcontract unless otherwise specified. The table of contents and the headings and subheadings are inserted for convenience only and shall not be deemed a part of this Subcontract nor shall be taken into consideration in the interpretation or construction of this Subcontract. The terms "hereof", "herein", "hereunder" and comparable terms refer to the entire Subcontract with respect to which such terms are used and not to any particular article, section or subdivision thereof. The words "include", "includes" and "including" are not limiting. If any provision of this Subcontract contemplates that Company and Subcontractor will negotiate any matter after the Effective Date, such provision shall be construed to include an obligation on the part of the Parties to negotiate in good faith in accordance with the intent of this Subcontract.

1.5 ENTIRE AGREEMENT

This Subcontract sets forth the entire and integrated agreement between Company and Subcontractor with respect to the subject matter of this Subcontract, and supersedes any and all prior negotiations, representations, understandings or agreements, either written or oral. Unless specifically referenced in this Subcontract, this Subcontract does not include other documents such as bidding requirements, including invitations to bid, instructions to bidders, sample forms, Subcontractor's bid or portions thereof, or addenda relating to bidding requirements. Any scope that may reasonably be inferred from the Scope of Work, including the Drawings or Specifications or other Subcontract Documents, as being required to perform the Work shall be supplied or furnished whether or not specifically called for. When words which have a well known technical or trade meaning are used to describe the Work, such words shall be interpreted in accordance with such meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the code of any governmental authority, whether such references be specific or by implication, shall mean the latest standard specification, manual or code in effect at the time of the Work is performed, except as may be otherwise set forth herein.

1.6 ASSIGNMENT

1.6.1 Subcontractor shall not assign this Subcontract wholly or in part, voluntarily, by operation of law, or otherwise, without first obtaining the prior written consent of Company. Any assignment of this Subcontract in violation of the foregoing shall be voidable at the option of Company. Subject to the foregoing, the provisions of this Subcontract shall extend to the benefit of and shall be binding upon the successors and assigns of the Parties hereto.

1.6.2 Company reserves the right, at its sole discretion, to assign this Subcontract to its affiliates or to Government or to any financial institution(s) participating in the financing of the Project.

1.6.3 In the event Company terminates this Subcontract, Subcontractor shall assign to Company, or to Government, as Company may direct, those subcontracts, supply agreements or lease and rental agreements as may be requested by Company. Subcontractor shall insure that all its subcontracts, supply agreements and lease and rental agreements pertaining to the Work contain provisions therein permitting assignment to Company or Government, and to their successors and assigns.

1.7 INDEPENDENT SUBCONTRACTOR

1.7.1 Subcontractor is and shall operate as an independent Subcontractor in the performance of this Subcontract, and not as an agent or employee of Company or Government. Nothing contained in this Subcontract shall alter Subcontractor's status as an independent Subcontractor, nor shall this Subcontract be construed as creating any contractual relationship whatsoever between Government and Subcontractor or between any persons or entities other than Company and Subcontractor.

1.7.2 All Subcontractor's subcontracts, supply agreements and lease and rental agreements, entered into pursuant to the Work, shall contain a provision expressly stating that no contractual relationship exists between Government or Company and the Sub-subcontractor, Supplier, person or entity with which Subcontractor has entered into a purchasing or subcontracting relationship.

1.7.3 At all times, Subcontractor shall be solely responsible for the means, methods, sequences and procedures for the performance of the Work under this Subcontract.

1.7.4 Subcontractor shall accept complete responsibility as a principal for its agents, Sub-subcontractors, Suppliers and all others it hires or engages to perform or assist in performing the Work, whether on or off the Project Site. Subject to Article 4.2, Subcontractor has sole authority and responsibility to employ, discharge and otherwise control its employees.

1.7.5 No provision of this Subcontract or of any subcontract or Supplier agreement awarded by Subcontractor shall be construed to create any contractual obligation for Company to pay or be responsible for the payment of any moneys to any such Sub-subcontractor or Supplier.

1.8 SEVERABILITY

The invalidity or unenforceability of any provision of this Subcontract, including but not limited to these General Conditions, shall in no way affect the validity or enforceability of any other provision hereof. Any invalid or unenforceable provision shall be deemed severed from this Subcontract and the balance of this Subcontract shall be

reformed in such a manner as to effect to the maximum extent possible the original intent of Company and Subcontractor.

1.9 SURVIVAL

In order that the Parties to this Subcontract may fully exercise their rights and perform their obligations hereunder arising from the performance of the Work, any provisions of this Subcontract that are required to ensure exercise of such rights or performance shall survive the expiration or termination of this Subcontract, regardless of the cause for such termination and regardless of whether or not such termination applies to all or only part of this Subcontract.

1.10 NON-WAIVER

Company's or Subcontractor's waiver of any breach or failure to enforce any of the terms, covenants, conditions or provisions of this Subcontract at any time shall not in any way affect, limit, modify, waive or be deemed to affect, limit, modify or waive that Party's right thereafter to enforce or compel strict compliance with every term, covenant, condition or provision hereof, any course of dealing or custom of the trade notwithstanding.

1.11 MODIFICATIONS AND AMENDMENTS

1.11.1 No Modification, amendment, rescission, waiver or other change of or to this Subcontract shall be of any force or effect unless such Modification, amendment, rescission, waiver, or other change be in writing, signed by the authorized representative of the Party to be bound thereby.

1.11.2 Notwithstanding Article 1.11.1, Company may, without invalidating this Subcontract, order Subcontractor to perform changes in the Work within the general scope of this Subcontract, consisting of additions, deletions, or other Modifications, with the Subcontract Price and the Construction Schedule being adjusted accordingly.

1.11.3 Subcontractor shall not suspend performance of this Subcontract during the review and negotiation of any Modification.

1.12 APPLICABLE LAW AND JUDICIAL FORUM

1.12.1 This Subcontract shall be governed by the laws of the jurisdiction specified elsewhere in this Subcontract, excluding that jurisdiction's conflict of laws principles.

1.12.2 Any litigation arising out of this Subcontract shall be conducted in judicial proceedings in the court or courts specified elsewhere in this Subcontract. Subcontractor and Company hereby waive any other venue to which each might otherwise be entitled to submit a controversy arising hereunder for adjudication.

1.13 DELIVERY TERM, RISK OF LOSS, TITLE

1.13.1 All Goods delivered to the Project Site for use in performing the Work or for incorporation into the Work shall be delivered to Subcontractor at no additional cost of any kind to Company. Subcontractor shall be solely responsible for all such costs, including, but not limited to, transportation, insurance, import and/or export licenses.

1.13.2 Risk of loss of the Materials and Equipment incorporated into the Work shall remain with Subcontractor until Final Acceptance of the Work.

1.13.3 Risk of loss for Materials and Equipment not incorporated into the Work shall remain with Subcontractor until Final Acceptance unless Company requests that Subcontractor turn over to Company any such Materials and Equipment, in which case risk of loss for such Materials and Equipment shall pass to Company at the time of turn over to Company.

1.13.4 Title to Materials and Equipment shall pass to Company: a) based upon the extent to which Subcontractor has received payment for same as part of Subcontractor's progress payments; or b) incorporation of the Materials and Equipment into the Project or, in the case of Materials and Equipment not incorporated into the Work, upon turnover to Company as described in Article 1.13.3, whichever a) or b) first occurs.

1.14 SECURITY INTEREST FOR GOODS IN PROCESS

If progress payments are made to Subcontractor for Goods in process, Company shall have and shall be entitled to perfect a security interest in such Goods to the extent of the progress payments made. Subcontractor shall execute such documents as may be necessary to effectuate such security interest under the laws of the jurisdiction governing this Subcontract.

1.15 COUNTRY OF ORIGIN

Materials and Equipment shall have their origin in the country or countries set forth in this Subcontract. Unless otherwise indicated in the Subcontract Documents, for compliance with the qualifying conditions of any applicable financing arrangements, the Country of Origin shall be considered that country in which the Materials and Equipment become a commercially recognizable product that is substantially different in basic characteristics, purpose or utility from its components and that results from fabricating, manufacturing, processing or a substantial and major assembling of components. The provisions of FAR clauses 52.225-11 and 52.225-3, plus any other clauses in Section I of this Subcontract shall take precedence over any provisions of this Article 1.15.

1.16 NOT USED

1.17 NOT USED

1.18 SPARE PARTS

Subcontractor shall be required to provide any spare parts manufactured or distributed by Subcontractor as Company or Government may elect to purchase from Subcontractor, provided that this election shall not relieve Subcontractor of any of its warranty obligations under this Subcontract. If the Work includes the furnishing of any engineered Materials and Equipment and if Subcontractor intends to terminate or discontinue the production of spare parts related to such Materials and Equipment, Subcontractor shall give Company and Government written notice of its intention to do so in sufficient time to permit Company and Government to obtain their spare parts requirements from Subcontractor or from others. Subcontractor shall provide Company and Government, at no cost, the drawings, blueprints and specifications for the fabrication, manufacture, and/or assembly of the spare parts if and as requested by Company and/or Government.

1.19 SUBSTITUTIONS

If the Work includes the furnishing of any engineered Materials and Equipment, and if the Subcontract Documents for the various portions of the Work specify certain specific materials, processes and/or products of manufacturers which will be required, Subcontractor will comply with such specification unless equivalent materials, processes and/or products are specifically approved in writing by Company. Should Subcontractor propose to furnish equivalent materials, processes and/or products, either in substitution for or as an alternate to Company's specification, Subcontractor shall submit full details thereof and obtain Company's prior written approval. Company's decision as to the suitability of any such equivalent materials, processes and/or products shall be final, but the approval of Company shall not relieve Subcontractor of its responsibility concerning performance of the Work or shall not affect the warranty or any guarantees covering all parts of the Work.

2.0 ADMINISTRATION OF THE SUBCONTRACT

2.1 Company will administer this Subcontract as described in the Subcontract Documents and, as part of such administration, Company rights include but are not limited to the following:

2.1.1 Company will periodically inspect the Work and monitor progress to determine in general whether the Work is being performed in accordance with the requirements this Subcontract. Company's failure to ascertain or to advise Subcontractor that any portion of the Work is not in compliance with this Subcontract shall not relieve Subcontractor of its continuing obligation to perform the entire Work in accordance with this Subcontract.

2.1.2 Company will coordinate the activities of other subcontractors and the activities of Government's or Company's own forces with the Work of Subcontractor. Subcontractor shall cooperate with such other parties performing work at the Project Site. Subcontractor shall participate with other subcontractors and Company in reviewing their collective construction schedules when directed to do so by Company. Subcontractor shall make any required revisions to its Construction Schedule after a joint review and mutual agreement of Company and Subcontractor. The Construction Schedule shall constitute the schedule to be used by Subcontractor unless and until subsequently revised by Subcontractor and approved by Company.

- 2.1.3 Company will review and approve all applications for payment submitted by Subcontractor, including Subcontractor's application for final payment.
- 2.1.4 Company will have authority to reject Work that does not conform to this Subcontract and to require inspection or testing of all re-performed Work in accordance with Article 11.0. In addition, whenever Company deems it necessary or advisable for the implementation of this Subcontract, Company shall have authority to require additional inspection or testing of the Work in accordance with Article 11.0, regardless of whether or not such Work is fabricated, installed or completed. Notwithstanding the foregoing, however, neither Company's authority to act under this Article nor any decision made by Company in good faith either to exercise or not to exercise such authority shall give rise to a duty or a responsibility on the part of Company to Subcontractor, or to its Sub-subcontractors, Suppliers, their agents or employees, or other persons performing any of the Work.
- 2.1.5 Company will receive from Subcontractor for review and approval, rejection or comment, in accordance with Article 12.0, all shop drawings and other submittals, and shall coordinate such shop drawings or other submittals with information received from other subcontractors. Any action taken by Company regarding such submittals shall be taken with reasonable promptness so as to cause no delay in the Work of Subcontractor, provided that Subcontractor's submittal is in itself complete and timely in accordance with the Construction Schedule and allows sufficient time to permit adequate review by Company. Any action taken by Company in connection with the review and approval of Subcontractor's submittals shall be for the limited purpose of checking for conformance with information given and the design concept expressed in this Subcontract, and shall not be conducted for the purpose of determining the accuracy and completeness of details such as dimensions and quantity, nor for substantiating instructions for installation, nor for the performance of Materials and Equipment or systems, all of which shall remain the responsibility of Subcontractor as required in this Subcontract. Company's review of Subcontractor's drawings or other submittals shall not relieve Subcontractor of its obligation to submit same or of its obligations to supervise and direct the Work or of its obligations under the warranty provisions of this Subcontract. Such review by Company shall not constitute approval of safety precautions or, unless otherwise specifically approved by Company, of any construction means, methods, techniques, sequences or procedures. Company's approval of a specific component shall not indicate approval of an assembly of which the component is a part.
- 2.1.6 Company will prepare all Change Orders and Field Work Orders in accordance with this Subcontract.
- 2.1.7 Company will conduct inspections to determine whether or not Substantial Completion and Final Completion have been achieved, and will receive and forward to Government all written warranties and related documents required by this Subcontract and assembled and submitted by Subcontractor.
- 2.1.8 Company will interpret and decide matters concerning performance under and requirements of this Subcontract.
- 2.2 Except to the extent set forth in Article 2.1.2 and except to the extent required to maintain overall health, safety and welfare at the Project Site, Company will not have control over or charge of and will not be responsible for construction means, methods, techniques, sequences or procedures, or for safety precaution programs in connection with the Work.
- 2.3 Unless otherwise stated in this Subcontract, all Company communications regarding Subcontractor's Sub-subcontractors and Suppliers or their agents or employees will be made through Subcontractor.

3.0 REPRESENTATIONS BY SUBCONTRACTOR

- 3.1 Subcontractor represents that it:
 - 3.1.1 Has examined the Subcontract Documents thoroughly.
 - 3.1.2 Has familiarized itself with federal, state, provincial, municipal, local and other governmental laws, ordinances, rules and regulations, ecological and environmental criteria, and building and safety codes, that pertain to the Work or to Subcontractor's performance of the Work.
 - 3.1.3 Has studied Project Site information provided or otherwise made available by Company.
 - 3.1.4 Has visited and carefully examined the Project Site to ascertain the nature and location of the Work; the character and accessibility of the Project Site, including, but not limited to, methods of ingress to and egress from the Project Site and the transportation, disposal, handling, and storage of the Goods; the character of Construction Works required for the performance of the Work; the existence of obstacles that could impact Subcontractor's performance or its schedule for

the performance of the Work; the availability of facilities and utilities, including, but not limited to, potable water, construction water and electricity; the location and the character of existing or adjacent work or structures; climatic conditions, river stages, tides, and similar physical conditions at the Project Site; the required Construction Schedule and the order and method of performance of the Work; and all other general and local conditions (including the availability and qualifications of labor) which might affect the performance of the Work or the cost thereof.

- 3.1.5** Is fully experienced and properly qualified to perform the Work and is properly equipped, organized and financed to perform such Work. Subcontractor represents that, at the time of its signing of this Subcontract and at all times during the performance of the Work, it is and will continue to be properly licensed and qualified to do business by all governmental agencies having jurisdiction over the Work. Upon request by Company, Subcontractor shall furnish such evidence as Company may require relating to Subcontractor's ability to fully perform this Subcontract, including evidence of its financial standing. Subcontractor agrees that it is an employer subject to all applicable unemployment compensation, occupational safety and health, or similar statutes, so as to relieve Company of any responsibility or liability for the treating Subcontractor's employees as employees of Company for the purpose of their safety or for the keeping of records, making reports or paying any payroll taxes or contributions. Subcontractor agrees to indemnify, hold harmless and defend Company, Government, their subsidiaries and affiliates, and all their directors, officers, employees, agents and representatives, from and against any liability, claims, demands, penalties, fines, lawsuits, judgments, losses and expenses, including reasonable attorneys' fees and court costs, incurred under said statutes in connection with employees of Subcontractor, including a sum equal to any unemployment benefits paid to those who were Subcontractor's employees where such benefit payments are charged to Company.
- 3.2** Any surface or subsurface reports, topographic maps, geotechnical reports, or other information made available to Subcontractor by Company are solely for Subcontractor's convenience. Subcontractor represents that it has satisfied itself as to the character, quality and quantity of surface and subsurface materials, structures, utilities or other obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the Project Site. Any failure by Subcontractor to take the actions described in this Article 3.2 or in the preceding Article 3.1 shall not relieve Subcontractor from its responsibility for properly estimating the difficulty and cost of successfully performing its Work or for proceeding to successfully perform the Work without additional expense to Company. Subcontractor acknowledges that Company assumes no responsibility or liability for conclusions or interpretations made by Subcontractor based on any information Company has made available to Subcontractor. Subcontractor further acknowledges that Company assumes no responsibility or liability for any understandings reached or representations made by third parties, including Government and its employees or agents, prior to the its signing of this Subcontract, concerning conditions which can affect the Work.

4.0 LABOR AND LABOR RELATIONS

- 4.1** Subcontractor shall provide an adequate number of qualified and competent supervisory staff, craft persons and other personnel to perform the Work. At all times during the course of the Work, Subcontractor shall provide at the Project Site a qualified, competent and responsible supervisor satisfactory to Company. Subcontractor's supervisor shall have authority to represent Subcontractor. Directions given to Subcontractor's supervisor by Company shall be binding on Subcontractor. Upon Company's written request, Subcontractor shall give the supervisor, in writing, complete authority to act on behalf of and to bind Subcontractor in all matters pertaining to the Work and this Subcontract and shall furnish Company a copy of such authorization. Subcontractor shall not transfer or remove or replace its supervisor or any of its supervisory staff assigned to this Subcontract without the prior written consent of Company.
- 4.2** In response to a request by Company, Subcontractor shall replace, at no cost to Company, any of its personnel or require its Sub-subcontractors to replace personnel performing the Work whom Company reasonably requests to be replaced, including, without limitation, personnel deemed by Company to be disruptive to the Project, or personnel who fail to comply with any drug and controlled substance abuse policies applicable to personnel working at the Project Site.
- 4.3** Subcontractor shall exercise its management rights in performing the Work. Such rights shall be deemed to include, but shall not be limited to, the rights to: a) hire, discharge, promote and transfer employees; b) select and remove foremen or other persons at other levels of supervision (subject to Article 4.2); c) establish and enforce reasonable standards of production; d) introduce, to the extent feasible, labor saving techniques and Materials and Equipment (subject to Company's approval if such Materials and Equipment quality has been specified in the Subcontract Documents and subject to Subcontractor's warranty that said Materials and Equipment meet the requirements of the Subcontract Documents); e) determine the number of craftsmen necessary to perform a task, job or activity; and f) establish, maintain and enforce rules and regulations conducive to efficient and productive operations; all provided, however, that if Company shall notify Subcontractor that it believes in good faith that any labor practice employed by Subcontractor is delaying the Work or causing increased cost to Company, Company and Subcontractor shall negotiate in good faith in an attempt to agree upon other practices mutually acceptable to Company and Subcontractor.

- 4.4 Subcontractor shall use its best efforts to minimize the risk of labor-related delays including, if union labor is employed and if requested to do so by Company, using its best efforts to negotiate a Project agreement which includes a no-strike provision. Subcontractor shall promptly notify Company and take any and all reasonable steps that may be available in connection with the resolution of violations of collective bargaining agreements and jurisdictional disputes including, without limitation, the filing of appropriate processes with any court or administrative agency having jurisdiction to settle, enjoin or to award damages resulting from violations of collective bargaining agreements or jurisdiction disputes.
- 4.5 Subcontractor shall promptly undertake such reasonable efforts as are necessary to prevent any strikes or labor disputes among its employees or the employees of its Sub-subcontractors or Suppliers.
- 4.6 Subcontractor shall promptly give notice to Company of any actual, anticipated or threatened labor dispute that might affect the performance of the Work of Subcontractor or by any of its Sub-subcontractors or Suppliers. Subcontractor acknowledges that Materials and Equipment to be furnished by Company or Government, if any, may not be provided by union shops, and Subcontractor expressly agrees that any labor disputes resulting from this circumstance shall not constitute an event for which Subcontractor may seek relief under the Force Majeure or any other provision of this Subcontract.
- 4.7 Subcontractor shall comply strictly with all work rules and procedures established by Company or Government for the conduct of work at the Project Site. Subcontractor shall ensure that all supervisory personnel, employees, agents and Sub-subcontractors at the Project Site comply strictly with such rules. Company reserves the right, from time to time, to revise any such rules and Subcontractor shall comply fully with such rules as revised in accordance with the foregoing provisions.
- 4.8 Subcontractor shall comply with all provisions of the Davis-Bacon Act (FAR 56.222.6) and/or the Service Contract Act (FAR 52.222.41) and/or any other such provisions as may be imposed by Section I of this Subcontract.

5.0 OVERTIME

Unless expressly stated elsewhere in this Subcontract, Subcontractor's hours of work at the Project Site shall be compatible with Company's starting and quitting times or such other times as are approved by Company in writing. Scheduled overtime work by Subcontractor must be approved in advance and in writing by Company. Subcontractor shall notify Company in advance of any incidental or spot overtime that Subcontractor elects to work due to such operations as concrete placement and non-disruptable work activities. Should Subcontractor be required to work overtime due to an emergency situation to protect life or property, Subcontractor shall so notify Company as soon as reasonably practicable. All overtime work, whether scheduled or incidental or for emergencies, shall be to Subcontractor's account.

6.0 FORCE MAJEURE

- 6.1 Neither Subcontractor (nor its Sub-subcontractors or Suppliers) nor Company shall be responsible for or liable for, or be deemed in breach of this Subcontract because of, any delay, interference, disruption, or hindrance in the performance of their respective obligations hereunder if and to the extent that any such impact in performance is due solely to a Force Majeure event, which is a condition or conditions beyond the reasonable control of the Party experiencing such an impact in performance (the "Affected Party"). Force Majeure events are acts of God, floods, hurricanes, tornadoes, typhoons, lightning strikes, landslides, earthquakes, epidemics, quarantines, war, civil insurrection, riots, sabotage, requirements of or actions of or failures to act on the part of governmental authorities preventing performance, embargoes, and accident or fire not caused by the Affected Party, provided that:
- 6.1.1 The Affected Party gives the other Party written notice describing the Force Majeure event and its impact or potential impact on Affected Party within seven (7) days after the Affected Party became aware of, or reasonably should have become aware of, such event;
- 6.1.2 The delay, interference, disruption, or hindrance or other inability to perform is of no greater scope and of no longer duration than is required as a direct result of the Force Majeure event.
- 6.2 The following events shall not be deemed to be delays within the meaning of Article 6.1: a) changes in market conditions or governmental actions that affect the demand for the services of Subcontractor (or Sub-subcontractors or Suppliers); b) late delivery of Goods caused by congestion at the facilities of Subcontractor (or Sub-subcontractors or Suppliers) or elsewhere, an oversold condition of the market, inefficiency, or similar occurrence or condition; c) late performance by Subcontractor (or Sub-subcontractors or Suppliers), caused by a shortage of labor or supervision,

inefficiency in prosecuting their respective portions of the Work, or similar occurrence or condition; d) Subcontractor's failure (or the failure of any of its Sub-subcontractors or Suppliers) to secure and maintain permits, licenses or other governmental approvals necessary for prosecution of the Work or their respective portions of the Work; e) normal weather conditions, including adverse weather conditions predictable through analysis of historical weather data, and; f) any negligent or intentional acts, errors, or omissions of the Affected Party (including acts, errors and omissions by its employees, agents, Sub-subcontractors or Suppliers), the Affected Party's failure to comply with any law, rule, regulation, order or ordinance (including any such failure to comply by any of its employees, agents, Sub-subcontractors or Suppliers), or any breach or default of this Subcontract by the Affected Party.

- 6.3 If Subcontractor experiences a delay, interference, disruption or hindrance or other inability to perform that is due solely to a Force Majeure event described in Article 6.1, the Construction Schedule shall be adjusted and, if appropriate, the scheduled completion date shall be extended by a period of time equal to the amount of time reasonably determined by Company to be necessary for Subcontractor to recover from such impact in performance. Subcontractor expressly agrees that adjustment of the Construction Schedule and extension of the scheduled completion date shall be Subcontractor's sole and exclusive remedy and Company's sole and exclusive liability in the event Subcontractor is delayed, interfered with, disrupted, or hindered in the performance of its Work by an event described in Article 6.1.
- 6.4 The Party claiming a delay under this Article 6.0 shall use its best efforts to remedy any inability to perform due to the occurrence of a Force Majeure event. As and when such Affected Party is able to resume performance of its obligations under this Subcontract, such Affected Party shall give the other Party written notice to that effect. The suspension of performance shall be of no greater scope and of no longer duration than is required by the delaying event.
- 6.5 If Subcontractor experiences a delay, interference, disruption or hindrance or other inability to perform that is due solely to a Force Majeure event described in Article 6.1, and if, within a reasonable time after the occurrence of a Force Majeure event, Subcontractor has failed to take such action as Subcontractor could lawfully and reasonably initiate to remove or relieve the delay, interference, disruption or hindrance or its direct or indirect effects, Company may, in its sole reasonable discretion and after written notice to Subcontractor, and at Subcontractor's expense, initiate such reasonable measures as will be designed to remove or relieve such delay, interference, disruption or hindrance or its direct or indirect effects and thereafter require Subcontractor to resume full or partial performance of the Work, or may declare Subcontractor in default under this Subcontract.
- 6.6 Failure of the Affected Party to provide the written notice or to take the prescribed actions hereunder shall be deemed a waiver by the Affected Party of its right to an extension of time for its performance.

7.0 FINAL COMPLETION AND ACCEPTANCE

- 7.1 Final Completion of the Work shall be deemed to have occurred when all of the following have been completed: a) Company has received all permits, licenses and approvals required to be obtained and submitted by Subcontractor; b) Company has received all specifications and drawings, including record and as-built drawings, test data and other technical information of the types and in the quantities required to be provided by Subcontractor under this Subcontract; c) Company agrees Subcontractor has successfully completed all tests required to be performed by Subcontractor under this Subcontract and under applicable permits, laws, rules, regulations, codes and standards and that Subcontractor has provided all required regulatory body certificates to Company; d) Company has received all required operation and maintenance manuals and spare parts required to be provided by Subcontractor under this Subcontract; e) all spare parts and all special tools to be provided by Subcontractor for Company as required by this Subcontract have been delivered to Company; f) all of Subcontractor's and Sub-subcontractor's personnel and all their supplies, equipment, waste material, rubbish, Construction Works and other temporary facilities have been removed from the Project Site; g) the Work complies with all applicable permits, laws, rules, regulations, codes, and standards and the Subcontract Documents, including the Specifications and Drawings; h) Subcontractor has complied with all requirements with respect to final lien waivers and releases of claims; and i) Subcontractor has performed all items required by this Subcontract including but not limited to all punch list items.
- 7.2 Within twenty (20) days after receipt by Company of written notice from Subcontractor that the Work is ready for inspection for Final Completion, Company, using reasonable efforts, shall inspect the Work and shall advise Subcontractor in writing of any defects, deficiencies or discrepancies between the installed Materials and Equipment and Subcontractor's workmanship and such Materials and Equipment and workmanship as required by the Subcontract Documents, including the Specifications and Drawings, of which Company then has knowledge. Upon receipt of such written notice from Company, Subcontractor shall perform corrective measures to remove such defects, deficiencies or discrepancies and shall thereafter provide another written notice to Company when the Work is ready for inspection for Final Completion. Company will have fifteen (15) days after such written notice, and after each subsequent written

notice as may be required, to re-inspect the Work and to advise Subcontractor of any additional or remaining defects, deficiencies or discrepancies of which Company is aware and which must be corrected by Subcontractor as a condition to Final Completion. Nothing in this Article shall relieve Subcontractor of its obligations to achieve Final Completion by the date stipulated in this Subcontract.

7.3 Promptly after Final Completion has been achieved as provided above, Company shall issue a Notice of Final Completion and Acceptance dated to reflect the actual date of Final Completion.

7.4 Issuance of the Notice of Final Completion and Acceptance by Company shall not relieve Subcontractor of its continuing obligations under this Subcontract, including its warranty obligations.

8.0 WARRANTIES

8.1 Subcontractor warrants to Company: a) that the Work shall comply strictly with the provisions of this Subcontract, including but not limited to, the Specifications and Drawings, whether expressly or by reference incorporated into this Subcontract; b) that the Work shall conform with all applicable codes and standards; c) that the Work shall be performed in a professional and workmanlike manner and shall be free from defects in design, materials, construction and workmanship; d) that all Materials and Equipment furnished by Subcontractor for the Work shall be new, merchantable, of the most suitable grade and fit for their specified purpose; e) that any design or engineering performed or otherwise provided by Subcontractor as a part of the Work shall be done in a professional and workmanlike manner by conforming to practice customary in the engineering profession then in effect for services of a similar nature; and f) that the completed Work and portions thereof shall operate and perform satisfactorily as specified in this Subcontract and shall remain free of any weakness, deficiency, defect, failure, break down or deterioration during testing, startup and commissioning and for the full warranty period specified in Article 8.2.

8.2 Subcontractor's warranties set forth in Article 8.1 shall be in full force and effect for a term of eighteen (18) months after the date of Final Completion and Acceptance of the Work by Company as set forth in Article 7.0 or twelve (12) months after the Commercial Operation Date of the Project, whichever period expires first (hereinafter the "Warranty Period"). Provided however that such term shall be extended by an amount of time equal to the time within the Warranty Period wherein the Work is not available for use by Government or Company due to the failure of the Work to comply with the warranties set forth in Article 8.1.

8.3 Subject to Article 8.7, if during the Warranty Period, all or any portion of the Work fails to conform to the warranties set forth in Article 8.1, the defective or nonconforming Work shall be redesigned, re-engineered, disassembled, removed, reconstructed, erected, reinstalled, repaired or replaced, re-assembled and re-inspected (hereinafter "Corrective Work") by and at the expense of Subcontractor as soon as reasonably possible, but in any event within, or commencing within, ten (10) days after Subcontractor receives written notice from Company or Government that the Work is nonconforming. If, despite Subcontractor's reasonable efforts, the Corrective Work cannot be performed within said ten (10) day period, Subcontractor shall diligently and without interruption perform such Corrective Work until it is completed and conforms to the warranties set forth in Article 8.1. All costs incurred in performing Corrective Work and all direct costs incurred by Company or Government as a result of the nonconforming Work shall be to the account of Subcontractor.

8.4 Notwithstanding Article 8.2, which applies to Subcontractor's Work in its entirety, all Corrective Work furnished or performed by Subcontractor pursuant to Article 8.3 shall be warranted by Subcontractor in accordance with Article 8.1 for a period of twelve (12) months from the date of completion of such Corrective Work, or for the remainder of the Warranty Period set forth in Article 8.2 above, whichever period expires last.

8.5 Subcontractor shall, at its sole expense, perform such tests as Company or Government may reasonably require and that are normal practice in the construction industry to demonstrate that the Corrective Work complies with this Subcontract.

8.6 If, during the Warranty Period, the performance of Corrective Work would disrupt the work of others or the commercial operation of the Project or any portion thereof, such Corrective Work shall be coordinated with Company or Government's operating personnel in order to minimize such disruption. In the event of such disruption, Company or Government may require that Corrective Work be performed on an around-the-clock basis, including weekends and holidays. All costs incidental to such Corrective Work, including but not limited to overtime premiums and shift differentials, shall be borne by Subcontractor.

8.7 In the event: a) Subcontractor fails to commence Corrective Work promptly within the ten (10) day period prescribed above; or b) Subcontractor commences Corrective Work within the ten (10) day period but, in Company's or Government's opinion, fails to diligently and without interruption prosecute the Corrective Work; or c) Company or

Government reasonably determine that a case of emergency exists, where delay in commencing Corrective Work could result in serious loss or damage to persons or property; or d) Company in its sole discretion determines that the requirements of its Project schedule or the Construction Schedule will be adversely affected if the Corrective Work is not performed prior to the expiration of the ten (10) day period; or e) Company or Government reasonably determine that the Corrective Work must be performed prior to the expiration of the ten (10) day period in order to return the Work or the Project to commercial use, then the Corrective Work may be performed by Company or Government and all costs therefore shall be to Subcontractor's account, provided, however, that Company or Government, as applicable, has given written notice thereof to Subcontractor and afforded Subcontractor the opportunity to perform Corrective Work within the time determined by Company or Government to be required.

8.8 Subcontractor agrees to the assignment by Company of Subcontractor's warranties in favor of Government after the Work has been placed in service for commercial operation.

9.0 WARRANTY OF TITLE

Subcontractor warrants that the Work, including the Materials and Equipment, shall be free from defects in title and that title to such Work and Materials and Equipment shall be clear and marketable, and free of any liens, charges or encumbrances whatsoever.

10.0 WARRANTY AGAINST INFRINGEMENT OF PATENTS, COPYRIGHTS, TRADEMARKS AND TRADE SECRETS

10.1 Subcontractor represents and warrants that the Goods or any portion thereof do not infringe any patent, copyright, trademark or trade secret.

10.2 Subcontractor agrees to indemnify, hold harmless and defend Company, Government, their subsidiaries and affiliates, and all their directors, officers, employees, agents and representatives, from and against any liability, claims, demands, penalties, fines, lawsuits, judgments, losses and expenses, including reasonable attorneys' fees and court costs, arising from any claim or legal action based on a claim that the Goods or any portion thereof, infringe any patent, copyright or trademark or constitute an unauthorized disclosure of any trade secret. Subcontractor shall pay all judgments and costs recovered against Company as a result of any such claim or in any such action and shall reimburse Company for costs and expenses incurred by Company in the defense thereof, provided that Company gives Subcontractor prompt notice of such claim or action, reasonable assistance in the defense thereof, and full opportunity to control all aspects of the defense thereof, including settlement. If the Goods or any portion thereof are held to constitute an infringement of any patent, copyright or trademark or an unauthorized disclosure of any trade secret and if the use of the Goods or any portion thereof is enjoined, Subcontractor shall pay any costs and damages awarded on account of such infringement or unauthorized disclosure and shall, at its own expense, and at Company's or Government's option: a) procure for Company or Government the right to use such Goods; b) replace the Goods with Goods that are not infringing or do not disclose any trade secret; or c) modify the Goods so that they become non-infringing or do not disclose any trade secret. Any such replacement of or modification to the Goods or any portion thereof shall meet the requirements of and shall be subject to the terms of this Subcontract.

10.3 Subcontractor's liability for infringement of any patent, copyright or trademark shall not apply to infringements pertaining to: a) a patented process performed by the Goods or a patented combination of Goods if such patented process or combination is specified in whole or in part by Company; b) Goods supplied in accordance with a detailed design developed by Company and furnished by Company to Subcontractor as part of this Subcontract; or c) modifications of the Goods by Company or combinations of the Goods by Company with other Company-furnished components not furnished by Subcontractor.

10.4 As used in this Article, the definition of Goods is expanded to include any methods, processes, designs, information, or other things (including construction methods) furnished by Subcontractor or Sub-subcontractors or Suppliers, in or for the performance of the Work.

11.0 EXPEDITING, INSPECTION, TESTING AND QUALITY CONTROL/ASSURANCE

11.1 Subcontractor shall inspect all Work and shall conduct a continuous program of quality control and quality assurance ("QA/QC") for all of the Work under this Subcontract. Subcontractor's QA/QC program and inspection procedures shall be submitted in writing to Company for review and approval no later than seven (7) days following award of this Subcontract. The QA/QC program shall be specific for this Subcontract and shall be in sufficient detail to delineate those items to be inspected and the manner in which they are to be inspected. The program shall describe all Subcontractor QA/QC activities contemplated, including provision for adequate documentation of Subcontractor's performance of its QA/QC and Subcontractor's schedule for inspection activities.

- 11.2** During the performance of the Work, Subcontractor shall, without additional compensation, make or cause to be made all inspections and tests required by this Subcontract. If the results or methods of performance of such inspections or tests fail to conform to the requirements of this Subcontract, Company may, at its sole discretion, require Subcontractor to perform additional inspections and tests, all costs of which shall be to the account of Subcontractor. Subcontractor shall furnish Company with satisfactory documentation of the results of all inspections and tests. Company shall be given not less than seven (7) days notice of any inspections or tests to be made by Subcontractor or its Sub-subcontractors or Suppliers, in order that Company may, at its option, witness any such inspections or tests.
- 11.3** As pertains to Work being performed at locations other than the Project Site and if the Work includes the furnishing of any engineered Materials and Equipment, the following provision applies.
- 11.3.1** All Goods shall be subject to expediting and inspection prior to shipment by Company and Government and/or their representatives and by third parties as may be required by applicable laws, ordinances and regulations. Company, Government, their representatives and such third parties may test the Goods, or have the Goods tested, in Subcontractor's facilities or the facilities of its Suppliers, to determine whether the Goods conform to the requirements of this Subcontract.
- 11.3.2** Subcontractor shall provide Company, Government, their representatives and third parties identified in Article 11.3.1 above reasonable access to its facilities and the facilities of its Suppliers. Subcontractor shall identify for Company all facilities in which the different parts or components of the Goods are fabricated, manufactured or assembled, and shall furnish all information that may be reasonably required by Company or Government to expedite the Goods, to confirm or verify that the Goods conform to the requirements of this Subcontract, and/or to test or witness tests specified in this Subcontract. Where the Work consists of fabrication, manufacturing, or assembly in Suppliers' facilities, Subcontractor shall arrange for access by Company, Government, their representatives and such third parties to: a) review unpriced copies of Subcontractor's purchase orders to its Suppliers; b) expedite and inspect the Goods, and c) test or witness tests, all in the same manner as if such expediting, inspection and testing were to be conducted in Subcontractor's facilities. Subcontractor shall provide at its own expense, and shall cause its Suppliers to provide at their own or Subcontractor's expense, the equipment, facilities and personnel necessary for the performance of the tests specified in this Subcontract to determine that the Goods or any component parts conform to the requirements of this Subcontract.
- 11.3.3** No Goods shall be shipped before all tests and inspections have been performed in accordance with this Subcontract and the results of such tests or inspections have been accepted in writing by Company. Certified copies of the test results and inspection reports shall be transmitted to Company in accordance with the required schedule dates therefore set forth in this Subcontract.
- 11.3.4** If any Goods are found to be defective or not in conformance with this Subcontract, Company shall have the right, upon giving notice to Subcontractor, to either: a) reject any or all defective or non-conforming Goods; or b) accept and subsequently correct such defective or non-conforming Goods; or c) accept such defective or nonconforming Goods without subsequent correction. Subcontractor shall pay all costs and expenses associated with such rejection or acceptance and correction, including those costs incurred as a result of the modification or alteration of the Goods necessary to make the Goods non-defective and conforming. If Company elects to utilize defective or nonconforming Goods without such correction, Subcontractor agrees that the Subcontract Price will be equitably credited to account for the defects or nonconformances in the Goods.
- 11.3.5** Any inspection or acceptance of the Goods at Subcontractor's or its Suppliers' facilities shall not preclude subsequent inspection and/or rejection of the Goods if the Goods are later discovered to be defective or nonconforming or if Company has reasonable grounds upon which to believe that the Goods may be defective or nonconforming.
- 11.4** As pertains to Work being performed at the Project Site:
- 11.4.1** Company, Government, their representatives or third parties as may be required by applicable laws, ordinances and regulations, shall have the right at all reasonable times to inspect the Work at the Project Site for conformance with this Subcontract. Subcontractor shall provide, or cause to be provided, access and sufficient, safe and proper facilities for such inspections.
- 11.4.2** If Subcontractor covers any portion of the Work prior to an inspection or test required by this Subcontract, specified in the inspection activities schedule, or previously requested by Company, the cost of uncovering and restoring the Work to allow for such inspection or test shall be to Subcontractor's account.
- 11.4.3** Re-examination of any Work may be ordered by Company. As a result of such re-examination, if any part of the Work is determined by Company to be defective or to otherwise fails to conform to this Subcontract, Subcontractor shall not be reimbursed for uncovering the Work, or for the repair or for the corrective work required to be performed or for any

or all restoration costs. If as a result of such re-examination, the Work is found to conform with the Subcontract requirements, Company shall reimburse Subcontractor for the allowable direct documented cost incurred by Subcontractor to uncover and restore the re-examined portion of the Work.

11.4.4 Rejection by Company of any non-conforming Work shall be final and binding. Rejected Work shall be promptly repaired or replaced by Subcontractor so as to conform to this Subcontract and all costs therefore shall be to Subcontractor's account. If Subcontractor fails to promptly commence and diligently continue the repair or replacement of such rejected Work upon receipt of written notice from Company to do so, Company may, at its option, cause the rejected Work to be repaired or replaced by others and all costs incurred therefore shall be to Subcontractor's account.

11.5 In regards to the rights of Company, Government, their representatives and third parties under this Article, neither their failure to perform or witness any inspections or tests of the Work nor their failure to discover any non-conformance during their performance of or witnessing of any inspections or tests of the Work shall: a) constitute an acceptance by Company of any defective or non-conforming Work; or b) be deemed to relieve Subcontractor of its continuing obligation to correct such defects or non-conformances at any time the same are discovered; or c) be deemed to be a waiver of the rights of Company to require that the Work conform to the requirements of this Subcontract. Further, the approval of or payment to Subcontractor for such Work shall not discharge Subcontractor from its obligation to supply Goods and perform Work that conforms to the requirements of this Subcontract, nor shall any or all payments to Subcontractor hereunder be construed to be an acceptance by Company of the Work.

12.0 SUBMITTALS

12.1 Subcontractor shall submit to Company all shop drawings, schematics, diagrams, plans, descriptive literature, illustrations or other representations of the Materials and Equipment, certificates of compliance, performance and test data, reports, procedures, performance and technical specifications, shipping documents and all other technical and commercial data and documents as may be required by this Subcontract. Unless this Subcontract indicates that any such submittal by Subcontractor is to be for Company's information only, Company, upon receipt of Subcontractor's submittals, shall review and return same to Subcontractor, marked "Approved", or "Approved as Noted" or "Revise and Resubmit". The timing of Subcontractor's submittals and Company's review shall be in accordance with Construction Schedule. The submission of any such shop drawing, schematic, or other submittal document by Subcontractor under this Subcontract shall be certification by Subcontractor that the information set forth therein is accurate in all material respects.

12.2 Upon receipt of a submittal marked "Approved", Subcontractor may proceed with its Work to the extent of and in accordance with the Approved submittal.

12.3 Upon receipt of a submittal marked "Approved as Noted" and if Subcontractor concurs with Company's comments, Subcontractor shall incorporate same and may proceed with its Work to the extent of and in accordance with the Approved as Noted submittal. Subcontractor shall submit to Company within fourteen (14) days a revised submittal in which Company's comments have been incorporated. If Subcontractor determines that it cannot incorporate Company's comments without prejudice to Subcontractor's warranty or other obligations under this Subcontract, Subcontractor shall so advise Company in writing within seven (7) days of its receipt of Company's comments, stating the reasons therefore. Subcontractor may proceed with its Work to the extent of and in accordance with the Approved as Noted submittal only upon Company and Subcontractor resolving Company's comments.

12.4 Upon receipt of a submittal marked "Revise and Resubmit", Subcontractor shall immediately take all necessary action to revise its submittal in accordance with Company's comments, the Specification and the Drawings and resubmit to Company. In no event shall Subcontractor proceed with the effected Work until its revised submittals have been returned to Subcontractor marked "Approved" or "Approved as Noted" by Company.

12.5 Use of the term Approved or Approved as Noted shall not absolve or otherwise discharge Subcontractor from its responsibility to supply Materials and Equipment that interface with Company-furnished components and comply with the requirements of this Subcontract, including the Specification and Drawings. Review and comment by Company of Subcontractor's drawings or other submittals shall not relieve Subcontractor of its obligation to complete the Work in accordance with this Subcontract, and any such review and comment by Company shall not constitute a waiver of Company's rights under this Subcontract with respect to nonconforming Work. The effect of the failure of Subcontractor to perform in accordance with the requirements of the this Article shall be to Subcontractor's account.

13.0 APPROVED FOR CONSTRUCTION DRAWINGS AND SPECIFICATIONS

- 13.1 Subcontractor shall perform the Work using Drawings and Specifications marked "Approved for Construction" or equivalent by Company. The affixing of the phrase "Approved for Construction" by Company to any Drawings or Specifications shall not relieve Subcontractor of any of its obligations under this Subcontract, nor shall constitute assumption of responsibility by Company for the accuracy or adequacy of any of information provided by Subcontractor and incorporated in such Drawings and Specifications. The designation "HOLD" on a Drawing or Specification that has otherwise been marked "Approved for Construction" signifies that Subcontractor is authorized to proceed with all Work shown on such a Drawing or Specification except for that Work contained in the designated or marked area of the Drawing or Specification to which the term "HOLD" applies..
- 13.2 Subcontractor shall perform all Work outside of the areas marked "HOLD" on Specifications and Drawings marked "Approved for Construction" to maintain the Construction Schedule, but shall not perform any Work in the areas or sections marked "HOLD" until revised Specifications and Drawings are received with the "HOLD" markings deleted.
- 13.3 If the Construction Schedule will be delayed by "HOLD" markings on Specifications and Drawings, Subcontractor shall report such delay to Company in writing not less than seven (7) days after its receipt of such Specifications or Drawings.
- 13.4 Subcontractor shall maintain at the Project Site a complete and current set of "Approved for Construction" Drawings and Specifications. Subcontractor shall insure that all superseded Drawings and Specifications have been retrieved from their recipients and that such retrieved Drawings and Specifications have been documented as being superseded and archived.

14.0 DISCREPANCIES

Whenever, in Subcontractor's opinion, the Scope of Work, Specifications or Drawings for any portion of the Work are defective, deficient, or at variance with each other or with any rules, regulations, or ordinances applicable to the Work, or are such as would, if followed, result in unsafe, defective or deficient construction or in construction infringing upon any rules, regulations, or ordinances applicable thereto, or would cause the Work either during or after its construction to be insecure or to deteriorate (other than as a result of normal wear and tear) in any respect so as to result in any pecuniary loss to Company or in any damage or loss whatsoever to any person or property, Subcontractor will immediately discontinue performance on the portion of the Work affected thereby and notify Company in writing of such opinion and in what respect said Scope of Work, Specifications or Drawings are considered to be insufficient or improper, and will not proceed with the portion of the Work so affected until it has received a written order from Company directing what action, if any, is to be taken.

15.0 SAFETY

- 15.1 Subcontractor shall assume all responsibility and shall take all necessary safety and other precautions to protect property and persons from damage, injury or illness arising out of the performance of the Work. Subcontractor shall comply strictly with all local, municipal, state, provincial, national and other governmental laws, orders, codes, permits, rules and regulations pertaining to health or safety which are applicable to Subcontractor or to the Work, including without limitation any occupational safety and health legislation and any local, municipal, state, provincial or national plans and regulations approved thereunder, to the extent applicable and in effect at the time the work is performed. Subcontractor agrees to comply with the minimum standards established in Appendix A hereto, entitled "Safety, Health and Environmental Requirements", and Site Safety and Health Plan.
- 15.2 Within thirty (30) days following the its signing of this Subcontract, but in any event prior to mobilization of Subcontractor on the Project Site, Subcontractor shall submit in writing its safety program for the performance of the Work to Company for Company's review, comment and approval. Such safety program shall conform to the requirements set forth in this Subcontract. Approval by Company of Subcontractor's written safety program shall not in any way affect or reduce Subcontractor's obligation to perform its Work in a safe manner consistent with this Article 15.0, and any such review, comment or approval of Subcontractor's safety program shall not constitute a waiver of any of Company's rights under this Article 15.0 or any other provision of this Subcontract.
- 15.3 Subcontractor shall cooperate with Company in the formation of a Project Site safety committee and shall comply with and enforce the safety instructions and regulations issued by such committee.
- 15.4 Subcontractor warrants the Materials and Equipment and Construction Works to be incorporated into or to be used in connection with the performance of the Work shall comply with Article 15.1 at all times while any of Subcontractor's employees, agents, Sub-subcontractors or Suppliers are on the Project Site. Subcontractor shall be solely responsible for providing its employees, agents, Sub-subcontractors and Suppliers with a safe place of employment, and

Subcontractor shall inspect the places where its employees, agents, Sub-subcontractors and Suppliers are or may be present on the Project Site. Subcontractor shall promptly take action to correct conditions which are or may become an unsafe place of employment for the performance of the Work.

- 15.5** Accidents, injuries and illness requiring medical attention other than first aid; damage to property of Company, Subcontractor or third parties working at or in the vicinity of the Project Site; and fires, shall be orally reported to Company at the time of the incident. Written reports satisfactory in form and content to Company shall be submitted by Subcontractor promptly after each such incident.
- 15.6** Subcontractor shall maintain, in form and content approved by Company, Project Site accident, injury and illness statistics which shall be available for inspection by and submitted to Company upon its written request.
- 15.7** If, in the reasonable opinion of Company, Subcontractor has violated this Article 15.0, Company may suspense all or any portion of the Work until such time as the condition in violation of this Article 15.0 has been corrected. In the event of such suspension, Company shall not be liable for any costs or expenses claimed by Subcontractor arising out of such suspension. The Construction Schedule shall not be delayed on account of any such suspension.
- 15.8** Notwithstanding the provisions and requirements of this Article 15.0, including, but not limited to: a) the imposition by Company of specific safety requirements for the Project or the Project Site; b) Company's right to review and approve Subcontractor's safety program; c) Company's right to monitor the Project Site for safety; d) Company's right to direct Subcontractor when unsafe practices are observed; and e) Company's right to suspend Work in cases of safety violations, Subcontractor shall be and remain fully and solely responsible for safety with respect to the Work and for implementation and compliance with all safety related procedures, precautions and protective measures with respect to the Work. Company shall owe no duty or obligation to Subcontractor, its Sub-subcontractors or Suppliers, or their respective employees, to supervise Subcontractor's safety program or the Work of Subcontractor's employees, or its Sub-subcontractors or Suppliers and their employees. Company's designated safety monitor is present on the Project Site for the benefit of Company only. No act or failure to act on the part of Company or its employees shall pre-empt or be construed to pre-empt Subcontractor's sole responsibility for the proper implementation of its safety program. Subcontractor agrees to indemnify, hold harmless and defend Company, Government, their subsidiaries and affiliates, and all their directors, officers, employees, agents and representatives, from and against any liability, claims, demands, penalties, fines, lawsuits, judgments, losses and expenses, including reasonable attorneys' fees and court costs, on account of any bodily injuries, illness, death or property damage resulting from violations of the Project safety rules and regulations, of Subcontractor's safety program, of the safety requirements of any governmental entity having jurisdiction over the Work, of any applicable laws, rules, regulations or permits, or for any other unsafe practices by Subcontractor, Sub-subcontractors or Suppliers, or their failure to comply with this Article 15.0.

16.0 **CLEANUP**

- 16.1** Subcontractor shall at all times keep its Work area in a neat, clean and safe condition and shall remove from the Project Site and properly dispose of all debris and rubbish resulting from Subcontractor's operations. Upon completion of the Work, Subcontractor shall promptly return any unused Materials and Equipment furnished by Company or Government and remove from the Project Site all unused Materials and Equipment furnished by Subcontractor and all Construction Works, leaving the Project Site in a clean, safe and ready for use condition.
- 16.2** If Subcontractor fails to maintain its Work area as described above in a manner satisfactory to Company, or fails to perform such cleanup or removal immediately after receipt of written notice from Company to do so, Company shall have the right without notice to Subcontractor to perform such cleanup and remove such items on behalf of, at the risk of, and at the expense of Subcontractor. Company may store items removed at a place of its choosing on behalf of Subcontractor and at Subcontractor's risk and expense. Company shall promptly notify Subcontractor of such place of storage. Subcontractor shall promptly reimburse Company for the costs of such cleanup, removal and storage.

17.0 **SECURITY**

- 17.1** Subcontractor shall cooperate with Company on all security matters and shall promptly comply with any Project security requirements established by Company. Subcontractor shall at all times conduct all operations under this Subcontract in a manner to avoid the risk of loss, theft, or damage by vandalism, sabotage, or other means, of and to any property. Subcontractor shall promptly take all reasonable precautions which are necessary and adequate against any conditions which involve a risk of loss, theft, or damage to its property. Subcontractor shall continuously inspect all of the Work and facilities to discover and determine such conditions and shall be solely responsible for discovery, determination, and correction of any such conditions.

17.2 If Company considers it necessary, it will provide watchmen and guards to protect its own interests. Subcontractor shall provide guard service sufficient for the protection of its own property and equipment. Company will not be responsible for any loss of, theft of or damage to Subcontractor's property from any cause.

17.3 Subcontractor and its Sub-subcontractors and their employees shall observe all procedures for admission to the Project Site required by Company, including the establishment of a badging system for the employees of Subcontractor and its Sub-subcontractors.

18.0 SUB-SUBCONTRACTORS AND SUPPLIERS

18.1 Except for the furnishing of expendable supplies and minor components, Subcontractor shall not subcontract performance of all or any portion of the Work under this Subcontract, including Material and Equipment supply agreements, without first notifying Company in writing of Subcontractor's intention to do so and obtaining Company's written consent of the proposed subcontracting and the proposed Sub-subcontractor or Supplier. If requested by Company, Subcontractor shall furnish Company a copy of the proposed subcontract with the Sub-subcontractor or Supplier (with the subcontract price deleted if the subcontracted Work is a portion of the Work that Subcontractor is performing on a lump sum price basis under this Subcontract) for Company's review of the terms and conditions thereof. Subcontractor shall not sign such subcontract until Company has given its written consent to such form of subcontract. Failure of Subcontractor to comply with this Article may, at the sole discretion of Company, be deemed to be a material breach of this Subcontract. Subcontractor shall also furnish to Company such information pertaining to the proposed Sub-subcontractor or Supplier as Company may reasonably request, including, but not limited to, financial statements, safety data, safety plans and references. Company shall have the right to disapprove or reject any proposed Sub-subcontractor/Supplier for reasonable cause.

18.2 Subcontractor guarantees that its Sub-subcontractors and Suppliers will comply fully with the terms of this Subcontract applicable to the portion of the Work performed by them, whether or not such Subcontract terms include a specific reference to Subcontractor's Sub-subcontractors or Suppliers. If any portion of the Work which has been subcontracted by Subcontractor is not performed in accordance with the terms of this Subcontract, then, on written request of Company, the Sub-subcontractor or Supplier shall be replaced at no additional cost to Company and shall not be employed again on the Work.

18.3 Company shall have the right from time to time to contact Subcontractor's Sub-subcontractors and Suppliers to discuss their progress of the Work.

18.4 To the extent that specific Suppliers of Materials and Equipment are identified in the Subcontract Documents, Subcontractor shall procure such Materials and Equipment from such Suppliers. Notwithstanding the preceding sentence, Company shall have the right to disapprove or reject any proposed Supplier for reasonable cause.

18.5 Company's acquiescence in, consent to or approval of a proposed subcontracting of the Work, or of a proposed Sub-subcontractor or Supplier, shall not relieve Subcontractor of any of its obligations under this Subcontract. No such subcontract or Supplier agreement shall bind or purport to bind Company, and each such subcontract or Supplier agreement shall contain a provision permitting its assignment to Company or its designee upon Company's written request in the event of a default by Subcontractor or termination of this Subcontract.

19.0 NOT USED

20.0 POSSESSION PRIOR TO COMPLETION

Company and Government shall have the right to take possession of or use any completed or partially completed portion of the Work as Company and/or Government may deem necessary for their operations. If Company and/or Government desire to exercise the foregoing right, Company on its own behalf or on behalf of Government, will so notify Subcontractor in writing. Such possession or use shall not constitute acceptance of Subcontractor's Work, provided, however, that Subcontractor shall not be liable for damage or loss to the Work caused solely by the negligence of Company, Government, or third parties acting under the control of Company or Government.

21.0 CHANGE ORDERS

21.1 The Work shall be subject to change by additions, deletions or modifications thereto by Company. Subcontractor will be notified of such changes by receipt of notice from Company in the form of additional or revised Drawings, Specifications, exhibits or written orders.

- 21.2 In the event a notice of change received from Company affects Subcontractor's cost and/or the Construction Schedule, Subcontractor shall submit a proposal to Company within seven (7) days after receipt of said notice of change. The proposal shall include, as appropriate, a detailed takeoff with supporting calculations and pricing for the change, together with any adjustments in the Construction Schedule (including a network schedule analysis delineating the effects of the change upon the Construction Schedule) required for the performance of the Work as changed. Pricing shall be itemized as required by Company and shall be in sufficient detail to permit an analysis of all labor, Materials and Equipment and Construction Works, if any, required as a result of the change and shall cover all Work involved in the change, whether such Work was added, deleted or modified. Amounts related to subcontracts shall be supported in similar detail. If Subcontractor's proposal includes a request for an adjustment to the Construction Schedule, a justification therefore shall also be included.
- 21.3 Subcontractor's priced proposal covering a notice of change shall be based, at the direction of Company, upon one or a combination of the following methods:
- 21.3.1 Lump sum price basis, where such lump sum prices are either included in Subcontract or are subsequently developed by Subcontractor, properly itemized and supported by sufficient documentation to permit evaluation, and mutually agreed upon by Subcontractor and Company, or
- 21.3.2 Unit price basis, where such unit prices are either included in the Subcontract or are subsequently developed by Subcontractor, properly itemized and supported by sufficient documentation to permit evaluation, and mutually agreed upon by Subcontractor and Company, or
- 21.3.3 Time and material basis, which shall be limited to the costs and allowances described in the Subcontract.
- 21.4 Unless directed by Company to proceed under a written Field Work Order as provided in Article 22.0, Subcontractor shall not perform changes in the Work unless and until Company has approved in writing the pricing for the change and any adjustment in the Construction Schedule for the performance of the Work as changed. Upon receiving a written Change Order from Company, Subcontractor shall diligently perform the Work included in the Change Order in strict accordance with this Subcontract.
- 21.5 Except as may be approved by Company pursuant to Article 22.0, during the time required for: a) Subcontractor to prepare and submit its proposal for a change; b) the review of Subcontractor's proposal by Company; and c) any discussions or clarifications regarding the change or proposal, Subcontractor shall not suspend performance of any portion of its Work which would be unaffected by the change requested by Company. If Company and Subcontractor are unable to reach agreement for the pricing of a change or for the adjustment in the Construction Schedule requested for the performance of the changed Work, Subcontractor shall comply with the provisions of this Subcontract applicable to the resolution of disputes.
- 21.6 Subcontractor shall not perform changes in the Work which have been made orally, but rather shall: a) notify Company immediately of any oral request to Subcontractor for a change in the Work; b) identify the individual making such an oral request; and c) request Company's written concurrence with the alleged oral change. If Subcontractor believes that any oral notice or instruction received from Company, Government or any third party will involve a change in the cost or Construction Schedule or will affect the integrity of the Work, Subcontractor shall require a Change Order or a Field Work Order in writing by Company. Any costs incurred by Subcontractor in the performance of a change not supported by a Change Order or a Field Work Order as set forth in Article 22.0 shall be to Subcontractor's account. Subcontractor hereby waives any and all rights to assert claims against Company for costs or for an adjustment to the Construction Schedule incurred as the result of Subcontractor's performance of changes not reduced to a written Change Order or Field Work Order.
- 21.7 In determining costs in performing the changed Work, the amount of credit for a decrease or deletion or a change which results in a net decrease in the Subcontract Price shall be the actual net cost as confirmed by Company. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be determined on the basis of net increase, if any, with respect to such change. No allowance shall be made to Subcontractor for damages, including burden, overhead and loss of anticipated profits, on a decrease in the Work.

22.0 FIELD WORK ORDERS

- 22.1 A Field Work Order is a written order issued to Subcontractor by Company directing Subcontractor to perform a change in the Work and setting forth a proposed basis for adjustment, if any, in the Subcontract Price and/or the Construction Schedule.
- 22.2 A Field Work Order shall be used in the absence of a full agreement between Subcontractor and Company regarding the terms of a Change Order, or where Company, at its discretion, determines that the time required for the development and issuance of a Change Order will adversely impact the Construction Schedule or Company's Project schedule.
- 22.3 If the Field Work Order provides for an adjustment in the Subcontract Price, the adjustment shall be based upon one or a combination of the methods described in Article 21.3 above.
- 22.4 Upon receipt of a Field Work Order, Subcontractor shall promptly proceed with the change in the Work that Company has so directed and shall advise Company in writing of Subcontractor's agreement or disagreement with the terms of the Field Work Order, including as applicable, the method for determining the proposed adjustment in the Subcontract Price and/or the Construction Schedule. Subcontractor's agreement with the terms of a Field Work Order shall be indicated by signing the Field Work Order and returning same to Company. Such agreement shall be effective immediately and shall be subsequently recorded by Company as a Change Order to this Subcontract upon completion of the changed Work.
- 22.5 If Subcontractor does not respond to Company in writing within five (5) days from Subcontractor's receipt of a Field Work Order or if Subcontractor disagrees with the proposed method for adjustment in the Subcontract Price, the method and adjustment shall be determined by Company on the basis of reasonable expenditures and/or savings of Subcontractor attributable to the change in the Work.

23.0 MINOR CHANGES IN THE WORK

Company shall have the authority to order Subcontractor to perform minor changes in the Work not requiring adjustments in the Subcontract Price or the Construction Schedule and not inconsistent with the intent of the Subcontract Documents. Such changes shall be effected by a written order issued by Company. Subcontractor shall implement such written orders promptly.

24.0 NOT USED

25.0 NOT USED

26.0 NOT USED

27.0 NOT USED

28.0 PROTECTION OF THE WORK

- 28.1 Notwithstanding whether title is held by Subcontractor, Company, Government or other parties, Subcontractor shall, until Final Acceptance of the Work, be responsible for the care, custody, control, safekeeping and preservation of all Goods related to the Work or the performance of the Work, whether such Goods were furnished by Subcontractor, Company, Government or other parties. Subcontractor shall continuously maintain adequate protection of the Work and Work in progress from damage, and shall protect from loss or damage in a manner satisfactory to Company all Goods furnished by Company, Government or third parties for installation or erection by Subcontractor, whether such Goods are on or off the Project Site.
- 28.2 Subcontractor shall adequately protect all adjacent private and public property, including property of Company, Government or third parties, as provided by law and this Subcontract. Temporary protection of occupied or operating areas of the Project or of existing structures and facilities shall be the responsibility of Subcontractor and costs therefore shall be to Subcontractor's account.
- 28.3 Subcontractor shall provide at its expense protection of the Work from freezing, rain, wind and other elements that would be harmful to the Work. Subcontractor shall furnish protective shelters or temporary buildings and temporary heating as required for the performance and protection of the Work.

- 28.4 Subcontractor shall not load or permit any part of any structure to be loaded with a weight that would endanger its safety and shall provide and maintain adequate temporary supports, shores and bracing to keep the Work safe from failure or damage due to any loads that may be imposed on structures during the performance of the Work.
- 28.5 Subcontractor shall not perform any Work in finished areas or over finished floors unless due precautions have been taken to prevent soiling or damage resulting from such Work.
- 28.6 Subcontractor shall be responsible for promptly repairing or replacing any damage or loss as a result of its failure to comply with this Article 28.0.

29.0 CONSTRUCTION WORKS

Construction Works obtained or located at the Project Site shall be in first-class operating condition, safe, fit for the uses for which intended and suitable for the safe, legal and efficient performance of the Work. Such Construction Works shall be subject to inspection from time to time by Company, Government or third parties as may be required by applicable laws, ordinances and regulations. Any such Construction Works which are rejected by Company, Government or such third parties as not conforming with the foregoing shall be promptly removed by Subcontractor and replaced with equipment acceptable to Company, without additional cost to Company and without delaying the Construction Schedule for performance of the Work by Subcontractor.

30.0 SUBCONTRACTOR'S SHIPMENTS

- 30.1 Subcontractor shall be responsible for arranging for all shipments of Subcontractor-supplied Goods and Construction Works to the Project Site and shall consign such shipments to itself as consignee at the shipping address for the Project, freight fully prepaid. Subcontractor shall be responsible for making demurrage agreements and settlement with carriers for such shipments.
- 30.2 Subcontractor shall advise Company in writing in advance of major shipments of Materials and Equipment or the delivery of major items of Construction Works and shall coordinate with Company regarding the arrival, unloading, inspection and release of the carriers' equipment. Subcontractor shall promptly unload its shipments and shall promptly release the carriers' equipment from the Project Site.
- 30.3 If Subcontractor is unable to promptly unload its shipments, Subcontractor shall notify Company of such inability not less than fourteen (14) working days in advance of the scheduled arrival at the Project Site. Company may, at its option, unload or make arrangements for others to unload such shipments for the account of and at the risk of Subcontractor. Subcontractor will promptly reimburse Company for such costs of unloading.

31.0 CONTROL OF GOODS FURNISHED BY COMPANY OR GOVERNMENT

- 31.1 Goods furnished by Company or Government to Subcontractor for Subcontractor's installation, erection or use relative to the Work shall be offloaded and received by Subcontractor in the presence of Company's authorized representative. Quantities of such Goods shall be checked jointly by Subcontractor and Company. Subcontractor's receiving and acceptance of all such Goods shall be recorded in writing and evidenced by Subcontractor's signing of forms satisfactory to Company.
- 31.2 If the nature of the shipping packaging allows, Subcontractor shall inspect and carefully note any visible shortage of or damage to the Goods furnished by Company or Government prior to the unloading of same from the carrier. Where such inspection and inventory is not possible prior to unloading, Subcontractor shall inspect and inventory such Goods as reasonably soon after unloading as practicable, but in any event, prior to moving such Goods to storage. Such inspection and inventory may require the opening and resealing of crates or cartons in order to ascertain the existence of any visible damage or of shortages in the quantities indicated in the shipping documents.
- 31.3 Subcontractor shall assume full responsibility for any shortages in, loss of or damage to such Goods after its inspection and inventory of same as described in Article 31.2 above. Subcontractor shall also assume full responsibility for any shortages in, loss of or damage to such Goods if Subcontractor fails to inspect and inventory the Goods as required or fails to promptly notify Company of any shortages or damages noted during Subcontractor's inspection and inventory.
- 31.4 Subcontractor shall assume full responsibility for any delay in completion of the Work due to shortages in, loss of or damage to such Goods after its inspection and inventory of same as described in Article 31.2 above. Subcontractor shall also assume full responsibility for any delay in completion of the Work due to shortages in, loss of or damage to

such Goods if Subcontractor fails to inspect and inventory the Goods as required or fails to promptly notify Company of any shortages or damages noted during Subcontractor's inspection and inventory.

- 31.5 Subcontractor shall notify Company in writing of any additional requirement for Goods being supplied by Company or Government. Such notification shall be made as soon as the need for the additional requirement is discovered, but, in any event, in sufficient time for Company or Government to address the requirement. In the event of a misfit of the Goods furnished by Company or Government, Subcontractor shall immediately notify Company of such misfit. Subcontractor shall take all reasonable steps to avoid standby time due to lack of such Goods or misfits and shall continue to perform other portions of Work pending resolution of such situations by Company or Government.
- 31.6 Subcontractor shall notify Company of any Goods supplied to Subcontractor which are surplus and shall cooperate with Company in the disposition of such surplus as directed by Company.
- 31.7 Subcontractor shall maintain a system of inventory storage control and management for all Goods furnished by Company or Government. At a minimum, this system shall record the descriptions, quantities and dates each item of the Goods is received into Subcontractor's inventory and each time any item of such Goods is withdrawn for installation. The location of installation shall also be recorded for such Goods withdrawn from inventory.

32.0 CARE, CUSTODY AND CONTROL OF AND TITLE TO THE WORK

- 32.1 Good, clear and marketable title to the Work, including all Materials and Equipment furnished by Subcontractor under this Subcontract, shall pass to Company based upon the extent to which Subcontractor has received payment for same as part of Subcontractor's progress payments or the incorporation of the Materials and Equipment into the Project, whichever first occurs. Subcontractor shall ensure that its Sub-subcontractors and/or Suppliers do not retain, encumber or reserve title to such items of the Work.
- 32.2 Notwithstanding the provisions of Article 32.1, and with respect to the transfer of title to the Work, the care, custody and control of Subcontractor's Work incorporated into the Project shall remain with Subcontractor until Company's issuance of the Notice of Final Completion and Acceptance. Care, custody and control of the Work shall not be transferred to Company prior to its issuance of the Notice of Final Completion and Acceptance unless Company notifies Subcontractor in writing that the care, custody and control of the Work or any portion thereof is being assumed by Company. The taking of possession of Work by Company or Government pursuant to Article 20.0 shall not constitute the assumption of care, custody and control of such Work until such time as such Work has been either accepted in writing by Company or Subcontractor has been notified as set forth herein.

33.0 INDEMNITY

- 33.1 Subcontractor agrees to indemnify, hold harmless and defend Company, Government, their subsidiaries and affiliates, and all their directors, officers, employees, agents and representatives, from and against any liability, claims, demands, lawsuits, judgments, losses and expense: a) arising by reason of claims from any third party, including Sub-subcontractors, Suppliers and their employees, for any actual or asserted failure of Subcontractor to comply with this Subcontract or with any law, ordinance, regulation, rule, or order of any governmental or quasi-governmental body having jurisdiction over this Subcontract or over the Work, including but not limited to the actual or asserted failure of Subcontractor to pay taxes; b) on account of injury to, illness or death of persons (including the employees of Company, Government, other third parties, Subcontractor, Sub-subcontractors and Suppliers, or on account of damage to or loss of property (including the property of Company and Government), arising directly or indirectly out of this Subcontract, including that which arises from the Work and from the acts or omissions of Subcontractor, Sub-subcontractors, Suppliers, and employees or agents of any thereof, in the performance of the Work, including the use or operation by Subcontractor and its Sub-subcontractors of any Construction Works or facilities furnished to Subcontractor by Company or Government to perform the Work; c) on account of actual or alleged contamination, pollution or public or private nuisance arising directly or indirectly out of the Work, including the acts or omissions of Subcontractor, Sub-subcontractors or Suppliers, in the performance of the Work; and d) as stated elsewhere in this Subcontract, including but not limited to, Articles 3.0, 10.0, 15.0, 41.0, 44.0 and 52.0 hereof.
- 33.2 Subcontractor's indemnification obligations under this Article shall apply regardless of whether the party to be indemnified was contributorily or concurrently negligent and shall include any expenses and attorneys' fees incurred by the party to be indemnified by Subcontractor.
- 33.3 Subcontractor acknowledges specific payment of USD \$10.00 incorporated into the Subcontract Price as legal consideration for its indemnity obligations set forth in this Article and all other indemnities as may be provided in this Subcontract.

34.0 COMPANY'S REMEDIES

Except for any rights and remedies of Company that are designated as exclusive in this Subcontract, all rights and remedies of Company set forth in this Subcontract or existing at law or in equity shall be cumulative and may be exercised concurrently.

35.0 INSURANCE

35.1 Before any Work is commenced under this Subcontract, Subcontractor shall, at its sole cost, cause to be issued and maintained in force during the Work the below listed minimum insurance coverages from underwriters acceptable to the Company, except as such coverages may be modified elsewhere in the Subcontract. Where the base currency of the Subcontract is in other than US Dollars, the limits of liability shown below may be adjusted to reflect the base currency equivalent.

35.1.1 Worker's Compensation Insurance, including occupational illness or disease coverage, or other similar social insurance in accordance with the laws of the nation, state, territory or province exercising jurisdiction over Subcontractor and Employer's Liability Insurance with a minimum limit of USD \$1,000,000 per accident.

35.1.2 Comprehensive General Liability including Contractual Liability, Products and Completed Operations Liability, XCU coverage and Broad Form Property Damage Liability coverage with a minimum combined single limit of USD \$2,000,000 per occurrence.

35.1.3 Automobile Liability Insurance covering use of all owned, non-owned and hired automobiles with a minimum combined single limit of USD \$1,000,000 per occurrence for bodily injury and property damage liability.

35.1.4 Umbrella Liability in excess of Employers Liability, General Liability and Automobile Liability, with a combined single limit of USD \$5,000,000 per occurrence.

35.1.5 Insurance against loss of or damage to construction equipment (owned, leased, hired or borrowed) used in connection with the Work hereunder. The limit shall be the replacement value of the equipment.

35.1.6 For remediation, processing or transportation of hazardous materials, Pollution Liability coverage for bodily injury, property damage and cleanup coverage (including defense coverage), with a minimum combined single limit of USD \$1,000,000 per claim and aggregate.

35.2 Such benefits and such coverage as required herein, or in any other document to be considered a part hereof, shall not be deemed to limit Subcontractor's liability under this Subcontract. The Subcontractor shall likewise require its Sub-subcontractors, if any, to provide for such benefits and carry and maintain such insurance at no cost to the Company.

35.3 The foregoing coverages shall be primary and non-contributing with respect to any other insurance or self insurance which may be maintained by Company or Government. The policies (except for Worker's Compensation coverage) shall be endorsed to name Company, Government and their employees and affiliates as additional insureds. Subcontractor's Comprehensive General Liability and Automobile Liability policies shall contain a cross liability and a severability of interest clause. Subcontractor shall obtain from each of its insurers a waiver of subrogation in favor of Company, Government and their employees and affiliates with respect to losses arising out of or in connection with the Work.

35.4 As a condition for issuance of the Notice to Proceed by the Company, Subcontractor shall cause its insurance underwriters to issue Certificates of Insurance satisfactory in form to Company, evidencing that the coverages, coverage extensions, additional insured provisions and waivers of subrogation as required under this Subcontract are maintained in force and that not less than thirty (30) days prior written notice will be given to Company prior to any material modification or cancellation of the policies. At the request of Company, Subcontractor shall promptly provide it certified copies of each of the above-referenced insurance policies.

36.0 BONDS

Subcontractor shall furnish, when so requested by Company and at the cost of Company, a Performance Bond in an amount equal to 100% of the full amount of the Subcontract Price as a guaranty on behalf of Subcontractor that the terms of this Subcontract shall be complied with in every particular, and a Subcontractor's Payment Bond in an amount equal to 100% of the full amount of the Subcontract Price as security for the payment of all persons performing labor

or for payment for all Goods used in performance of the Work. Subcontractor shall obtain the Performance and Payment Bonds from sureties and on bond forms acceptable to Company.

37.0 PERMITS AND LICENSES

Subcontractor shall promptly apply for and procure without additional compensation all certificates, licenses and permits (except for such permits as may be specifically set forth as Company's or Government's responsibility elsewhere in this Subcontract) as may be required by any governmental entity having jurisdiction over the Work, over Subcontractor or over the Project Site.

38.0 CONFIDENTIAL INFORMATION

38.1 Drawings, Specifications and other information issued to or made available to Subcontractor by Company or Government in connection with the Work are proprietary information whether or not so marked by Company or Government, and shall be held in confidence by Subcontractor and shall not be used by Subcontractor for any purpose other than for the performance of Work or as otherwise authorized in writing by Company. All such documents furnished by Company or Government to Subcontractor shall remain Company's or Government's property. Upon completion of the Work, Subcontractor shall, as requested by Company, either destroy or return such documents, including any copies thereof.

38.2 Subcontractor represents and agrees that it will not disclose to third parties, without the prior written consent of Company, any information obtained from or through Company unless said information is found to be already in the public domain.

39.0 PUBLICITY

Subcontractor shall not issue news releases, publicize or issue advertising pertaining to the Work or to this Subcontract without first obtaining the written approval of Company.

40.0 GOVERNMENTSHIP AND USE OF DRAWINGS

40.1 Drawings, prints, technical documents and data and other submittals prepared or developed by Subcontractor, Sub-subcontractors or Suppliers and submitted to Company in the performance of the Work shall be the property of Company or Government and may be used by Company and Government without restriction.

40.2 Company and Government shall have the right to reproduce any and all drawings or other submittals received from Subcontractor that are considered necessary for engineering, construction, start-up, commissioning, maintenance, or other purposes related to the Project, despite any notice to the contrary appearing on the document.

41.0 LAWS AND REGULATIONS

41.1 Subcontractor shall comply strictly with all local, municipal, state, provincial, federal and other governmental laws, orders, codes, permits, rules and regulations applicable to Subcontractor's operations in the performance of the Work hereunder, in effect at the time the Work is performed.

41.2 Subcontractor shall not, under any circumstances, apply to or enter into negotiations with any governmental authority or agency for acceptance of variations from or revisions to safety, health, air, water or noise pollution laws or regulations relating to this Subcontract or to the performance thereof without Company's prior written approval.

41.3 Subcontractor shall not, under any circumstances, cause or permit, in connection with the Work to be performed hereunder, the discharge, emission or release of any hazardous substance or waste, pollutant, contaminant or other substance in violation of any applicable laws, rules or regulations which are now or hereafter promulgated by any governmental authorities having jurisdiction over the Work. Subcontractor shall comply with all legal regulatory requirements applicable to the Work performed under this Subcontract and shall be responsible for compliance with all hazardous waste, health and safety, and environmental protection laws, rules, regulations and requirements related to notices and training, including, but not limited to, any resource and recovery legislation or other applicable laws or regulations. Subcontractor shall submit material safety data sheets as required. Subcontractor warrants full compliance with the provisions of this Article and further warrants that it will adhere to all applicable hazardous waste procedures and, if necessary, obtain or arrange for, at its expense, all identification numbers; permits, applications and other things

required in connection with its activities under this Subcontract. Subcontractor agrees that it will not store any hazardous wastes at the Project Site for periods in excess of ninety (90) days or in violation of the applicable site storage limitations imposed by law, or by Government or Company, whichever shall be more restrictive. Subcontractor agrees to take, at its expense, all actions necessary to protect third parties, including without limitation, employees and agents of Company and Government, from any exposure to or hazards of, hazardous or toxic wastes or substances generated or utilized in Subcontractor's operations. Subcontractor agrees to report to the appropriate governmental agencies all discharges, releases and spills of hazardous substances or wastes required to be reported by law and to immediately notify Company of the same.

41.4 Subcontractor agrees to indemnify, hold harmless and defend Company, Government, their subsidiaries and affiliates, and all their directors, officers, employees, agents and representatives, from and against any liability, claims, demands, penalties, fines, lawsuits, judgments, losses and expenses, including reasonable attorneys' fees and court costs, arising from its failure to comply with this Article.

42.0 COMMUNICATIONS

Written communications from Subcontractor to Company shall be marked with the Subcontract number and addressed as set forth in PART I of this Subcontract.

43.0 SITE RECORDS

Subcontractor shall maintain at the Project Site one record copy of this Subcontract, including all Drawings, Specifications, addenda, Change Orders, Field Work Orders and other Modifications, in good order and currently marked to record changes and selections made during construction. In addition, Subcontractor shall maintain at the Project Site one record copy of approved shop drawings, product data, samples and other submittals required of Subcontractor. These record copies shall be available to Company at all times, and shall be delivered to Company upon completion of the Work. Delivery of the record copies shall be a condition precedent to Final Acceptance of the Work.

44.0 EMERGENCY MEDICAL SERVICES

Company or Government may establish on the Project Site facilities for emergency medical treatment, and, if so established, may furnish emergency medical treatment services or related services to the employees of Subcontractor, Sub-subcontractor or Suppliers in the case of Project-connected illnesses or injuries occurring at the Project Site. In the event available, all such services are furnished on a Good Samaritan basis and not as a contractual obligation. In consideration of any such services, Subcontractor acknowledges that it assumes full and complete responsibility and liability for such employees, and agrees to indemnify, hold harmless and defend Company, Government, their subsidiaries and affiliates, and all their directors, officers, employees, agents and representatives, from and against any liability, claims, demands, penalties, fines, lawsuits, judgments, losses and expenses, including reasonable attorneys' fees and court costs, arising out of such services rendered by or on behalf of Company or Government for illnesses or injuries to any such employees, or arising out of or allegedly attributable in any way thereto. Nothing contained herein shall be construed as imposing any duty upon Company or Government to establish such medical facilities or to furnish emergency medical treatment services or related services to employees of Subcontractor, Sub-subcontractor or Suppliers.

45.0 OFFSET

Any and all payments due Subcontractor hereunder may, at the discretion of Company, be offset or charged against any outstanding obligations of Subcontractor to Company under this Subcontract or any other subcontract or agreement.

46.0 RIGHT OF AUDIT

In addition to any audit rights demanded by the Government (refer Section I of this Subcontract), Subcontractor shall maintain for a period of three (3) years after final payment under this Subcontract all records and accounts pertaining to the Work under this Subcontract performed by Subcontractor on a unit price or a time and materials price basis. Company and Government or an independent certified public accountant designated by Company shall have the right to audit, copy and inspect said records and accounts at all reasonable times during the course of such Work and for the above three (3) year period for the purpose of verifying units furnished and costs incurred, as applicable. The expense of such audit shall be to Company's account.

47.0 LIENS

47.1 To the fullest extent permitted by applicable law, Subcontractor hereby waives and releases any and all rights to file mechanic's liens and similar rights for payment for services, labor, or Goods furnished by Subcontractor in the performance of the Work and granted by law to persons supplying services, labor or Goods or other things of value for the Work at the Project Site or property belonging to Government.

47.2 Subcontractor shall at all times promptly pay for all services, labor and Goods used or furnished by Subcontractor in the performance of the Work under this Subcontract, and shall at its expense keep the Project Site and all property belonging to Government free and clear of any and all of the above mentioned liens and rights of lien arising out of services, labor or Goods furnished by Subcontractor or its employees, Sub-subcontractors or Suppliers, in the performance of the Work. Subcontractor shall immediately comply with Company's request for partial lien waivers from Sub-subcontractors and Suppliers in format acceptable to Company. If Subcontractor fails to release and discharge any such lien or claim of lien against the Project Site or the property of Government arising out of performance of the Work within seven (7) working days after receipt of written notice from Company or Government to remove such lien or claim of lien, Company or Government may, at their option, discharge or release the lien or claim of lien or otherwise deal with the lien claimant, and Subcontractor shall pay Company or Government, as applicable, any and all costs and expenses incurred by Company or Government in so doing, including reasonable attorneys' fees and court costs so incurred.

48.0 FINAL LIEN WAIVER AND RELEASE OF CLAIMS

Company shall not be obligated to make final payment to Subcontractor until Subcontractor has delivered to Company a Final Lien Waiver and Release of Claims satisfactory to Company certifying: a) that Subcontractor has fully performed under this Subcontract and that all claims of Subcontractor for the Work are satisfied upon the making of such final payment; b) that no property of Government or other property used in connection with the Work is subject to any unsatisfied lien or claim as a result of the performance of the Work; c) that all rights of lien against Government's property in connection with the Work are released (including without limitation if Company requests, final releases of lien satisfactory in form to Company and executed by all persons who by reason of furnishing services, labor or other Goods to Subcontractor for the Work are potential lienors against Government's property); and d) that Subcontractor will have paid in full all outstanding obligations against the Work promptly upon receipt of final payment.

49.0 NOT USED

50.0 IMPROPER PAYMENTS

50.1 Subcontractor (including its employees, agents, and representatives) certifies that it has not given and will not give, and has not offered and will not offer to give, any gifts, entertainment, payments, loans or other things of value to an officer, official, or employee of Company or Government or to a government official or candidate for government office or to a political party, to influence the award of or to obtain favorable treatment for itself or others under this Subcontract or any other purchase order, subcontract or agreement between Subcontractor and Company or Government. Subcontractor warrants that it is aware of the provisions of the Federal Corrupt Practices Act of the United States of America and similar laws of any country having a nexus with this Subcontract and further warrants that it will take appropriate steps to avoid violation of any such laws.

50.2 Violation of this Article 50.0 may be deemed by Company to be a material breach of this Subcontract and of any other purchase order, subcontract or agreement between Subcontractor and Company or any of its affiliates, and may subject all such purchase orders, subcontracts or agreements with Subcontractor to termination for default under the provisions of this Subcontract, as well as any other remedies at law or in equity available to Company.

51.0 NOT USED

52.0 GUARANTEE OF YEAR 2000 COMPLIANCE

52.1 If the Work includes the furnishing of any engineered Goods, Subcontractor guarantees that such Goods to be furnished pursuant to this Subcontract are Year 2000 ("Y2K") compliant. This guarantee shall apply to all of the Goods (and individual components thereof) furnished by Subcontractor (or its Sub-subcontractors or Suppliers) hereunder, including any computer chip(s), computer hardware or computer software that sorts data or information, compares dates, generates and maintains schedules, orders tables, calculates dates, generates reports, develops or maintains relational databases or performs similar functions, calculations, or activities, notwithstanding that Subcontractor (or its Sub-subcontractors or Suppliers) may have retained an Governmentship, proprietary, or other reversionary interest in same. Subcontractor guarantees that all Goods shall be "Y2K" compliant and shall process all date years on and after January 1, 2000, for the actual date year. Such guarantee shall also apply to any calculations

covering the date of February 29 in all leap years starting in the year 2000. This guarantee shall extend until either December 31, 2001 or until the end of the Warranty period established in Article 8.0, whichever date occurs last. If the Goods fail to conform to such guarantee, Subcontractor shall, at its own expense, redesign, correct or replace the Goods, including, as appropriate, computer chip(s), computer hardware or computer software, or any combination thereof, in order for the Goods to so conform. If Subcontractor fails to perform such redesign, corrective work, or replacement within thirty (30) calendar days after Subcontractor's receipt of written notice from Company that the Goods do not meet the guarantee set forth in this Article 52.0, Company shall have the right to perform or to have performed on its behalf such redesign, corrective work or replacement, all costs of which shall be to Subcontractor's account.

52.2 Subcontractor further guarantees that its operations and the operations of its Sub-subcontractors and Suppliers hereunder shall be such that no "Y2K" related problem shall serve to delay, prevent or otherwise adversely affect the timely performance of Work under this Subcontract.

52.3 Subcontractor shall, at its own expense and at the request of Company, demonstrate, by means of successful testing, compliance with Articles 52.1 and 52.2 above. Such testing may, at Company's direction, be performed in the shop of Subcontractor or its Sub-subcontractors or Suppliers, as appropriate, or at the Project Site. Such testing shall not relieve Subcontractor from its guarantee and indemnification obligations under this Article 52.0.

52.4 Subcontractor agrees to indemnify, hold harmless and defend Company, Government and their subsidiaries and affiliates, and all their directors, officers, employees, agents and representatives, from and against any liability, claims, demands, penalties, fines, lawsuits, judgments, losses and expenses, including reasonable attorneys' fees and court costs, arising from the failure of Subcontractor to comply with the provisions of this Article 52.0.

53.0 NOTICE OF AFFIRMATIVE ACTION

If the Work or any portion thereof is performed in the United States of America, then, for such Goods or portion of the Goods, Subcontractor shall comply with Executive Order 11246 (as amended), the Vocational Rehabilitation Act of 1973 (as amended), the Vietnam Era Veterans' Readjustment Assistance Act of 1974 (as amended), and their implementing regulations codified at 41 C.F.R. 60-1.4(a), 41 C.F.R. 60-741.4, and 41 C.F.R. 60-250.4, respectively, all of which are incorporated herein by reference and made part of this Subcontract.

54.0 CONSTRUCTION SCHEDULING, REPORTING AND COORDINATION

Subcontractor and its Sub-subcontractors agree to participate actively in the Cost and Schedule Control Program established for the Project. As a part of the program, Subcontractor and its Sub-subcontractors shall provide specific and accurate man hour, quantity and schedule information to Company in the format and with the frequency specified in Appendix B hereto, entitled "Cost and Schedule Control Program", or in Section C, Part 1 of the Subcontract, entitled Scope of Work. Said information shall be used by Company for cost and schedule monitoring purposes to ensure that schedule interfaces with other subcontractors are met and to monitor overall Project performance.

Stone & Webster Construction Co., Inc.

245 Summer Street

Boston, MA 02210

Tel. 617-589-7057 Fax. 617-589-1200

RE: Completion of the attached Standard Form 1413

Dear Vendor/Subcontractor:

Enclosed is a Standard Form 1413. This is for your information only.

The government requires the completion and submission of this form on most construction- related projects.

If you are awarded work as a result of this RFP, you will be required to complete sections 13, 14, 15, and 16.

At the time of award, all other sections will be completed by Stone & Webster, and forwarded to you for completion

The completed form will be returned to my attention at :

Stone & Webster
245 Summer Street
Boston, MA 02210
Attn: Don Fournier

If you have questions regarding this matter please call me at 617-589-7057.

Sincerely,
Stone & Webster

Don Fournier,
Senior Contracts Administrator

Enclosure

STATEMENT AND ACKNOWLEDGMENTFORM APPROVED OMB NO
9000-0014

Public reporting burden for this collection of information is estimated to average .15 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the FAR Secretariat (VRS), Office of Federal Acquisition and Regulatory Policy, GSA, Washington, D.C. 20405; and to the Office of Management and Budget, Paperwork Reduction Project (9000-0014), Washington, D.C. 20503.

PART I - STATEMENT OF PRIME CONTRACTOR

1. PRIME CONTRACT NO.	2. DATE SUBCONTRACT AWARDED	3. SUBCONTRACT NUMBER
4. PRIME CONTRACTOR (Name, address and ZIP code)		5. SUBCONTRACTOR (Name, address and ZIP code)

6. The prime contractor states that under the contract shown in Item 1, a subcontract was awarded on date shown in Item 2 by (Name of Awarding Firm)

to the subcontractor identified in Item 5, for the following work:

7. PROJECT	8. LOCATION	
9. NAME AND TITLE OF PERSON SIGNING	10. BY (Signature)	11. DATE SIGNED

PART II - ACKNOWLEDGMENT OF SUBCONTRACTOR

12. The subcontractor acknowledges that the following clauses of the contract shown in Item 1 are included in this subcontract:

Contract Work Hours and Safety	Davis- Bacon Act
Standards Act - Overtime	Apprentices and Trainees
Compensation - Construction	Compliance with Copeland Regulations
Payrolls and Basic Records	Subcontracts
Withholding of Funds	Contract Termination -Debarment
Disputes Concerning Labor Standards	Certification of Eligibility

13. NAME(S) OF ANY INTERMEDIATE SUBCONTRACTORS, IF ANY

14. NAME AND TITLE OF PERSON SIGNING	15. BY (Signature)	16. DATE SIGNED
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SCOPE OF WORK

TRANSPORTATION AND OFFSITE DISPOSAL

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SCOPE OF WORK

TRANSPORTATION AND OFFSITE DISPOSAL

DESCRIPTION OF WORK- GENERAL

1. Background

- 1.1 The former Fort Devens is a United States Environmental Protection Agency (USEPA) Comprehensive Environmental Response Compensation and Liability Act (CERCLA) National Priorities List (NPL) site located in the Towns of Ayer and Shirley (Middlesex County) and Harvard and Lancaster (Worcester County), approximately 35 miles northwest of Boston, Massachusetts. Prior to closure, the installation (now referred to as "Devens") occupied approximately 9,600 acres and was divided into the North Post, Main Post, and South Post.
- 1.2 The subject property was established as Camp Devens, a temporary United States military training facility, in 1917. The base was made a permanent installation, known as Fort Devens, in 1931 and was operated as a military induction center as well as a unit mobilization and demobilization post.
- 1.3 Developed areas of the facility currently consist of residential and light commercial areas with paved roadways, sewer and storm-water collection, public water, gas and electric services. Undeveloped areas of the site consist of woodland areas, ponds and wetlands, as well as the Nashua River, which runs south through the west portion of the base.
- 1.4 In 1989, the USEPA placed Devens on the National Priority List (NPL) under CERCLA [as amended by the Superfund Amendments and Reauthorization Act (SARA)]. Between 1989 and 1998, numerous assessments and investigations were conducted at Devens to evaluate the site conditions, compliance status, potential clean up alternatives and pre-design development.
- 1.5 Pursuant to the environmental studies performed at Devens a Record of Decision (ROD) was signed which requires excavation and restoration of six debris disposal areas and either onsite consolidation in a lined landfill to be constructed or offsite transportation and disposal. In total, approximately 300,000 cubic yards (CY) of non-hazardous debris will be addressed. The selection of the disposal option will be based on an evaluation of proposals submitted for the onsite and offsite alternatives. The 4 "levels of acceptability" for the review board are; (1) overall protection of human health and the environment (e.g., the offsite landfill will have the same level of

environmental protection as the onsite landfill design), (2) Subcontractor's past performance, (3) ability to satisfy health and safety concerns identified by local residents and public officials, and (4) cost. Assuming the first 3 are satisfied, the selection will fall to the cost. A 5.6 million dollar credit will be applied to the off site disposal option.

- 1.6 Six sites have been identified at Devens, and are described briefly below. Waste materials excavated from the six sites will be removed for either disposal in an on-site landfill or will be transported off site for disposal at commercial landfill facility(s). A brief discussion of each of the six sites follows. The location of the six sites and the potential on-site landfill are shown on Figure 1, Site Map.

Area AOC-9

AOC-9 consists of one large disposal area and four smaller areas adjacent to the wetlands to the south. The disposal area is partially vegetated, with the four smaller areas containing debris at the near surface level. Approximately 121,000 CY of debris are estimated to be located in AOC-9.

AOC-9 is located on the North Post, north of Walker Road and west of the wastewater treatment plant. AOC-9 was used from the late 1950's through 1978 for disposal of primarily demolition debris (wood, concrete, asphalt, metal, brick, glass and stumps).

Area AOC-11

Located east of Lovell Road on the Main Post, AOC-11 is adjacent to the Nashua River. AOC-11 was primarily used for the disposal of demolition debris from the wood frame base hospital from 1975 to 1980.

AOC-11 is approximately two acres in size and is bordered to the north and south by wetlands. A 40-foot wide berm segregates the landfill from the Nashua River to the east. An estimated 35,000 CY are contained within AOC-11.

Area SA-12

SA-12 is located across from Dixie Road on the South Post. This site was utilized from 1960 to the mid 1980s for disposal of construction and range debris (wood, concrete, sheet metal, soil and leaves).

SA-12 is approximately 0.5 acres in size and contains roughly 8,700 CY of debris. This area is situated on a steep wooded slope adjacent to the Nashua River flood plain and wetland areas.

Area SA-13

Located on the west side of Lake George Street, near Hattonsville Road on the Main Post, SA-13 was used from 1965 to 1990 for disposal of construction debris, stumps and brush.

Approximately 10,000 CY of debris are estimated to be contained within the one-acre site. SA-13 is bordered by trees, as well as a wetland area at the base of the steep slope to the south.

Area AOC-40

AOC-40 is located along the edge of Patton Road, in the southeastern portion of the Main Post. This area was used for the disposal of construction debris (masonry, asphalt, wire and metal), ash, stumps, and logs.

AOC-40 covers an area of approximately four acres and contains an estimated 125,400 CY of debris. Portions of the landfill area are situated in a wetland, and are currently submerged under Cold Spring Brook Pond. The area is densely populated with small trees and other vegetative cover. The landfill area is within a recharge zone for the Patton water supply well.

Area AOC-41

AOC-41 is located on the South Post, west of the Still River Gate, on the north shore of New Cranberry Pond. This area was used until the 1950s for disposal of non-explosive military (including vehicle parts) and household debris.

AOC-41 contains approximately 1500 CY of debris over less than 0.25 acres. This site is overgrown with trees and brush.

1.7 Definitions

“The Company” - Stone & Webster as Prime Contractor to the United States Army Corps of Engineers/New England District (USACE/NAE) under contract DACA-33-97-D-0002 who is procuring the services under this Scope of Work

“The Subcontractor” – Company providing the services to be procured under this Scope of Work.

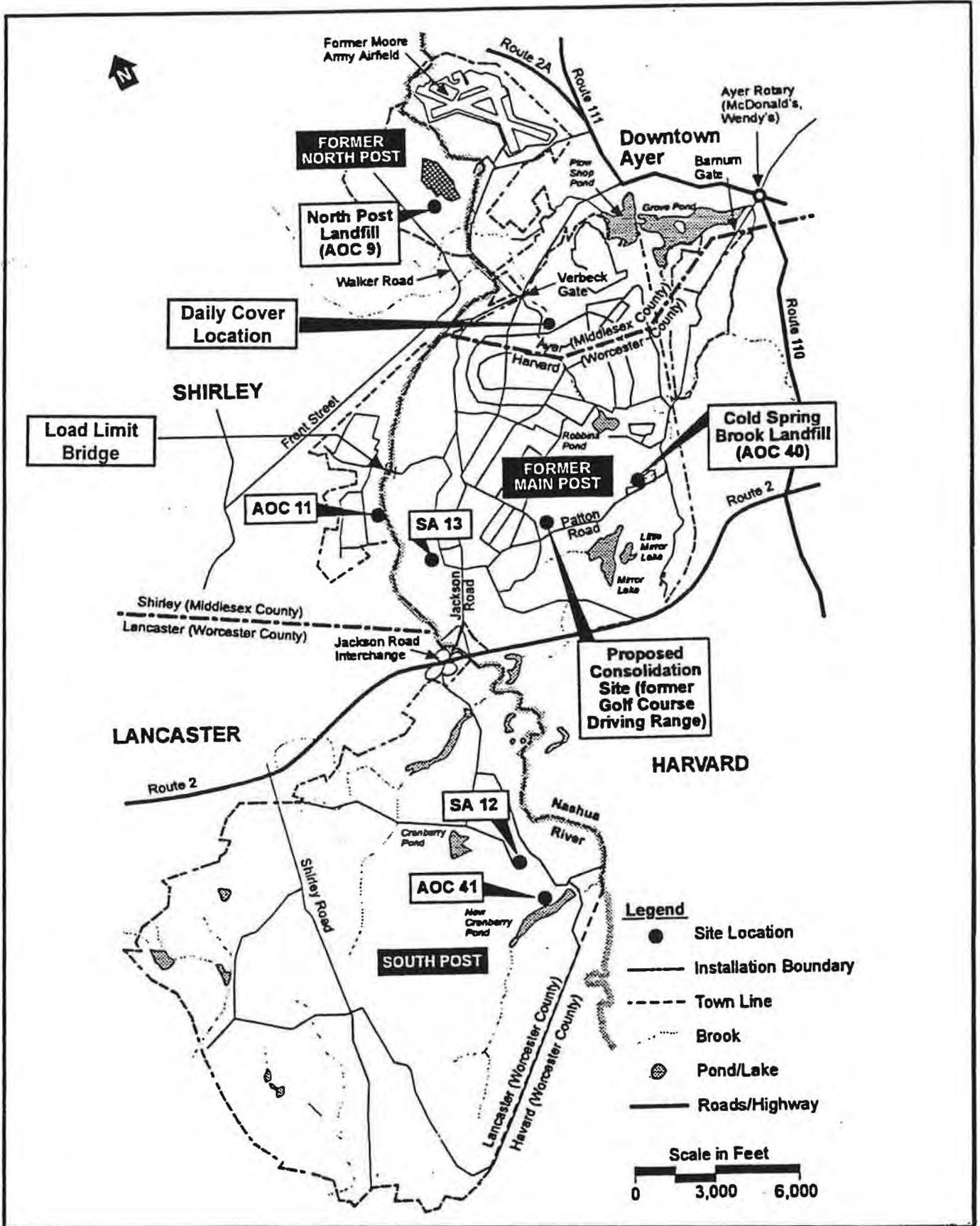


Figure 1. SITE MAP

2. SPECIFICATIONS

<u>Specification No.</u>	<u>Title</u>	<u>Revision</u>
01330	Submittal Procedures	
01351	Safety, health, and Emergency Response	
02120	Offsite Transportation and Disposal	
-----	Contamination Summaries and Test Pit Logs	

Refer to Appendix A for Specifications and Contamination Summaries

3. DESCRIPTION OF WORK – SPECIFIC

- 3.1 The work shall consist of transportation and final offsite disposal of waste materials from the six debris disposal areas from the designated sites under this contract. The loading of the material will be done by others from staged piles located near each of the disposal areas. Transportation methods shall be proposed by the Subcontractor, which will include trucking, rail etc. Disposal methods include landfilling, recycling or incineration. The Subcontractor's selection method of transportation and disposal shall pose no risk to humans or the environment, and be the best possible value.

- 3.2 Approximately 300,000 cubic yards of solid waste (soil, wood, concrete, metal, etc.) will require handling and disposal, a description of these waste site areas were described in the brief history section. Further descriptions of the debris is included in the test boring logs of the disposal areas which are provided in Appendix A. This information is included to provide an indication as to the type and level of contamination of the debris. The debris may contain small quantities of total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, polychlorinated biphenols (PCBs), and various heavy metals. Hazardous wastes will not be handled by the Subcontractor. Any hazardous waste found during the excavation activities will be isolated from the debris and handled by others. No special precautions are anticipated.

- 3.3 Additionally, 20,000 cubic yards of contaminated material found suitable for landfill daily cover must be transported offsite and disposed of in a similar manner. The location of this material is shown on Figure 1.

3.4 Debris Handling and Disposal Payment Items

The fixed price bid provided for this scope of work will be based on the following:

<u>Item</u>	<u>Unit</u>	<u>Quantity</u>
Area of concern 9	TON	180,000
Area of concern 11	TON	42,000
Area of concern 12	TON	6,300
Area of concern 13	TON	6,700
Area of concern 40	TON	175,000
Area of concern 41	TON	900
Daily cover material	TON	26,500

The schedule for when the material is ready for transport has been provided in Section 13.

In addition, a unit rate on a per ton basis shall be provided for each location where material is to be generated. This unit rate will be used to determine final costs based on the actual quantity of material transported and disposed of.

A truck demurrage cost shall be provided for waits in excess of one hour. The Company shall schedule truck times so that the truck waiting period will be one hour or less from the time the Company is notified that the truck is ready to be loaded.

4. OFF-SITE DISPOSAL CRITERIA

Landfill Selection

The on-site landfill design is intended to meet the current requirements of Chapter 310, Section 19.00 of the Code of Massachusetts Regulations (310 CMR 19.00) and the guidance set forth in the Massachusetts Department of Environmental Protection's Landfill Technical Guidance Manual.

It is required by the public that the off-site landfill will provide a level of protection similar to the onsite landfill design for materials and debris excavated from the six Devens sites. The level of protection included in the onsite landfill design includes:

- Synthetic liner over two feet of impervious soil located a minimum of four feet over high groundwater level.
- Leachate collection and treatment
- Stormwater collection and treatment
- Synthetic cap with passive gas collection
- Post closure care

5. SURVEY OF PROSPECTIVE LANDFILLS

As part of the bidding process, the prospective bidders will be required to supply information on the intended off-site landfill(s) to be used, including:

- Remaining capacity and the capacity that can be handled per day;
- Copies of all permits and their status, including violations;
- Design documentation of the landfill, including liner design, leachate collection design and treatment, storm water handling, depth to groundwater, closure plan and post closure plan;
- Written assurances that the receiving facility(s) can accept the waste material, including correlating documentation from state agencies (i.e., permits and contamination levels the landfill can accept for constituents such as total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, polychlorinated biphenols (PCBs), and various heavy metals)

6. TRANSPORTATION CONSIDERATIONS

The prospective bidders will be required to provide a transportation plan. The plan is to provide information as to whether the facility and successful bidder will meet the requirements of this specification. This plan will include:

- Proposed haul route(s) and capacity(s)
- Evidence of ability to obtain all required licensing and permitting
- Approved transport vehicles in good working order
- Schedule to include estimate of rate tons/day for transporting solid waste from the subject sites

7. RESPONSIBILITIES OF CLIENT AND COMPANY

7.1 The following will be provided by Company or by Company on behalf of the Client:

1. Toilet and hand wash facilities will be supplied by the Company.
2. Loading of trucks at the 6 areas and the daily cover material stockpile near the Verbeck Gate.
3. Sampling and analysis of the material to be transported in 500 cy lots. Sampling will include volatile organic compounds, semi-volatile organic compounds, pesticides, PCBs, RCRA metals and analysis for RCRA TCLP hazardous status. Data will be made available to the Subcontractor.
4. Segregation of hazardous waste from non-hazardous waste.
5. Development of a Site Safety and Health Plan that the Subcontractor will be required to follow.
6. A daily schedule for truck loading.

8. RESPONSIBILITIES OF SUBCONTRACTOR

- 8.1 The Subcontractor shall arrange for delivery of its materials and equipment to the project site
- 8.2 Subcontractor shall be responsible for all aspects associated with the offsite transportation and disposal of the non-hazardous waste as defined herein.

9. SUBCONTRACTOR USE OF PREMISES

- 9.1 The Subcontractor shall abide by the constraints regarding the use of the premises as stated in the General Conditions, and / or Scope of Work.
- 9.2 Subcontractor shall confine its operations to areas as defined by the Company. Portions of the site beyond areas in which construction operations are indicated are not to be disturbed.
- 9.3 Subcontractor shall be responsible for all of its equipment, apparatus, and materials on the project site.

10. OCCUPANCY BY COMPANY, AND CLIENT

Not Applicable

11. REFERENCE DOCUMENTS

- 11.1 The specifications may include references to various standards. Subcontractor shall notify Company of apparent conflicts between the specifications and the reference documents. The effective date of any referenced document shall be the date identified in the specification. If the specification does not specify a date, then the effective date shall be considered the date in effect at the time of the Company's issuance of the Request for Proposal or Invitation for Bids.

12. COORDINATION

- 12.1 Subcontractor shall coordinate its performance of the work to ensure efficient and orderly sequence of completion.
- 12.2 Subcontractor shall also coordinate its performance of the work with other Subcontractors who may be performing work at the site.

13. PERFORMANCE SCHEDULE AND SEQUENCE OF WORK

- 13.1 It is intended that the Subcontractor shall commence the work within (5) five calendar days after it receives a Notice To Proceed (NTP).

- 13.1 It is intended that the Subcontractor shall commence the work within (5) five calendar days after it receives a Notice To Proceed (NTP).
- 13.2 The following draft schedule for transportation and disposal should be used as the basis for the proposal:

Remedial Site	Approx.	Approximate Production		Draft Schedule			
	Volume	Excavation	Trans/Dispose	Excavation		Trans/Disposal	
	(cy)	(cy/day)	(cy/day)	Early Start	Early Finish	Early Start	Early Finish
AOC-9	121,000	2,400	1,500	09-Jun-00	18-Aug-00	19-Jun-00	06-Nov-00
AOC-11	35,000	2,250	1,500	28-Aug-00	18-Sep-00	04-Sep-00	05-Oct-00
SA-13	10,000	1,300	1,500	25-Sep-00	04-Oct-00	02-Oct-00	10-Oct-00
AOC-40	125,400	2,100	1,500	04-Jun-01	24-Aug-00	18-Jun-01	11-Oct-01
SA-12	8,700	1,100	1,500	03-Sep-01	12-Sep-00	10-Sep-01	17-Sep-01
AOC-41	1,500	1,500	1,500	13-Sep-01	14-Sep-00	18-Sep-01	18-Sep-01

- 13.3 Subcontractor shall comply with the time set forth in the project schedule, inclusive to the extent of the scope of work of the subcontract. Dates shown are based on the handling of 1500 cubic yards per day.

14. PROJECT CONTROLS REQUIREMENTS

- 14.1 Subcontractor shall implement and /or provide the following to the company's construction site manager;

Progress Reviews and Coordination

Biweekly meetings will be held as necessary to review progress, cost / schedule impacts, problem areas, change orders, etc. These meetings will be held at the company's office until mobilization and at the jobsite thereafter.

15. SAFETY

- 15.1 Subcontractor shall be bound to the Project Site Safety and Health Plan (SSHP), and shall ensure that its employees fully comply with the SSHP. The SSHP will be provided to the subcontractor at the time of award. No special precautions are envisioned. However, the subcontractor's personnel performing the work at Devens will be required to be trained pursuant to specification section 01351 (Appendix A).

15.2 Subcontractor shall attend a pre-entry briefing of the SSHP. Subcontractor shall acknowledge its understanding of the requirements of the SSHP by signing the SSHP.

15.3 Subcontractor shall concur with all the requirements of the company and client and shall agree that such requirements are entirely adequate for the protection of its personnel.

16. HANDLING OF MATERIALS, EQUIPMENT, AND PRODUCTS

16.1 Trucks will be prohibited from entering the site using other than approved access and egress locations.

16.2 Access to and from AOC 11 is limited by 2 bridges with inadequate load limits. Alternate routes on the site must be coordinated to avoid use of these bridges.

17. MISCELLANEOUS

17.1 Subcontractor will furnish all flashers, guards, warning lights and other safety equipment necessary for the safe execution of the work.

18. PROJECT LABOR AGREEMENT (PLA)

18.1 National Union of Operating Engineers, the Laborer's International Union of North America, AFL-CIO and the International Brotherhood of Teamsters. The Subcontractor is hereby bound to the terms and conditions of these Agreements and shall sign a letter of assent that it agrees to be bound to the terms and conditions of these Agreements. A copy of the PLA is in Appendix B.

Appendix A

SPECIFICATIONS

<u>Specification No.</u>	<u>Title</u>	<u>Revision</u>
01330	Submittal Procedures	
01351	Safety, Health, and Emergency Response	
02120	Offsite Transportation and Disposal	
-----	Contamination Summaries and Test Pit Logs	

SECTION 01330

SUBMITTAL PROCEDURES
09/97

PART 1 GENERAL

1.1 SUBMITTAL IDENTIFICATION

Submittals required are identified by SD numbers as follows:

SD-01 Data

SD-04 Drawings

SD-06 Instructions

SD-07 Schedules

SD-08 Statements

SD-09 Reports

SD-13 Certificates

SD-14 Samples

SD-18 Records

SD-19 Operation and Maintenance Manuals

1.2 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

1.2.1 Government Approved

Governmental approval is required for extensions of design, critical materials, deviations, equipment whose compatibility with the entire system must be checked, and other items as designated by the Contracting Officer. Within the terms of the Contract Clause entitled "Specifications and Drawings for Construction," they are considered to be "shop drawings."

1.2.2 Information Only

All submittals not requiring Government approval will be for information only. They are not considered to be "shop drawings" within the terms of the Contract Clause referred to above.

1.3 APPROVED SUBMITTALS

The Contracting Officer's approval of submittals shall not be construed as a complete check, but will indicate only that the general method of

construction, materials, detailing and other information are satisfactory. Approval will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor under the CQC requirements of this contract is responsible for dimensions, the design of adequate connections and details, and the satisfactory construction of all work. After submittals have been approved by the Contracting Officer, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

1.4 DISAPPROVED SUBMITTALS

The Contractor shall make all corrections required by the Contracting Officer and promptly furnish a corrected submittal in the form and number of copies specified for the initial submittal. If the Contractor considers any correction indicated on the submittals to constitute a change to the contract, a notice in accordance with the Contract Clause "Changes" shall be given promptly to the Contracting Officer.

1.5 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required approvals have not been obtained.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 GENERAL

The Contractor shall make submittals as required by the specifications. The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Units of weights and measures used on all submittals shall be the same as those used in the contract drawings. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Prior to submittal, all items shall be checked and approved by the Contractor's Quality Control (CQC) representative and each item shall be stamped, signed, and dated by the CQC representative indicating action taken. Proposed deviations from the contract requirements shall be clearly identified. Submittals shall include items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals. Submittals requiring Government approval shall be scheduled and made prior to the acquisition of the material or equipment covered thereby. Samples remaining upon completion of the work shall be picked up and disposed of in accordance with manufacturer's Material Safety Data Sheets (MSDS) and in compliance with existing laws and regulations.

3.2 SUBMITTAL REGISTER (ENG FORM 4288)

End form 4228 shall be obtained from the contracting office. It lists, items of equipment and materials for which submittals are required by the specifications; this list may not be all inclusive and additional submittals

may be required. The Contractor will also be given the submittal register as a diskette containing the computerized ENG Form 4288 and instructions on the use of the diskette. Columns "d" through "r" have been completed by the Government; the Contractor shall complete columns "a" and "s" through "u" and submit the forms (hard copy plus associated electronic file) to the Contracting Officer for approval within 14 calendar days after Notice to Proceed. The Contractor shall keep this diskette up-to-date and shall submit it to the Government together with the monthly payment request. The approved submittal register will become the scheduling document and will be used to control submittals throughout the life of the contract. The submittal register and the progress schedules shall be coordinated.

3.3 SCHEDULING

Submittals covering component items forming a system or items that are interrelated shall be scheduled to be coordinated and submitted concurrently. Certifications to be submitted with the pertinent drawings shall be so scheduled. Adequate time (a minimum of 30 calendar days exclusive of mailing time) shall be allowed and shown on the register for review and approval. No delay damages or time extensions will be allowed for time lost in late submittals.

3.4 TRANSMITTAL FORM (ENG FORM 4025)

The sample transmittal form (ENG Form 4025), should be obtained from the contracting office and used for submitting both Government approved and information only submittals in accordance with the instructions on the reverse side of the form. These forms will be furnished to the Contractor. This form shall be properly completed by filling out all the heading blank spaces and identifying each item submitted. Special care shall be exercised to ensure proper listing of the specification paragraph and/or sheet number of the contract drawings pertinent to the data submitted for each item.

3.5 SUBMITTAL PROCEDURE

Submittals shall be made as follows:

3.5.1 Procedures

Submittals shall be provided to Fort Devens Reserve Training Center Building 666. Personnel will be identified at a later date.

3.5.2 Deviations

For submittals which include proposed deviations requested by the Contractor, the column "variation" of ENG Form 4025 shall be checked. The Contractor shall set forth in writing the reason for any deviations and annotate such deviations on the submittal. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted deviations.

3.6 CONTROL OF SUBMITTALS

The Contractor shall carefully control his procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."

3.7 GOVERNMENT APPROVED SUBMITTALS

Upon completion of review of submittals requiring Government approval, the submittals will be identified as having received approval by being so stamped and dated. Two (2) copies of the submittal will be retained by the Contracting Officer and five (5) copies of the submittal will be returned to the Contractor.

3.8 INFORMATION ONLY SUBMITTALS

Normally submittals for information only will not be returned. Approval of the Contracting Officer is not required on information only submittals. The Government reserves the right to require the Contractor to resubmit any item found not to comply with the contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications; will not prevent the Contracting Officer from requiring removal and replacement of nonconforming material incorporated in the work; and does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or for check testing by the Government in those instances where the technical specifications so prescribe.

3.9 STAMPS

Stamps used by the Contractor on the submittal data to certify that the submittal meets contract requirements shall be similar to the following:

CONTRACTOR

(Firm Name)

_____ Approved

_____ Approved with corrections as noted on submittal data and/or
attached sheets(s).

SIGNATURE: _____

TITLE: _____

DATE: _____

SECTION 01351

SAFETY, HEALTH, AND EMERGENCY RESPONSE (HTRW/UST)
05/97

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS (ACGIH)

ACGIH-02 (1998) Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Z358.1 (1990) Emergency Eyewash and Shower Equipment

AMERICAN PETROLEUM INSTITUTE (API)

API Publ 2219 (1986) Safe Operation of Vacuum Trucks in Petroleum Service

API Std 2015 (1994) Safe Entry and Cleaning of Petroleum Storage Tanks

API RP 1604 (1996) Closure Underground Petroleum Storage Tanks

CODE OF FEDERAL REGULATIONS (CFR)

10 CFR 20 Standards for Protection Against Radiation

29 CFR 1904 Recording and Reporting Occupational Injuries and Illnesses

29 CFR 1910 Occupational Safety and Health Standards

29 CFR 1926 Safety and Health Regulations for Construction

49 CFR 171 General Information, Regulations, and Definitions

49 CFR 172 Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements

ENGINEERING MANUALS

EM 385-1-1

Stet) U.S. Army Corps of Engineers Safety and Health Requirements Manual

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

NIOSH Pub No. 85-115

(1985) Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities

1.2 DESCRIPTION OF WORK

This section provides additional requirements for implementing the accident prevention provisions of EM 385-1-1, and specifies a Site Safety and Health Plan (SSHP) which shall satisfy the requirements for submission of a separate Accident Prevention Plan (APP) as required by EM 385-1-1. The requirements shall apply to work performed in both "contaminated" and "clean" areas.

1.3 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-04 Drawings

Work Zones; GA.

Drawings shall include initial work zone boundaries: Exclusion Zone (EZ), including restricted and regulated areas; Contamination Reduction Zone (CRZ); and Support Zone (SZ).

Decontamination Facilities; GA.

Drawings shall show the layout of the personnel and equipment decontamination areas.

SD-09 Reports

Monitoring/Sampling Results; GA.

Personnel exposure monitoring/sampling results.

Site Control Log; GA.

Record of each entry and exit into the site, as specified.

1.4 REGULATORY REQUIREMENTS

First Aid and CPR Records, current certificates or cards for persons responsible for providing first aid and CPR. Hazard Waste Training Records and hazardous waste workers most current training certificates. Medical Records and hazardous waste workers current physicians report on fitness to work.

Work performed under this contract shall comply with EM 385-1-1, applicable Federal, state, and local safety and occupational health laws and regulations. This includes, but is not limited to, Occupational Safety and Health Administration (OSHA) standards, 29 CFR 1910, especially Section .120, "Hazardous Waste Site Operations and Emergency Response" and 29 CFR 1926, especially Section .65, "Hazardous Waste Site Operations and Emergency Response". Matters of interpretation of standards shall be submitted to the appropriate administrative agency for resolution before starting work. Where the requirements of this specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements shall apply.

1.5 PRECONSTRUCTION SAFETY CONFERENCE

[See section 1.7.2].

1.6 SAFETY AND HEALTH PROGRAM

OSHA Standards 29 CFR 1910, Section .120 (b) and 29 CFR 1926, Section .65 (b) require employers to develop and implement a written Safety and Health Program for employees involved in hazardous waste operations. These aforementioned hazardous regulations shall apply to debris waste exposure activities including loading, hauling, placing, compacting, and excavating. Contractor shall apply NAE safety and health guidelines for other typical construction activities. The site-specific program requirements of the OSHA Standards shall be integrated into one site-specific document, the Site Safety and Health Plan (SSHP). The SSHP shall interface with the employer's overall Safety and Health Program. Any portions of the overall Safety and Health Program that are referenced in the SSHP shall be included as appendices to the SSHP.

1.7 SITE SAFETY AND HEALTH PLAN

1.7.1 Preparation and Implementation

A Site Safety and Health Plan (SSHP) shall be prepared covering onsite work to be performed by the Contractor and all subcontractors. The Safety and Health Manager shall be responsible for the development, implementation and oversight of the SSHP. The SSHP shall establish, in detail, the protocols necessary for the anticipation, recognition, evaluation, and control of hazards associated with each task performed. The SSHP shall address site-specific safety and health requirements and procedures based upon site-specific conditions. The level of detail provided in the SSHP shall be tailored to the type of work, complexity of operations to be performed, and hazards anticipated. Details about some activities may not be available when the initial SSHP is prepared and submitted. Therefore, the SSHP shall address, in as much detail as possible, anticipated tasks, their related hazards and anticipated control measures. Additional details shall be included in the activity hazard analyses as described in paragraph ACTIVITY HAZARD ANALYSES.

1.7.2 Acceptance and Modifications

Prior to submittal, the SSHP shall be signed and dated by the Safety and Health Manager and the Site Superintendent. The SSHP shall be submitted for review 20 days prior to the Preconstruction Safety Conference. Deficiencies in the SSHP will be discussed at the preconstruction safety conference, and

the SSHP shall be revised to correct the deficiencies and resubmitted for acceptance. Onsite work shall not begin until the plan has been accepted. A copy of the written SSHP shall be maintained onsite. As work proceeds, the SSHP shall be adapted to new situations and new conditions. Changes and modifications to the accepted SSHP shall be made with the knowledge and concurrence of the Safety and Health Manager, the Site Superintendent, and the Contracting Officer. Should any unforeseen hazard become evident during the performance of the work, the Site Safety and Health Officer (SSHO) shall bring such hazard to the attention of the Safety and Health Manager, the Site Superintendent, and the Contracting Officer, both verbally and in writing, for resolution as soon as possible. In the interim, necessary action shall be taken to re-establish and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public, and the environment. Disregard for the provisions of this specification or the accepted SSHP shall be cause for stopping of work until the matter has been rectified.

1.7.3 Availability

The SSHP shall be made available in accordance with 29 CFR 1910, Section .120 (b) (1) (v) and 29 CFR 1926, Section .65 (b) (1) (v).

1.7.4 Elements

Topics required by 29 CFR 1910, Section .120 (b) (4) 29 CFR 1926, Section .65 (b) (4) and the Accident Prevention Plan as described in Appendix A of EM 385-1-1 and those described in this section shall be addressed in the SSHP. Where the use of a specific topic is not applicable to the project, the SSHP shall include a statement to justify its omission or reduced level of detail and establish that adequate consideration was given the topic.

1.8 SITE DESCRIPTION AND CONTAMINATION CHARACTERIZATION

1.8.1 Project/Site Conditions

Appendix A is a record of site contaminants and a description of the debris disposal pits. This information is provided to assist in preparing the SSHP. Additional sources of information are available as listed below.

- a. Draft Record of Decision, HLA, March 99.
- b. Proposed Plan, HLA, Dec 98.
- c. Landfill Remediation Feasibility Study Addendum Report, HLA, Nov 98
- d. Landfill Remediation Feasibility Study Report, ABB-ES, Jan 97

1.8.1.2 List of Available Documents

Further information is available from Fort Devens Reserve Training Area, Building 666.

1.8.2 Plan Requirements

The SSHP shall include a site description and contamination characterization section that addresses the following elements:

- a. Description of site location, topography, size and past uses of the site.

- b. A list of contaminants, which may present occupational health and safety, hazards. This list shall be created by evaluating the analytical results in this section and by researching sources of information from past site investigation activities. Chemical names, concentration ranges, media in which found, locations onsite, and estimated quantities/volumes to be impacted by site work shall be included if known. [Chemical names, radioisotopes, concentration ranges and strength of radiation fields and levels of radioactive contamination, media in which found, locations onsite, and estimated quantities/volumes to be impacted by site work shall be included if known.] The contamination characterization shall be reviewed and revised if new chemicals are identified as work progresses.

1.8.3 Ordnance and Explosive Waste (OEW)

If explosives, chemical surety and warfare materials (CSM/CWM), or unexploded ordnance (UXO) are discovered at any time during operations, the Contractor shall immediately stop operations in the affected area, mark the location, notify onsite personnel of the OEW hazard and the area's restrictions, and notify the Contracting Officer. The Government will make appropriate arrangements for evaluation and proper disposal of each device. The SSHP shall specifically address procedures to be followed, if known or potential CSM/CWM, ordnance, or other such items are encountered during any phase of field work.

1.9 HAZARD/RISK ANALYSIS

The SSHP shall include a safety and health hazard/risk analysis for each site task and operation to be performed. The hazard/risk analysis shall provide information necessary for determining safety and health procedures, equipment, and training to protect onsite personnel, the environment, and the public. Available site information shall be reviewed when preparing the "Hazard/Risk Analysis" section of the SSHP. The following elements, at a minimum, shall be addressed.

1.9.1 Site Tasks and Operations (Workplan)

The SSHP shall include a comprehensive section that addresses the tasks and objectives of the site operations and the logistics and resources required to reach those tasks and objectives. Based on the type of remediation required, the following is a list of anticipated major site tasks and operations to be performed: Excavating, loading, hauling, backfilling, compacting of debris material; mechanical construction and earthwork as indicated in the Contract Documents. This is not a complete list of site tasks and operations; therefore, it shall be expanded and/or revised, during preparation of the SSHP as necessary.

1.9.2 Hazards

The following potential hazards may be encountered during site work. These are not complete lists; therefore, they shall be expanded and/or revised as necessary during preparation of the SSHP.

1.9.2.1 Safety Hazards

The following hazards may be present: excavations, slips, trips, and faults; electricity; construction equipment and machinery; trenching; debris handling; and underground lines.

1.9.2.2 Chemical Hazards

Potential chemical hazards that may be encountered during site work are discussed in paragraph SITE DESCRIPTION AND CONTAMINATION CHARACTERIZATION. The Hazard/Risk Analysis section of the SSHP shall describe the chemical, physical, and toxicological properties of contaminants, sources and pathways of employee exposures, anticipated onsite and offsite exposure level potentials, and regulatory (including Federal, state, and local) or recommended protective exposure standards. The SSHP shall also address employee exposure to hazardous substances brought onsite, and shall comply with the requirements of 29 CFR 1910, Section .1200 and 29 CFR 1926, Section .59, Hazard Communication.

1.9.2.3 Physical Agents

The following hazards may be encountered: noise, heat and cold stress and vibration.

1.9.2.4 Radiological Hazards

Radiological hazards are not anticipated.

1.9.2.5 Biological Hazards

Poisonous plants, animals, and ticks (Lyme Disease) may be encountered.

1.9.3 Action Levels

1.9.3.1 General

Action levels shall be established for the situations listed below, at a minimum. The action levels and required actions (engineering controls, changes in PPE, etc.) shall be presented in the SSHP in both text and tabular form.

- a. Implementation of engineering controls and work practices.
- b. Upgrade or downgrade in level of personal protective equipment.
- c. Work stoppage and/or emergency evacuation of onsite personnel.
- d. Prevention and/or minimization of public exposures to hazards created by site activities.

1.9.3.2 Confined Space Entry

Entry into and work in a confined space will not be allowed when oxygen readings are less than 19.5% or greater than 23.5% or if the Lower Flammable Limit (LFL) reading is greater than 10%, unless these conditions are adequately addressed in the confined space entry program. In addition, action levels for toxic atmospheres shall be determined.

1.10 ACTIVITY HAZARD ANALYSES

Prior to beginning each major phase of work, an Activity Hazard Analysis shall be prepared by the Contractor performing that work and submitted for review and acceptance. The format shall be in accordance with EM 385-1-1, figure 1-1. A major phase of work is defined as an operation involving a type of work presenting hazards not experienced in previous operations or where a new subcontractor or work crew is to perform. The analysis shall define the activities to be performed and identify the sequence of work, the specific hazards anticipated, and the control measures to be implemented to eliminate or reduce each hazard to an acceptable level. Work shall not proceed on that phase until the activity hazard analysis has been accepted and a preparatory meeting has been conducted by the Contractor to discuss its contents with everyone engaged in the activities, including the government onsite representatives. The activity hazard analyses shall be continuously reviewed and when appropriate modified to address changing site conditions or operations, with the concurrence of the Safety and Health Manager, the Site Superintendent, and the Contracting Officer. Activity hazard analyses shall be attached to and become a part of the SSHP.

1.11 STAFF ORGANIZATION, QUALIFICATIONS, AND RESPONSIBILITIES

An organizational structure shall be developed that sets forth lines of authority (chain of command), responsibilities, and communication procedures concerning site safety, health, and emergency response. This organizational structure shall cover management, supervisors and employees of the Contractor and subcontractors. The structure shall include the means for coordinating and controlling work activities of subcontractors and suppliers. The SSHP shall include a description of this organizational structure as well as qualifications and responsibilities of each of the following individuals. The Contractor shall obtain Contracting Officer's acceptance before replacing any member of the Safety and Health Staff. Requests shall include the names, qualifications, duties, and responsibilities of each proposed replacement.

1.11.1 Site Superintendent

A Site Superintendent, who has responsibility to implement the SSHP, the authority to direct work performed under this contract and verify compliance, shall be designated.

1.11.2 Safety and Health Manager

1.11.2.1 Qualifications

The services of [an Industrial Hygienist certified by the American Board of Industrial Hygiene] [a safety professional certified by the Board of Certified Safety Professionals] shall be utilized. The name, qualifications (education summary and documentation, ABIH certificate), and work experience summary shall be included in the SSHP. The Safety and Health Manager shall have the following additional qualifications:

- a. A minimum of 3 years experience in developing and implementing safety and health programs at hazardous waste sites [in the hazardous waste disposal industry] [in the chemical industry] [in

the petroleum processing industry] [at underground storage tank removal projects].

- b. Documented experience in supervising professional and technician level personnel.
- c. Documented experience in developing worker exposure assessment programs and air monitoring programs and techniques.
- d. Documented experience in the development of personal protective equipment programs, including programs for working in and around potentially toxic, flammable and combustible atmospheres and confined spaces.
- e. Working knowledge of state and Federal occupational safety and health regulations.

1.11.2.2 Responsibilities

The Safety and Health Manager shall:

- a. Be responsible for the development, implementation, oversight, and enforcement of the SSHP.
- b. Sign and date the SSHP prior to submittal.
- c. Conduct initial site-specific training.
- d. Be present onsite during the first day of remedial activities and at the startup of each new major phase.
- e. Visit the site as needed and at least [once per week] once per month for the duration of activities, to audit the effectiveness of the SSHP.
- f. Be available for emergencies.
- g. Provide onsite consultation as needed to ensure the SSHP is fully implemented.
- h. Coordinate any modifications to the SSHP with the Site Superintendent, the SSHP, and the Contracting Officer.
- i. Provide continued support for upgrading/downgrading of the level of personal protection.
- j. Be responsible for evaluating air monitoring data and recommending changes to engineering controls, work practices, and PPE.
- k. Review accident reports and results of daily inspections.
- l. Serve as a member of the Contractor's quality control staff.

1.11.3 Site Safety and Health Officer (SSHO)

1.11.3.1 Qualifications of SSHO

An individual and one alternate shall be designated the Site Safety and Health Officer (SSHO). The name, qualifications (education and training summary and documentation), and work experience of the Site Safety and Health Officer and alternate [alternates] shall be included in the SSHP. The SSHO shall have the following qualifications:

- a. A minimum of 1 year experience in implementing safety and health programs at hazardous waste sites Level C personal protective equipment was required.
- b. Documented experience in construction techniques and construction safety procedures.
- c. Working knowledge of Federal and state occupational safety and health regulations.
- d. Specific training in personal and respiratory protective equipment program implementation, confined space program oversight, and in the proper use of air monitoring instruments, and air sampling methods.

1.11.3.2 Responsibilities of SSHO

The Site Safety and Health Officer shall:

- a. Assist and represent the Safety and Health Manager in onsite training and the day to day onsite implementation and enforcement of the accepted SSHP.
- b. Be assigned to the site on a full time basis for the duration of field activities. The SSHO shall have no duties other than Safety and Health related duties. If operations are performed during more than 1 work shift per day, a site Safety and Health Officer shall be present for each shift.
- c. Have authority to ensure site compliance with specified safety and health requirements, Federal, state and OSHA regulations and all aspects of the SSHP including, but not limited to, activity hazard analyses, air monitoring, use of PPE, decontamination, site control, standard operating procedures used to minimize hazards, safe use of engineering controls, the emergency response plan, confined space entry procedures, spill containment program, and preparation of records by performing a daily safety and health inspection and documenting results on the Daily Safety Inspection Log.
- d. Have authority to stop work if unacceptable health or safety conditions exist, and take necessary action to re-establish and maintain safe working conditions.
- e. Consult with and coordinate any modifications to the SSHP with the Safety and Health Manager, the Site Superintendent, and the Contracting Officer.

- f. Serve as a member of the Contractor's quality control staff on matters relating to safety and health.
- g. Conduct accident investigations and prepare accident reports.
- h. Review results of daily quality control inspections and document safety and health findings into the Daily Safety Inspection Log.
- i. In coordination with site management and the Safety and Health Manager, recommend corrective actions for identified deficiencies and oversee the corrective actions.

1.11.4 Occupational Physician (OP)

1.11.4.1 Qualifications of OP

The services of a licensed physician, who is certified in occupational medicine by the American Board of Preventative Medicine, or who, by necessary training and experience is Board eligible, shall be utilized.

1.11.4.2 Responsibilities of OP

The physician shall be responsible for the determination of medical surveillance protocols and for review of examination/test results performed in compliance with 29 CFR 1910, Section .120 (f) and 29 CFR 1926, Section .65 (f) and paragraph MEDICAL SURVEILLANCE.

1.11.5 Persons Certified in First Aid and CPR

At least two persons who are currently certified in first aid and CPR by the American Red Cross or other approved agency shall be onsite at all times during site operations. They shall be trained in universal precautions and the use of PPE as described in the Bloodborne Pathogens Standard of 29 CFR 1910, Section .1030. These persons may perform other duties but shall be immediately available to render first aid when needed.

1.11.6 Safety and Health Technicians

For each work crew in the exclusion zone, one person, designated as a Safety and Health technician, shall perform activities such as air monitoring, decontamination, and safety oversight on behalf of the SSHO. They shall have appropriate training equivalent to the SSHO in each specific area for which they have responsibility and shall report to and be under the supervision of the SSHO.

1.12 TRAINING

Personnel shall receive training in accordance with the Contractor's written safety and health training program and 29 CFR 1910 Section .120, 29 CFR 1926 Section .65, and 29 CFR 1926 Section .21. The SSHP shall include a section describing training requirements.

1.12.1 General Hazardous Waste Operations Training

Personnel exposed to the consolidation debris (debris loading, transport, filling, compacting, and grading operations) shall have successfully

completed 40 hours of hazardous waste instruction off the site; 3 days actual field experience under the direct supervision of a trained, experienced supervisor; and 8 hours refresher training annually. Onsite supervisors shall have completed the above training and 8 hours of additional, specialized training covering at least the following topics: the employer's safety and health program, personal protective equipment program, spill containment program, and health hazard monitoring procedures and techniques. Copies of current training certification statements shall be submitted prior to initial entry onto the work site.

1.12.2 Site-specific Training

Site-specific training sessions shall be documented in accordance with Section 01.B.03.b of EM 385-1-1.

1.12.2.1 Initial Session (Pre-entry Briefing)

Prior to commencement of onsite field activities, all site employees, including those assigned only to the Support Zone, shall attend a site-specific safety and health training session of at least 2 hours duration. This session shall be conducted by the Safety and Health Manager and the Site Safety and Health Officer to ensure that all personnel are familiar with requirements and responsibilities for maintaining a safe and healthful work environment. Procedures and contents of the accepted SSHP and Sections 01.B.02 and 28.D.03 of EM 385-1-1 shall be thoroughly discussed. The Contracting Officer shall be notified at least 5 days prior to the initial site-specific training session so government personnel involved in the project may attend.

1.12.2.2 Periodic Sessions

Periodic onsite training shall be conducted by the SSHO at least weekly for personnel assigned to work at the site during the following week. The training shall address safety and health procedures, work practices, any changes in the SSHP, activity hazard analyses, work tasks, or schedule; results of previous week's air monitoring, review of safety discrepancies and accidents. Should an operational change affecting onsite field work be made, a meeting prior to implementation of the change shall be convened to explain safety and health procedures. Site-specific training sessions for new personnel, visitors, and suppliers shall be conducted by the SSHO using the training curriculum outlines developed by the Safety and Health Manager.

1.12.2.3 Other Training

The Safety and Health Manager shall provide training as specified by 29 CFR 1910 Section .146, for employees who are required to supervise, standby, or enter permit-required confined spaces. Persons involved in any aspect of the transportation of hazardous materials shall be trained in accordance with 49 CFR 172 Subpart H.

1.13 PERSONAL PROTECTIVE EQUIPMENT

1.13.1 General

In accordance with 29 CFR 1910 Section .120 (g) (5) and 29 CFR 1926 Section .65 (g) (5), a written Personal Protective Equipment (PPE) program which addresses the elements listed in that regulation, and which complies with

respiratory protection program requirements of 29 CFR 1910 Section .134, is to be included in the employer's Safety and Health Program. The Site Safety and Health Plan shall detail the minimum PPE ensembles (including respirators) and specific materials from which the PPE components are constructed for each site-specific task and operation to be performed, based upon the hazard/risk analysis. Components of levels of protection (B, C, D and modifications) must be relevant to site-specific conditions, including heat and cold stress potential and safety hazards. Only respirators approved by NIOSH shall be used. Onsite personnel shall be provided with appropriate personal protective equipment. Protective equipment and clothing shall be kept clean and well maintained. The PPE section of the SSHP shall include site-specific procedures to determine PPE program effectiveness and for onsite fit-testing of respirators, cleaning, maintenance, inspection, and storage of PPE.

1.13.2 Levels of Protection

The Safety and Health Manager shall establish appropriate levels of protection for each work activity based on review of historical site information, existing data, an evaluation of the potential for exposure (inhalation, dermal, ingestion, and injection) during each task, past air monitoring results, and a continuing safety and health monitoring program. The Safety and Health Manager shall also establish action levels for upgrade or downgrade in levels of PPE from the following specified minimum levels of protection. Protocols and the communication network for changing the level of protection shall be described in the SSHP. The PPE reassessment protocol shall address air monitoring results, potential for exposure, changes in site conditions, work phases, job tasks, weather, temperature extremes, individual medical considerations, etc.

1.13.2.1 Components of Levels of Protection

The following items constitute minimum protective clothing and equipment ensembles to be utilized during this project: (see 29 CFR 1910 for Level Description)

Level D

Modified Level D

Level C

Level B

See appendix L of EM 385-1-1.

1.13.2.2 Initial Minimum Levels of PPE by Task

The SSHP shall identify minimum levels of PPE by task and be submitted to the Contracting Officer for approval.

1.13.3 PPE for Government Personnel

Three clean sets of personal protective equipment and clothing (excluding air-purifying negative-pressure respirators and safety shoes, which will be provided by individual visitors), as required for entry into the Exclusion Zone and/or Contamination Reduction Zone, shall be available for use by the

Contracting Officer or official visitors. The items shall be cleaned and maintained by the Contractor and stored at the site and clearly marked: "FOR USE BY GOVERNMENT ONLY." The Contractor shall provide basic training in the use and limitations of the PPE provided, and institute administrative controls to check prerequisites prior to issuance. Such prerequisites include meeting minimum training requirements for the work tasks to be performed and medical clearance for site hazards and respirator use.

1.14 MEDICAL SURVEILLANCE

The Safety and Health Manager, in conjunction with the Occupational Physician, shall detail, in the employer's Safety and Health Program and the SSHP, the medical surveillance program that includes scheduling of examinations, certification of fitness for duty, compliance with OSHA requirements, and information provided to the physician. Examinations shall be performed by or under the supervision of a licensed physician, preferably one knowledgeable in occupational medicine, and shall be provided without cost to the employee, without loss of pay and at a reasonable time and place. Medical surveillance protocols and examination and test results shall be reviewed by the Occupational Physician. The medical surveillance program shall contain the requirements specified below. Personnel working in contaminated areas (relating to handling, transportation, compacting, and placing of debris) of the site shall have been examined as prescribed in 29 CFR 1910 Section .120, and 29 CFR 1926 Section .65, and determined medically fit to perform their duties.

1.14.1 Frequency of Examinations

Employees shall have been provided with medical examinations as specified, within the past 12 months and shall receive exams annually thereafter (if contract duration exceeds 1 year); on termination of employment; reassignment in accordance with 29 CFR 1910 Section .120 (f) (3) (i), and 29 CFR 1926 Section .65 (f) (3) (i) (C); if the employee develops signs or symptoms of illness related to workplace exposures; if the physician determines examinations need to be conducted more often than once a year; and when an employee develops a lost time injury or illness during the period of this contract. The supervisor shall be provided with a written statement signed by the physician prior to allowing the employee to return to the work site after injury or illness resulting in a lost workday, as defined in 29 CFR 1904 Section .12 (f).

1.14.2 Content of Examinations

The following elements shall be included in the medical surveillance program. Additional elements may be included at the discretion of the occupational physician responsible for reviewing the medical surveillance protocols.

- a. Complete medical and occupational history (initial exam only).
- b. General physical examination of major organ systems.
- c. Pulmonary function testing including FVC and FEV1.0.
- d. CBC with differential.
- e. Blood chemistry screening profile (e.g. SMAC 20/25).

- f. Urinalysis with microscopic examination.
- g. Audiometric testing (as required by Hearing Conservation Program).
- h. Visual acuity.
- i. Chest x-ray. (This test should be performed no more frequently than every 4 years, unless directed by Occupational Physician.)
- j. Electrocardiogram (as directed by Occupational Physician).
- k. Urine heavy metals (arsenic, manganese, lead, cadmium, chromium, and mercury).

1.14.3 Information Provided to the Occupational Physician

The physician shall be furnished with the following:

- a. Site information from paragraph, SITE DESCRIPTION AND CONTAMINATION CHARACTERIZATION.
- b. information on the employee's anticipated or measured exposure.
- c. a description of any PPE used or to be used.
- d. A description of the employee's duties as they relate to the employee's exposures (including physical demands on the employee and heat/cold stress).
- e. A copy of 29 CFR 1910 Section .120, or 29 CFR 1926 Section .65.
- f. Information from previous examinations not readily available to the examining physician.
- g. A copy of Section 5.0 of NIOSH Pub No. 85-115.
- h. Information required by 29 CFR 1910 Section .134.

1.14.4 Physician's Written Opinion

Before work begins a copy of the physician's written opinion for each employee shall be obtained and furnished to the Safety and Health Manager; and the employee. The opinion shall address the employee's ability to perform hazardous remediation work and shall contain the following:

- a. The physician's recommended limitations upon the employee's assigned work and/or PPE usage.
- b. The physician's opinion about increased risk to the employee's health resulting from work; and
- c. A statement that the employee has been informed and advised about the results of the examination.

1.14.5 Medical Records

Documentation of medical exams shall be provided as part of the Certificate of Worker or Visitor Acknowledgment. Medical records shall be maintained in accordance with 29 CFR 1910 Section .120, and 29 CFR 1926Section .65.

1.16 EXPOSURE MONITORING/AIR SAMPLING PROGRAM

The Safety and Health Manager shall prepare and implement an exposure monitoring/air sampling program to identify and quantify safety and health hazards and airborne levels of hazardous substances in order to assure proper selection of engineering controls, work practices and personal protective equipment for affected site personnel. Minimum initial requirements for the program are delineated below. Available site information shall be reviewed and the exposure monitoring/air sampling program shall be expanded and/or revised for submittal as part of the SSHP.

Appendix A contains testpit information related to the debris disposal pits.

1.17 HEAT AND COLD STRESS MONITORING

The Safety and Health Manager shall develop a heat stress and cold stress monitoring program for onsite activities. Details of the monitoring program, including schedules for work and rest, and physiological monitoring requirements, shall be described in the SSHP. Personnel shall be trained to recognize the symptoms of heat and cold stress. The SSHP and an alternate person shall be designated, in writing, to be responsible for the heat and cold stress monitoring program.

1.17.1 Heat Stress

Physiological monitoring shall commence when the ambient temperature is above 70 degrees F and workers are wearing impermeable or semi-permeable clothing. Monitoring frequency shall increase as the ambient temperature increases or as slow recovery rates are observed. An adequate supply of cool drinking water shall be provided for the workers. NIOSH Pub No. 85-115 may be consulted for guidance in determining protocols for prevention of heat stress.

1.17.2 Cold Stress

To guard against cold injury, appropriate clothing and warm shelter for rest periods shall be provided. Procedures to monitor and avoid cold stress shall be followed in accordance with the current TLVs for Cold Stress as recommended in ACGIH-02.

1.18 SAFETY PROCEDURES, ENGINEERING CONTROLS AND WORK PRACTICES

The SSHP shall describe the standard operating safety procedures, engineering controls and safe work practices to be implemented for the work covered. These shall include, but not be limited to, the following:

1.18.1 General Site Rules/Prohibitions

General site rules/prohibitions (buddy system, eating, drinking, and smoking restrictions, etc.).

1.18.2 Work Permit Requirements

Excavation, hot work, confined space, etc.

1.18.3 Material Handling Procedures

Soils, liquids.

1.18.3.1 Spill and Discharge Control

Written spill and discharge containment/control procedures shall be developed and implemented. These procedures shall address hazardous materials, material handling equipment, as well as drum and container handling, opening, sampling, shipping and transport. These procedures shall describe prevention measures, such as building berms or dikes; spill control measures and material to be used (e.g. booms, vermiculite); location of the spill control material; personal protective equipment required to cleanup spills; disposal of contaminated material; and who is responsible to report the spill. Storage of contaminated material or hazardous materials shall be appropriately bermed, diked and/or contained to prevent any spillage of material on uncontaminated soil. If the spill or discharge is reportable, and/or human health or the environment are threatened, the National Response Center, the state, and the Contracting Officer shall be notified as soon as possible.

1.18.4 Drum and Container Handling

Not anticipated

1.18.5 Confined Space Entry Procedures

Not anticipated

1.18.6 Hot Work

Not anticipated.

1.18.8 Fire Protection and Prevention

Include fire protection and prevention includes sources of ignition, housekeeping, fire extinguishers, and smoking policy.

1.18.9 Electrical Safety

All electrical equipment and installation in hazardous locations shall be in accordance with the National Electrical Code.

1.18.10 Excavation and Trench Safety

Comply with OSHA 29 CFR 26.

All equipment shall be properly guarded.

1.18.12 Lockout/Tagout

Comply with 29 CFR 1910.147.

1.18.14 Hazard Communication

Comply with 29 CFR 1926.59.

1.18.15 Illumination

Comply with 29 Cfr 1926.56.

1.18.16 Sanitation

Comply with 29 CFR 1926.51.

1.18.17 Engineering Controls

Engineering controls shall be implemented whenever feasible in preference over administration or personal protective controls.

1.18.18 Process Safety Management - Not Used.

1.18.19 Signs and Labels

[Comply with 29 CFR 1926.200].

1.19 SITE CONTROL MEASURES

In order to prevent the spread of contamination and control the flow of personnel, vehicles, and materials into and out of work areas, site control measures shall be established and described in the SSHP. The SSHP shall describe the methodology to be used by the Safety and Health Manager and SSHO in determining work zone designations and their modifications, and procedures to limit the spread of contamination. The SSHP shall include procedures for the implementation and enforcement of safety and health rules for all persons on the site, including employers, employees, outside Contractors, government representatives, and visitors.

1.19.1 Work Zones

Initial anticipated work zone boundaries are shown on the drawings. Utilizing this guidance, work zone boundaries (exclusion zone, including restricted and regulated areas; contamination reduction zone; and support zone) and access points shall be established and the boundary delineations shall be included on the drawings and in the SSHP. Delineation of work zone boundaries shall be based on the contamination characterization data and the hazard/risk analysis to be performed as described in paragraph: HAZARD/RISK ANALYSIS. As work progresses and field conditions are monitored, work zone boundaries may be modified with approval of the Contracting Officer. Work zones shall be clearly identified and marked in the field (using fences, tape, signs, etc.). A site map, showing work zone boundaries and locations of decontamination facilities, shall be posted in the onsite office. Work zones shall consist of the following:

- a. Exclusion Zone (EZ): The exclusion zone is the area where hazardous contamination is either known or expected to occur and the greatest potential for exposure exists. Entry into this area shall be controlled and exit may only be made through the CRZ.

- b. Contamination Reduction Zone (CRZ): The CRZ is the transition area between the Exclusion Zone and the Support Zone. The personnel and equipment decontamination areas shall be separate and unique areas located in the CRZ.
- c. Support Zone (SZ): The Support Zone is defined as areas of the site, other than exclusion zones and contamination reduction zones, where workers do not have the potential to be exposed to hazardous substances or dangerous conditions resulting from hazardous waste operations. The Support Zone shall be secured against active or passive contamination. Site offices, parking areas, and other support facilities shall be located in the Support Zone.

1.19.2 Site Control Log

A log of personnel visiting, entering, or working on the site shall be maintained. The log shall include the following: date, name, agency or company, time entering and exiting site, time entering and exiting the exclusion zone (if applicable), and personal protective equipment utilized. Before visitors are allowed to enter the Contamination Reduction Zone or Exclusion Zone, they shall show proof of current training, medical surveillance and respirator fit testing (if respirators are required for the tasks to be performed) and shall fill out the Certificate of Worker or Visitor Acknowledgment. This visitor information, including date, shall be recorded in the log.

1.19.3 Communication

An employee alarm system that has adequate means of on and off site communication shall be provided and installed in accordance with 29 CFR 1910 Section .165. The means of communication shall be able to be perceived above ambient noise or light levels by employees in the affected portions of the workplace. The signals shall be distinctive and recognizable as messages to evacuate or to perform critical operations. This includes: confined space entry and as determined by the SSHP.

1.19.4 Site Security

The following site security shall be provided: Signs shall be printed in bold large letters on contrasting backgrounds in English and/or where appropriate, in the predominant language of workers unable to read English. Signs shall be visible from all points where entry might occur and at such distances from the restricted area that employees may read the signs and take necessary protective steps before entering.

1.20 PERSONAL HYGIENE AND DECONTAMINATION

Personnel entering the Exclusion or Contamination Reduction Zones or otherwise exposed or subject to exposure to hazardous chemical vapors, liquids, or contaminated solids shall adhere to the following personal hygiene and decontamination provisions. Decontamination shall be performed in the CRZ prior to entering the Support Zone from the Exclusion Zone. Chapter 10.0 of NIOSH Pub No. 85-115 shall be consulted when preparing decontamination procedures. A detailed discussion of personal hygiene and decontamination facilities and procedures to be followed by site workers shall be submitted as part of the SSHP. Employees shall be trained in the procedures and the procedures shall be enforced throughout site operations.

Persons disregarding these provisions of the SSHP shall be barred from the site.

1.20.1 Decontamination Facilities

The following facilities shall be provided:

A personnel decontamination facility in the CRZ. This facility shall be used by both Contractor personnel and government representatives. The decontamination facility shall provide for separation of street clothing and contaminated PPE and shall be equipped with heating, lighting, ventilation, a change room and lockers, hot and cold water, shower facilities with hot and cold water, towels, soap in sufficient quantities for all anticipated personnel, and waste water storage facilities for controlling the disposal of used water. Laundry facilities or provisions of laundry service. If an off-site laundry service is used, they shall be notified, in writing, of the possibility and nature of contaminants expected on clothing.

1.20.2 Procedures

Minimum decontamination procedures are listed below. Available site information shall be reviewed and these procedures shall be expanded and/or revised for submittal as part of the SSHP.

1.21 EQUIPMENT DECONTAMINATION

Vehicles and equipment used in the EZ shall be decontaminated in the CRZ prior to leaving the site. The procedures for decontamination of vehicles and equipment shall be addressed in the SSHP.

1.21.1 Decontamination Facilities - Not Used

1.21.2 Procedures

Procedures for equipment decontamination shall be developed and utilized to prevent the spread of contamination into the SZ and off-site areas. These procedures shall address disposal of contaminated products and spent materials used on the site, including containers, fluids, oils, etc. Any item taken into the EZ shall be assumed to be contaminated and shall be inspected and/or decontaminated before the item leaves the area. Vehicles, equipment, and materials shall be cleaned and decontaminated prior to leaving the site. Construction material shall be handled in such a way as to minimize the potential for contaminants being spread and/or carried offsite. Prior to exiting the site, vehicles and equipment shall be monitored to ensure the adequacy of decontamination.

1.22 EMERGENCY EQUIPMENT AND FIRST AID REQUIREMENTS

The SSHP shall describe the emergency and first aid equipment to be available onsite. The following items, as a minimum, shall be maintained onsite and available for immediate use:

- a. First aid equipment and supplies approved by the consulting physician.
- b. Emergency eyewashes and showers which comply with ANSI Z358.1.

- c. Fire extinguishers with a minimum rating of 20-A:120-B:C shall be provided at site facilities and in all vehicles and at any other site locations where flammable or combustible materials present a fire risk.

1.23 EMERGENCY RESPONSE AND CONTINGENCY PROCEDURES

An Emergency Response Plan, that meets the requirements of 29 CFR 1910 Section .120 (1) and 29 CFR 1926 Section .65 (1), shall be developed and implemented as a section of the SSHP. In the event of any emergency associated with remedial action, the Contractor shall, without delay, alert all onsite employees that there is an emergency situation; take action to remove or otherwise minimize the cause of the emergency; alert the Contracting Officer; and institute measures necessary to prevent repetition of the conditions or actions leading to, or resulting in, the emergency. Employees that are required to respond to hazardous emergency situations shall be trained in how to respond to such expected emergencies. The plan shall be rehearsed regularly as part of the overall training program for site operations. The plan shall be reviewed periodically and revised as necessary to reflect new or changing site conditions or information. Copies of the accepted SSHP and revisions shall be provided to the affected local emergency response agencies. The following elements, as a minimum, shall be addressed in the plan:

- a. Pre-emergency planning. The local emergency response agencies shall be contacted and met with during preparation of the Emergency Response Plan. Agencies to be contacted include local fire, police, and rescue authorities with jurisdiction and nearby medical facilities that may be utilized for emergency treatment of injured personnel. At these meetings, the agencies shall be notified of upcoming site activities and potential emergency situations. The response agencies' capabilities shall be ascertained and written response commitments obtained. The Contractor shall ensure the Emergency Response Plan for the site is compatible and integrated with the disaster, fire and/or emergency response plans of local, state, and Federal agencies.
- b. Personnel roles, lines of authority, communications for emergencies.
- c. Emergency recognition and prevention.
- d. Site topography, layout, and prevailing weather conditions.
- e. Criteria and procedures for site evacuation (emergency alerting procedures, employee alarm system, emergency PPE and equipment, safe distances, places of refuge, evacuation routes, site security and control).
- f. Specific procedures for decontamination and medical treatment of injured personnel.
- g. Route maps to nearest prenotified medical facility. Site-support vehicles shall be equipped with maps. At the beginning of project operations, drivers of the support vehicles shall become familiar with the emergency route and the travel time required.

- h. Emergency alerting and response procedures including posted instructions and a list of names and telephone numbers of emergency contacts (physician, nearby medical facility, fire and police departments, ambulance service, Federal, state, and local environmental agencies; as well as Safety and Health Manager, the Site Superintendent, the Contracting Officer and/or their alternates).
- i. Criteria for initiating community alert program, contacts, and responsibilities.
- j. Procedures for reporting incidents to appropriate government agencies. In the event that an incident such as an explosion or fire, or a spill or release of toxic materials occurs during the course of the project, the appropriate government agencies shall be immediately notified. In addition, the Contracting Officer shall be verbally notified immediately and receive a written notification within 24 hours. The report shall include the following items:
 - (1) Name, organization, telephone number, and location of the Contractor.
 - (2) Name and title of the person(s) reporting.
 - (3) Date and time of the incident.
 - (4) Location of the incident, i.e., site location, facility name.
 - (5) Brief summary of the incident giving pertinent details including type of operation ongoing at the time of the incident.
 - (6) Cause of the incident, if known.
 - (7) Casualties (fatalities, disabling injuries).
 - (8) Details of any existing chemical hazard or contamination.
 - (9) Estimated property damage, if applicable.
 - (10) Nature of damage, effect on contract schedule.
 - (11) Action taken to ensure safety and security.
 - (12) Other damage or injuries sustained, public or private.
- k. Procedures for critique of emergency responses and follow-up.

1.24 CERTIFICATE OF WORKER/VISITOR ACKNOWLEDGEMENT

A copy of a Contractor-generated certificate of worker/visitor acknowledgement shall be completed and submitted for each visitor allowed to enter contamination reduction or exclusion zones, and for each employee, following the example certificate at the end of this section.

1.25 INSPECTIONS

The SSO shall perform daily inspections of the jobsite and the work in progress to ensure compliance with EM 385-1-1, the Safety and Health Program, the SSHP and other occupational health and safety requirements of the contract, and to determine the effectiveness of the SSHP. Procedures for correcting deficiencies (including actions, timetable and responsibilities) shall be described in the SSHP. Follow-up inspections to ensure correction of deficiencies shall be conducted and documented. Daily safety inspection logs shall be used to document the inspections, noting safety and health deficiencies, deficiencies in the effectiveness of the SSHP, and corrective actions taken. The SSO's Daily Inspection Logs shall be attached to and submitted with the Daily Quality Control reports. Each entry shall include the following: date, work area checked, employees present in work area, PPE and work equipment being used in each area, special safety and health issues and notes, and signature of preparer. In the event of an accident, the Contracting Officer shall be notified according to EM 385-1-1. Within 2 working days of any reportable accident, an Accident Report shall be completed on ENG Form 3394 and submitted.

1.26 SAFETY AND HEALTH PHASE-OUT REPORT

A Safety and Health Phase-Out Report shall be submitted within 10 working days following completion of the work, prior to final acceptance of the work. The following minimum information shall be included:

- a. Summary of the overall performance of safety and health (accidents or incidents including near misses, unusual events, lessons learned, etc.).
- b. Final decontamination documentation including procedures and techniques used to decontaminate equipment, vehicles, and on site facilities.
- c. Summary of exposure monitoring and air sampling accomplished during the project.
- d. Signatures of Safety and Health Manager and SSO.

EXAMPLE CERTIFICATE OF WORKER/VISITOR ACKNOWLEDGMENT

PROJECT NAME
PROJECT ADDRESS
CONTRACTOR'S NAME
[EMPLOYEE'S] [VISITOR'S] NAME

CONTRACT NO.

The contract for the above project requires the following: that you be provided with and complete formal and site-specific training; that you be supplied with proper personal protective equipment including respirators; that you be trained in its use; and that you receive a medical examination to evaluate your physical capacity to perform your assigned work tasks, under the environmental conditions expected, while wearing the required personal protective equipment. These things are to be done at no cost to you. By signing this certification, you are acknowledging that your employer has met these obligations to you.

I HAVE READ, UNDERSTAND AND AGREE TO FOLLOW THE SITE SAFETY AND HEALTH PLAN FOR THIS SITE.

Name

Date

FORMAL TRAINING: I have completed the following formal training courses that meet OSHA's requirements:

Date Completed

40 hour: _____
8 hour supervisory:..... _____
8 hour refresher:..... _____

SITE-SPECIFIC TRAINING: I have been provided and have completed the site-specific training required by this Contract. The Site Safety and Health Officer conducted the training.

RESPIRATORY PROTECTION: I have been trained in accordance with the criteria in [the Contractor's] my Employer's Respiratory Protection program. I have been trained in the proper work procedures and use and limitations of the respirator(s) I will wear. I have been trained in and will abide by the facial hair policy.

RESPIRATOR FIT-TEST TRAINING: I have been trained in the proper selection, fit, use, care, cleaning, and maintenance, and storage of the respirator(s) that I will wear. I have been fit-tested in accordance with the criteria in [the Contractor's] my employer's Respiratory Program and have received a satisfactory fit. I have been assigned my individual respirator. I have been taught how to properly perform positive and negative pressure fit-check upon donning negative pressure respirators each time.

MEDICAL EXAMINATION: I have had a medical examination within the last twelve months which was paid for by my employer. The examination included: health history, pulmonary function tests and may have included an evaluation of a chest ax-ray. A physician made determination regarding my physical capacity to perform work tasks on the project while wearing protective equipment including a respirator. I was personally provided a copy and informed of the results of that examination. My employer's industrial hygienist evaluated the medical certification provided by the physician and checked the appropriate blank below. The physician determined that there:

_____ were no limitations to performing the required work tasks;

_____ were identified physical limitations to performing the required work tasks.

Date medical exam completed _____

[Employee's] [Visitor's] Signature _____

Date _____

Printed Name _____

Social Security Number _____

Contractor's Site Safety and Health Officer Signature _____

Date _____

Printed Name _____

Social Security Number _____

**SECTION 02120
OFFSITE TRANSPORTATION AND DISPOSAL OF SOLID WASTE (NON-HAZARDOUS)**

PART 1 GENERAL

1.1 DESCRIPTION OF WORK

The work shall consist of transportation and final offsite disposal of waste materials from the six debris disposal areas from the subject sites under this contract. Transportation methods shall be proposed by the Contractor (including trucking, rail, etc. Final disposal can include landfilling, recycling, or destruction (e.g., incineration). The Contractor's selection of transportation and disposal methods shall be based on best value and shall be protective of human health and the environment.

Approximately 300,000 cubic yards (CY) of solid waste (soil, wood, concrete, metal, etc.) will require handling/disposal. Contamination summaries and test pit logs are attached. No hazardous waste shall be handled by the Contractor.

The Contractor may subcontract portions of the scope of work provided that the work is within the subcontractor's main field of specialization.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

CODE OF FEDERAL REGULATIONS (CFR)

MASSACHUSETTS REGULATIONS

1.3 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES. Detailed information required to be submitted with Bid shall have the designation "B". Contractor shall provide supporting information showing methods proposed to comply with the specifications.

Schedule; GA, B

The Contractor shall provide a schedule to the Contracting Officer that details the loading, transport, and final disposal of solid wastes from the sites designated under this contract. The schedule shall include an estimate of the rate (CY/day) at which the solid waste can be transported from the subject sites.

Solid Waste Transportation and Management Plan; GA, B

The Contractor shall provide a detailed Solid Waste Transportation and Management Plan to the Contracting Officer that describes the procedures and safety precautions for the loading (by others), transport, and final offsite

disposal of solid wastes from the sites designated under this contract. The plan shall identify the following:

- method to be used to ensure accurate piece counts and/or weights of shipments;
- what methods of transportation will be used (truck or rail);
- proposed transportation routes;
- whether transfer facilities are to be utilized; and if so, how the wastes will be tracked to ultimate disposal;
- facilities to be utilized for destruction, recycling, and/or disposal of wastes;
- what safety precautions will be taken at each stage of the project; and
- itemized list of the total project costs.

The Plan shall also provide details regarding subcontractors and the intended Treatment, Storage, Disposal (TSD) Facility or Facilities, including facility name(s), location(s), point(s) of contact, and phone number(s). The Plan shall include written assurances from the TSD Facility that the types and quantities of solid waste will be accepted. The Contractor shall provide evidence of ability to obtain the required licenses and permits for this project.

Recordkeeping; FIO

Information necessary to file state annual or EPA biennial reports for all solid waste transported, recycled, stored, destroyed, or disposed of under this contract. The Contractor shall not forward these data directly to any regulatory agency, but to the Contracting Officer at the specified time. The submittal shall contain all the information necessary for filing of the formal reports in the form and format required by the governing Federal or State regulatory agency. A cover letter shall accompany the data to include the contract number, Contractor name, and project location.

Contractor Statement of Qualifications; GA, B

Demonstration of successful past experience for conducting similar projects. The Contractor shall provide a summary of capabilities; one-page summaries of at least five past similar projects; copies of resumes from the Contractor's primary Point of Contact for the Contracting Officer as well as resumes from other key contractor and subcontractor personnel; and copies of the current certificates of registration issued to the Contractor and/or subcontractors or written statements certifying exemption from these requirements.

TSD Facility Statement of Qualifications; GA, B

In addition to the written assurance from the TSD Facility in the Solid Waste Transportation and Management Plan, the Contractor shall provide evidence of the TSD Facility's (or Facilities') ability to accept and manage the waste materials. This shall include the following:

- details regarding the landfill's (if chosen) siting, design, construction, and long-term operation and maintenance plan including what level or concentration of contaminants can be accepted in relation to the contaminants of concern for this project;
- details regarding the recycling facility's (if chosen) methods;
- TSD Facility's remaining available capacity;

- the volume of waste that can be accepted per day;
- frequencies of federal or state reviews/inspections whether the facility has had past violations or fines;
- the TSD Facility's assets vs. liabilities, future earning power, existing and future contracts, and business plan;
- the TSD Facility's regulatory relationships, history of violations/inspections, and terms of license; and
- the TSD Facility's closure plan.

Offsite Policy Compliance Certification; GA

Letters certifying that EPA and the State consider the facilities to be used for all offsite disposal of solid wastes to be acceptable in accordance with Massachusetts Department of Environmental Protection.

Certificates of Disposal; FIO

Certificates documenting the ultimate disposal of solid wastes within 45 calendar days of initial shipment. Receipt of these certificates will be required for final payment.

Exception Reports; GA

In the event that a manifest copy documenting receipt of solid waste at the treatment, storage, and disposal facility is not received within 35 calendar days of shipment initiation, the Contractor shall prepare and submit an exception report to the Contracting Officer within 37 calendar days of shipment initiation.

Notices of Non-Compliance and Notices of Violation; FIO, B

Notices of non-compliance or notices of violation by a Federal, State, or local regulatory agency issued to the Contractor in relation to any work performed under this contract. The Contractor shall immediately provide copies of such notices to the Contracting Officer. The Contractor shall also furnish all relevant documents regarding the incident and any information requested by the Contracting Officer, and shall coordinate its response to the notice with the Contracting Officer or his designated representative prior to submission to the notifying authority. The Contractor shall also furnish a copy to the Contracting Officer of all documents submitted to the regulatory authority, including the final reply to the notice, and all other materials, until the matter is resolved.

1.4 QUALIFICATIONS

1.4.1 Transportation and Disposal Coordinator; B

The Contractor shall designate, by position and title, one person to act as the Transportation and Disposal Coordinator (TDC) for this contract. The TDC shall serve as the single point of contact for all environmental regulatory matters and shall have overall responsibility for total environmental compliance at the site including but not limited to accurate identification and classification of wastes; determination of proper shipping names; identification of marking, labeling, packaging and placarding requirements; completion of waste profiles, waste manifests,

exception and discrepancy reports; and all other environmental documentation. The TDC shall have, at a minimum, 1 year of specialized experience in the management and transportation of solid wastes.

1.4.2 Training

The Contractor's and subcontractor's employees shall be trained, tested, and certified to safely and effectively carry out their assigned duties in accordance with Section 01351 SAFETY, HEALTH, AND EMERGENCY RESPONSE. Please note that the actual development of the Site Safety and Health Plan will be by others.

1.4.3 Certification

The Contractor and subcontractors transporting solid wastes shall possess a current and valid license to transport solid wastes. The TSD Facility shall possess a current and valid license to destroy, recycle, or dispose solid wastes.

1.5 LAWS AND REGULATIONS REQUIREMENTS; B

Work shall meet or exceed the minimum requirements established by Federal, State, and local laws and regulations that are applicable or relevant and appropriate. These requirements are amended frequently and the Contractor shall be responsible for complying with amendments as they become effective. In the event that compliance exceeds the scope of work or conflicts with specific requirements of the contract, the Contractor shall notify the Contracting Officer immediately.

1.6 DEFINITIONS

a. Facility. An established site or works, and other appurtenances thereto, which is, has been or will be used for the handling, storage, transfer, processing, treatment, or disposal of solid waste including all land, structures, and improvements that are directly related to solid waste activities.

b. Landfill. A facility or part of a facility established in accordance with a valid site assignment for the disposal of solid waste into or on land.

c. Solid Waste (or Waste). Discarded solid, liquid, or contained gaseous material resulting from industrial, commercial, mining, agricultural, municipal, or household activities. Does not include hazardous wastes (as defined and regulated pursuant to 310 CMR 30.000); sludge or septage; waste water treatment facility residuals and sludge ash; septage and sewage; ash produced from the combustion of coal; solid or dissolved materials in irrigation return flows; source, special nuclear, or by-product material (as defined by the Atomic Energy Act of 1954, as amended); those materials and by-products generated from and reused within an original manufacturing process; and compostable or recyclable materials when composted or recycled in an operation not required to be assigned pursuant to 310 CMR 16.05(2) through (5).

d. Transfer Station. A handling facility where solid waste is brought, stored, and transferred from one vehicle or container to another vehicle or

container for transport offsite to a solid waste treatment, processing, or disposal facility.

PART 2 PRODUCTS

2.1 MATERIALS

The Contractor shall provide all of the materials required for the placarding and transportation of solid waste in conformance with Department of Transportation standards. Details in this specification shall not be construed as establishing the limits of the Contractor's responsibility.

2.1.1 Placards

For each offsite shipment of solid waste, the Contractor shall provide primary and subsidiary placards. Placards shall be provided for each side and each end of bulk packaging, freight containers, transport vehicles, and rail cars requiring such placarding. Placards may be plastic, metal, or other material capable of withstanding, without deterioration, a 30-day exposure to open weather conditions.

2.1.2 Spill Response Materials

The Contractor shall provide spill response materials including, but not limited to: containers, adsorbent, shovels, and personal protective equipment. Spill response materials shall be available at all times in which wastes are being handled or transported. Spill response materials shall be compatible with the type of material being handled.

2.2 EQUIPMENT AND TOOLS

The Contractor shall provide miscellaneous equipment and tools necessary to handle solid wastes in a safe and environmentally sound manner.

PART 3 EXECUTION

3.1 ONSITE WASTE MANAGEMENT (LOADING)

A minimum 7500 cy of solid waste debris will be made available for the contractor to load and haul on a weekly basis. The 7500 cy may be available from one or more of the six sites. Debris stock-pile shall be available within 1000-ft of the debris disposal area.

The Contractor shall only use containers in good condition and compatible with the waste to be stored. The Contractor shall be responsible for ensuring containers are closed except when adding or removing waste. The Contractor shall be responsible for inspecting containers for signs of deterioration and shall be responsible for responding to any spills or leaks. The Contractor shall inspect all waste areas weekly and shall provide written documentation of the inspection. Inspection logs will contain date and time of inspection, name of individual conducting the inspection, problems noted, and corrective actions taken.

3.1.1 Waste Classification

Waste profiles and analyses shall be provided to the Contractor by the Contracting Officer prior to loading. No hazardous waste shall be handled by the Contractor.

3.1.2 Management Plan

The Contractor shall prepare a plan detailing the manner in which solid wastes shall be managed. Requirements of the plan are outlined in Section 1.3 of this specification.

3.2 OFFSITE WASTE MANAGEMENT (TRANSPORTATION); B

The Contractor shall ensure the proper transport of solid wastes from the subject sites to an approved TSD Facility. Based on the best value, the Contractor may select the form of transportation such as trucking or use of rail.

3.2.1 Description of Transporter

The Contractor shall provide the Contracting Officer with names, locations, and telephone numbers of waste transporters. This information shall be contained in the Solid Waste Transportation and Management Plan for approval prior to waste loading.

3.2.2 Packagings Certification - Not Used

3.2.3 Transportation

The transporter shall expeditiously transport all shipments of solid waste to the facility designated in the approved plan. The transporter shall report delays of more than 24 hours to the Contracting Officer.

The transporter shall not unload any solid waste from the vehicle between the site and the disposal facility unless a vehicle breakdown requires the transfer of the solid waste to another authorized vehicle for the purpose of continuing transportation; or the solid waste is unloaded from the vehicle and is transferred directly to another authorized vehicle at a facility which has a condition in its license that allows such transfers for the particular wastes being transported.

3.2.4 Destination of Solid Wastes

The wastes shall be transported to an approved solid waste recycling or TSD facility within 30 days of loading. The Contractor shall ship solid wastes only to facilities that are properly permitted to accept the waste or operating under interim status. The Contractor shall propose TSD Facilities via submission of the Solid Waste Transportation and Management Plan, subject to the approval of the Contracting Officer.

3.2.5 Shipping Documents

The Contractor shall ensure that each shipment of solid waste sent offsite is accompanied by properly completed shipping documents.

3.2.6 Spill Response

The Contractor shall respond to any spill or release of solid wastes that are in the custody or care of the Contractor pursuant to this contract. Any direction from the Contracting Officer concerning a spill or release shall not be considered a change under the contract. The Contractor shall comply with all applicable requirements of Federal, State, or local laws or regulations regarding any spill incident.

The transporter shall take appropriate immediate action to protect public health, safety, and welfare and the environment and shall notify the Contracting Officer, in the event of a release of solid waste in transit. The transporter shall clean up, or cause to be cleaned up, any release or discharge of solid waste that occurs during transportation such that the material no longer presents a hazard to public health, safety, or welfare or the environment.

3.3 OFFSITE WASTE DISPOSAL; B

Based on best value, the Contractor may select an approved, licensed facility for the destruction, recycling, or disposal of the wastes. If disposal is chosen, then the Contractor shall use Resource Conservation and Recovery Act (RCRA) Subtitle D permitted facilities. Offsite TSD Facilities with significant RCRA violations or compliance problems shall not be used. If destruction (e.g., incineration) or recycling is selected, then the Contractor shall ensure that the facility has been approved by the Massachusetts Department of Environmental Protection, or if the waste is to be transported out-of-state, the waste treatment facility has been approved by the appropriate regulatory agency in that state.

3.3.1 Description of TSD Facility

The Contractor shall provide the Contracting Officer with names, locations, and telephone numbers of intended TSD Facilities. This information shall be contained in the Solid Waste Transportation and Management Plan for approval prior to waste disposal.

3.3.2 Status of the TSD Facility

Facilities receiving solid wastes must be permitted in accordance with Massachusetts Department of Environmental Protection minimum standards. Additionally, prior to using a TSD Facility, the Contractor shall contact the EPA Regional Offsite Coordinator and the appropriate State environmental agency to determine the facility's status and document all information necessary to satisfy the requirements of the EPA Offsite policy and furnish this information to the Contracting Officer.

3.3.3 Destruction, Recycling, or Disposal of Solid Wastes

The wastes shall be transported to an approved solid waste destruction (e.g., incineration), recycling, or disposal facility within 30 days of the accumulation start date on each container. The Contractor shall transport wastes only to facilities that are properly permitted to accept the waste or operating under interim status. The Contractor shall propose TSD Facilities via submission of the Solid Waste Transportation and Management Plan, subject to the approval of the Contracting Officer.

3.3.4 Disposal Documents

The Contractor shall ensure that each shipment of solid waste to a recycling or TSD Facility is documented. The Contractor shall provide a copy of all documents to the Contracting Officer.

3.4 RECORDKEEPING

The Contracting Officer shall designate on the manifest the address of the site to which the waste is to be delivered and sign it. The Contractor, or a transportation agent of the Contractor, shall sign the manifest to indicate that the transporter has received the waste and will comply with the Contracting Officer's transportation instructions. When the waste arrives at the approved offsite disposal facility, and has been disposed of, the disposal facility owner or agent of the owner shall sign the manifest and return the original to the Contracting Officer.

The Contractor shall be responsible for maintaining adequate records to support information provided to the Contracting Officer regarding exception reports, annual reports, and biennial reports.



ABB Environmental Services, Inc

511 Congress Street / P.O. Box 7050 Portland, Maine 04112
(207) 775-5401

MEMORANDUM

TO: Mark R. Applebee, CENED
DATE: June 11, 1997
FROM: Mark Stelmack *MS*
SUBJECT: Devens Landfill Remediation (ESPS 002)
Test Excavation Summaries

As you requested on May 22, 1997, attached are summaries of test excavations performed at the seven waste disposal sites being evaluated under ESPS 002. Included with the written summaries are excavation logs and a plan of each of the seven sites. The plans show the location of the test excavations.

If you have any questions about the summaries, please call me at 207-828-3592.

cc: James C. Chambers, BRAC/BEC

SA 6.

No. of test excavation locations: Six, excavated on 8/25/94.

Excavation depth range: Zero to 8.5 feet below ground surface (bgs).

Observed waste depth: Zero to 7.0 feet bgs.

Amount of waste below water table: None noted.

Volume of excavated debris/soil: 65 cu.yds. (13% of total estimated debris/soil volume).

Type of waste observed: Household refuse (e.g., glass bottles, bedsprings, shoe and boot remains) mixed with soil. No visual indication of burning of refuse. No visual indication of hazardous or potentially hazardous waste.

For more site information: (1) *Archaeological Monitoring, Study Area No. 6, South Post, Fort Devens, Massachusetts*, prepared by The Public Archaeology Laboratory, Inc. September 1994 (revised), and (2) *Landfill Study Data Package, Fort Devens, Massachusetts*, prepared by ABB Environmental Services, Inc. for USACE, December 23, 1994.

AOC 9.

No. of test excavation locations: A total of thirty, excavated on three occasions: four excavated on 7/7/92; four additional trenches excavated on 8/24/94; and twenty-two more excavated by SEA Consultants on 5/2/96 and 5/3/96.

Excavation depth range: Zero to 9 feet bgs on 7/7/92 with no water encountered; zero to 10 feet bgs on 8/24/94, with water table observed from 4.5 to 9.5 feet bgs; zero to 25 feet bgs, with water table observed from 3 to 16 feet bgs, in May 1996.

Observed waste depth: Zero to 24 feet bgs overall.

Amount of waste below water table: Approximately 10% of total estimated waste volume, using September 1992 groundwater table elevations.

Volume of excavated debris/soil: 605 cu.yds. (0.5% of total estimated debris/soil volume).

Type of waste observed: Generally, demolition debris and solid waste (i.e., wood, concrete, asphalt, metal, brick, plastic, glass, and tree stumps), mixed with soil. Perched water was encountered in most of the test pits. Groundwater table was observed in two test pits at about elevation 205.

A "petroleum odor" was noted on the perched water table at SEA test pit No. 103. At SEA test pit No. 112, numerous 5-gallon pails of oil and transmission fluid were noted; excavation was halted at a depth of six feet due to "presence of sheen on water in pit and strong odor".

For further site information: Revised Final Site Investigation Report, Fort Devens, Groups 3, 5, and 6, prepared by ABB Environmental Services, Inc., January 1996.

AOC 11.

No. of test excavation locations: A total of twelve, by Arthur D. Little, Inc. Six test pits were excavated during the 1993 SI. Six additional test pits were excavated from 8/12/94 to 8/15/94, during the RI. Only the RI test excavation logs are attached to this memo.

Excavation depth range: Zero to 16 feet bgs.

Observed waste depth: Zero to 16 feet bgs.

Amount of waste below water table: Approximately 20% of total estimated waste volume, based on water table observations made in August 1994.

Volume of excavated debris/soil: 114 cu. yds (0.3% of total estimated debris/soil volume).

Type of waste observed: Demolition debris, including wood, concrete, metal pipes, scrap metal, wire, tiles, and glass. No visual indication of hazardous or potentially hazardous waste.

For more site information: Draft Remedial Investigation Report, AOC-11, Fort Devens, Massachusetts, prepared by Arthur D. Little, Inc., April 1995.

SA 12.

No. of test trenches: Five, excavated on 8/18/94.

Excavation depth range: Zero to ten feet bgs.

Observed waste depth: Zero to six feet bgs.

Amount of waste below water table: None noted.

Volume of excavated debris/soil: 28 cu. yds. (0.3% of total estimated debris/soil volume).

Type of waste observed: Demolition debris and brush (i.e., wood, concrete, bricks, steel cable, rebars, plastic sheeting, asphalt roofing tiles, leaves, wood ash), mixed with soil.

No visual indication of hazardous or potentially hazardous waste.

For more site information: Revised Final Groups 2 & 7 Site Investigation Report, Fort Devens, Massachusetts, prepared by ABB Environmental Services, Inc., October 1995.

SA 13.

No. of test trenches: Six, excavated on 8/23/94.

Excavation depth range: Zero to 12 feet bgs.

Observed waste depth: Zero to 12 feet bgs.

Amount of waste below water table: None noted.

Volume of excavated debris/soil: 157 cu. yds. (1.5% of total estimated debris/soil volume).

Type of waste observed: Demolition debris (i.e., wood, concrete, bricks, steel cable, sheet metal) mixed with soil. No visual indication of hazardous or potentially hazardous waste.

For more site information: Revised Final Groups 2 & 7 Site Investigation Report, Fort Devens, Massachusetts, prepared by ABB Environment Services, Inc., October 1995.

AOC 40.

No. of test trenches: Eight, excavated by SEA Consultants, Inc. on May 1, 1996.

Excavation depth range: Zero to 26 feet bgs.

Observed waste depth: Zero to 26 feet bgs.

Amount of waste below water table: Approximately 30% of total estimated debris volume, based on groundwater table elevation of 244 observed by SEA.

Volume of excavated debris/soil: 1,887 cu. yds. (1.7% of total estimated debris/soil volume).

Type of waste observed: Demolition debris (i.e., lumber, pieces of asphalt and reinforced concrete, bricks, wire, plastic, and piping) and tree stumps/logs mixed with soil. In November 1987, fourteen 55-gallon drums were observed along the edge of AOC 40 at Cold Spring Brook Pond. The original contents of several of the drums was determined to be antifreeze. Apparently, the drums were painted yellow and reused prior to disposal at AOC 40. No indication of hazardous or potentially hazardous wastes were noted during the RI investigation or during test excavations by SEA.

For more site information: Final Remedial Investigations Report for Areas of Contamination 4, 5, 18, and 40, Fort Devens, Massachusetts, prepared by Ecology and Environment, Inc., April 1993.

AOC 41.

No. of test trenches: Three, excavated on 10/4 and 10/5/94.

Excavation depth range: Zero to 11 feet bgs.

Observed waste depth: Waste observed only on ground surface.

Amount of waste below water table: None.

Volume of excavated debris:/soil: 37 cu. yds. (2.4% of total estimated debris/soil volume).

Type of waste observed: Beverage cans, glass bottles, car parts, charred wood pieces.

No indication of hazardous or potentially hazardous waste was noted.

For more site information: Final Remedial Investigation Report, Area of Contamination 41, Fort Devens, Massachusetts, prepared by ABB Environmental Services, Inc., February 1996.

AOC 9
Summary of Human Health Risk Information
Devens, MA

Analyte	No of Different Locations Sampled	Frequency of Detection	Maximum Concentration (µg/g)	Average Concentration (µg/g)	Background Concentration (µg/g)	Screening Health Standard (Region III RBC) (µg/g)	Site Specific Health Standard (MCP 8.2) (µg/g)	No of Sample Locations where Site Specific Health Standard is Exceeded
Surface Soil								
Arsenic	2	2/2	20	19	21	0.97 ¹	30	0
Sediment								
Arsenic	3	3/3	14	7.6	NA	0.97 ¹	30	0
Subsurface Soil								
Arsenic	3	7/7	21	16	21	1.6 ²	30	0
Beryllium	3	3/7	1	0.64	0.347	0.67 ²	0.8	3
Benzo(a)anthracene	3	3/7	40	7.04	NA	2.7 ²	0.7	3
Benzo(a)pyrene	3	2/7	40	7.48	NA	0.39 ²	0.7	2
Benzo(b)fluoranthene	3	2/7	40	7.4	NA	3.2 ²	0.7	2
Benzo(g,h,i)perylene	3	2/7	20	4.34	NA	18 ²	30	0
Benzo(k)fluoranthene	3	3/7	30	4.9	NA	7.4 ²	0.7	3
Indeno(1,2,3-cd)pyrene	3	2/7	20	4.54	NA	1.4 ²	0.7	2

1. Region III Residential Soil Risk Based Concentration (RBC)

2. Region III Commercial/Industrial Soil RBC

This table is a summary of the Preliminary Risk Evaluation presented in the January 1996 Final SI Report.

(µg/g) = micrograms per gram

MCP = Massachusetts Contingency Plan

AOC 9
Summary of Human Health Risk Information
Devens, MA

Analyte	No of Different Locations Sampled	Frequency of Detection	Maximum Concentration (µg/L)	Average Concentration (µg/L)	Background Concentration (µg/L)	MCL (µg/L)	Massachusetts Drinking Water Standards (µg/L)	Region III Tap Water Standard (µg/L)	MCP GW-3 (µg/L)
Groundwater									
Aluminum	5 ¹	10/10	70400	20000	6870	50-200	50-200	37000	NA
Arsenic	5 ¹	10/10	220	78.76	10.5	50	50	0.045	400
Chromium (total)	5 ¹	9/10	1040	155	14.7	100	100	37000	2000
Cobalt	5 ¹	5/10	93.7	35.2	25	NA	NA	2200	NA
Iron	5 ¹	10/10	90000	32767	9100	300	300	11000	NA
Lead	5 ¹	10/10	81.3	25.5	4.25	15	15	NA	30
Manganese	5 ¹	10/10	3270	1144	291	50	50	640	NA
Nickel	5 ¹	6/10	369	104	34.3	100	100	730	60
Surface Water									
Bis(2-ethylhexyl)phthalate	3	1/3	6.8	3.67	NA	6	NA	NA	30
Iron	3	3/3	5460	3133	NA	300	300	11000	NA

1. Two rounds sampled for each well

This table is a summary of the Preliminary Risk Evaluation data presented in the January 1996 Final SI Report.

(µg/L) = micrograms per liter

MCP = Massachusetts Contingency Plan

MCL = maximum contaminant level

AOC 9
Summary of Ecological Risk Information
Devens, MA

Analyte	Number of Different Locations Sampled	Frequency of Detections	Maximum Concentration ($\mu\text{g/g}$)	Average Concentration ($\mu\text{g/g}$)	Background Concentration ($\mu\text{g/g}$)	Ecological Benchmark ($\mu\text{g/g}$)	Number of Sample Locations Where Ecological Benchmark is Exceeded
Surface Soil							
Lead	2	2/2	81	44	34.4	48.4	1
Sediment							
Arsenic	3	3/3	14	7.6	NA	5	2
Lead	3	3/3	48	27	NA	27	1

This table is a summary of the ecological risk data as reported in the January 1996 Revised Final Site Investigation Report, Data Item A009. Ecological Benchmark is a combination of State and Federal Standards and guidance values intended to be protective of aquatic and semi-terrestrial receptors. The ecological benchmarks for sediment analytes were derived as the lowest of available criteria and other guidance values. These values were used for the purpose of eliminating areas and/or analytes that do not represent an ecological risk. Conversely, the exceedance of these conservative screening values does not necessarily imply that ecological impacts will occur, because they are not based on the site-specific attributes that determine exposure and toxicological response (e.g., sensitivity of resident organisms).
 $\mu\text{g/g}$ = micrograms per gram

AOC 9
Summary of Ecological Risk Information
Devens, MA

Analyte	Number of Different Locations Sampled	Frequency of Detection	Maximum Concentration (µg/L)	Average Concentration (µg/L)	Background Concentration (µg/L)	MCL (µg/L)	Massachusetts Drinking Water Standards (µg/L)	Ecological Benchmark (µg/L)	Number of Sample Locations Where Ecological Benchmark is Exceeded
Surface Water									
Aluminum	3	1/3	123	123	733	50-200	50-200	87	1
Iron	3	3/3	5460	3133	1630	300	300	1000	3
Lead	3	3/3	2.3	2.3	8.68	15	15	1.4	3

This table is a summary of the ecological risk data as reported in the January 1996 Revised Final Site Investigation Report, Data Item A009.
 Ecological Benchmark is a combination of State and Federal Standards and guidance values intended to be protective of aquatic and semi-terrestrial receptors.
 µg/L = micrograms per liter
 MCL = maximum contaminant level

AOC 11
Summary of Human Health Risk Information
Devens, MA

Analyte	No of Different Locations Sampled	Frequency of Detection	Maximum Concentration (µg/g)	Average Concentration (µg/g)	Background Concentration (µg/g)	Screening Health Standard (Region III RBC) (µg/g)	Site Specific Health Standard (MCP S-2) (µg/g)	No of Sample Locations where Site Specific Health Standard is Exceeded
Surface Soil								
Benzo(a)anthracene	16	4/16	12	2.3	NA	0.88	1	7
Benzo(a)pyrene	16	4/16	8.3	1.2	NA	0.088	0.7	4
Benzo(b)fluoranthene	16	13/16	12.0	2.7	NA	0.88	1	9
Dibenzo(a,h)anthracene	16	1/16	0.670	0.042	NA	0.088	0.7	0
Phenanthrene	16	14/16	11	1.8	NA	NA	100	0
4,4' - DDT	16	15/16	8	1.4	5.60	1.9	2	2
Chlordane	16	3/16	0.279	0.032	0.136	1.8	2	0
Arsenic	16	16/16	22.9	13.7	19.0	0.43	30	0
Cadmium	16	3/16	4.5	0.6	1.28	39	80	0
Chromium	16	16/16	78.1	24.2	33.0	78000	2500	0
Manganese	16	16/16	407	193	380	1800	NA	NA
Mercury	16	14/16	6.5	1.2	0.11	23	60	0
Vanadium	16	16/16	27.4	16.1	32.3	550	2000	0
Sediment								
Benzo(a)anthracene	15	8/15	1.8	0.43	0.32	0.88	1	2
Benzo(b)fluoranthene	15	1/15	2.5	0.17	NA	0.88	1	1
Bis(2-ethylhexyl)phthalate	15	5/15	70.0	5.3	1.60	46	300	0
PCB - 1016	15	2/15	1.08	0.11	NA	5.5	NA	NA
PCB - 1254	15	3/15	0.837	0.11	NA	1.6	NA	NA
PCB - 1260	15	2/15	1.18	0.10	NA	NA	NA	NA
Antimony	15	1/15	163	10.9	NA	31	40	1
Arsenic	15	11/15	61.1	18.1	3.06	0.43	30	4
Beryllium	15	1/15	1.96	0.13	NA	0.15	0.8	1
Cadmium	15	13/15	303	41.2	117	39	80	1
Chromium	15	15/15	435	111	102	78000	2500	0
Manganese	15	12/15	512	147	142	1800	NA	NA
Mercury	15	15/15	11.0	2.7	2.52	23	60	0
Vanadium	15	15/15	69.2	28.8	44.5	550	2000	0
Zinc	15	15/15	2155	563	716	23000	2500	0
Subsurface Soil								
Arsenic	13	25/26	230	28.4	NA	0.43	30	3
Barium	13	26/26	205	56.1	NA	5500	2500	0
Beryllium	13	1/26	0.828	0.032	NA	0.15	0.8	1
Copper	13	21/26	3300	140	NA	270000	NA	NA
Iron	13	26/26	43200	15000	NA	23000	NA	NA
Dieldrin	13	10/26	0.0580	0.011	NA	0.04	0.04	2
DDT	13	19/26	2.80	0.7	NA	1.9	2	2
Benzo(a)anthracene	13	13/26	6.00	1.5	NA	0.88	1	9
Benzo(b)fluoranthene	13	5/26	5.60	0.61	NA	0.88	1	5

AOC 11
Summary of Human Health Risk Information
Devens, MA

Analyte	No of Different Locations Sampled	Frequency of Detection	Maximum Concentration (µg/L)	Average Concentration (µg/L)	Background Concentration (µg/L)	MCL (µg/L)	Massachusetts Drinking Water Standard (µg/L)	Region III Tap Water Standard (µg/L)	MCP GW-3 (µg/L)
Groundwater¹									
Arsenic	5	8/10	260	81.1	NA	50	50	0.045	400
Beryllium	5	4/10	6.14	1.5	NA	4	4	0.016	50
Iron	5	10/10	56900	18000	NA	300	300	11000	NA
Manganese	5	10/10	6090	1800	NA	50	50	840	NA
Bis(2-ethylhexyl)phthalate	5	1/10	25	2.5	NA	6	NA	4.8	30
Surface Water									
Bis(2-ethylhexyl)phthalate	15	3/15	73.0	8.7	NA	6	NA	4.8	30
Antimony	15	3/15	155	20.7	NA	6	6	15	300
Arsenic	15	11/15	75.6	17.5	12.1	50	50	0.045	400
Barium	15	15/15	2730	270	360	2000	2000	2600	30000
Beryllium	15	7/15	7.77	1.64	NA	4	4	0.016	50
Cadmium	15	6/15	147	22.9	42.8	5	5	18	10
Chromium	15	7/15	301	50.2	68.2	100	100	37000	2000
Manganese	15	15/15	2090	527	255	50	50	840	NA
Silver	15	3/15	78.7	8.46	NA	100	100	180	7
Vanadium	15	4/15	127	18.9	43.9	NA	NA	260	2000
Zinc	15	10/15	12000	1500	392	55	5000	11000	900

1. 5 wells sampled in 2 rounds.

This table is a summary of the Human Health Risk Assessment presented in the April 1995 Draft RI Report.

(µg/g) = micrograms per gram

(µg/L) = micrograms per liter

RBC = risk based concentrations

MCP = Massachusetts Contingency Plan

MCL = maximum contaminant level

AOC 11
Summary of Ecological Risk Information
Devens, MA

Analyte	Number of Different Locations Sampled	Frequency of Detection	Maximum Concentration (µg/g)	Average Concentration (µg/g)	Background Concentration (µg/g)	Screening Criteria (µg/g)	Number of Sample Locations Where Ecological Benchmark is Exceeded
Surface Soils							
Barium	16	16/16	131	43.3	54	41	3
Cadmium	16	3/16	4.5	1.08	1.28	0.44	3
Copper	16	16/16	49.8	18.9	13.5	28	3
Iron	16	16/16	18300	14200	18000	NA	NA
Calcium	16	16/16	3900	2140	810	NA	NA
Lead	16	16/16	2000	482	48	4	16
Mercury	16	14/16	6.5	1	0.11	3.6	1
Isodrin	16	1/16	0.00616	0.00179	NA	NA	NA
ppDDT	16	15/16	8	1.03	5.6	1.07	5
Benzo (a) anthracene	16	14/16	12	2.25	NA	8.9	1
Benzo (a) pyrene	16	4/16	8.3	1.71	NA	5.5	1
1,1,1-Trichloroethane	16	3/16	0.36	0.133	NA	NA	NA
Total Petroleum Hydrocarbons	16	14/16	1400	771	NA	NA	NA
Wetland Soils (Northern and Southern Sediments)							
Aluminum	10	10/10	22400	14260	NA	1700	10
Arsenic	10	9/10	61.1	21.7	NA	5	8
Calcium	10	10/10	14900	9940	NA	NA	NA
Chromium	10	10/10	171	88	NA	28	10
Copper	10	10/10	296	117	NA	18	10
Iron	10	10/10	94200	26100	NA	2000	10
Lead	10	10/10	930	337	NA	4	10
Magnesium	10	10/10	3050	2135	NA	NA	NA
Mercury	10	10/10	3.4	2.04	NA	0.11	10
Nickel	10	6/10	28.5	13.9	NA	16	5
Potassium	10	5/10	1530	595	NA	NA	NA
Selenium	10	3/10	5.45	1.4	NA	0.48	3
Silver	10	1/10	5.4	0.54	NA	1	1
Sodium	10	7/10	587	280	NA	NA	NA
Zinc	10	10/10	2180	683	NA	85	10
Dieldrin	10	5/10	0.047	0.012	NA	0.00002	4
Endosulfan II	10	2/10	0.0323	0.0045	NA	0.003	2
ppDDE	10	9/10	0.624	0.243	NA	0.002	9
ppDDD	10	10/10	2.3	0.9	NA	0.002	9
ppDDT	10	4/10	0.299	0.09	NA	0.001	5
Benzo (a) Anthracene	10	4/10	1.15	0.28	NA	0.23	4
Fluoranthene	10	5/10	1.7	0.43	NA	0.6	4
Phenanthrene	10	6/10	2.1	0.55	NA	0.225	5
Pyrene	10	6/10	3.3	0.9	NA	0.35	6
Total Petroleum Hydrocarbons	10	10/10	2100	876	NA	NA	NA

AOC 11
Summary of Ecological Risk Information
Devens, MA

Analyte	Number of Different Locations Sampled	Frequency of Detection	Maximum Concentration (µg/g)	Average Concentration (µg/g)	Background Concentration (µg/g)	Screening Criteria (µg/g)	Number of Sample Locations Where Ecological Benchmark is Exceeded
Nashua River Sediment							
Aluminum	5	5/5	24100	13922	10500	1700	5
Antimony	5	1/5	163	32.6	NA	2	1
Arsenic	5	5/5	20.5	11	26	5	4
Barium	5	5/5	659	216.3	26.2	41	4
Beryllium	5	1/5	1.96	0.39	NA	0.88	1
Cadmium	5	5/5	303	71.9	0.5	0.44	5
Calcium	5	5/5	4710	2468	1100	NA	NA
Chromium	5	5/5	435	157	15.9	28	4
Copper	5	5/5	470	200	14.3	16	5
Iron	5	5/5	21300	16560	7900	2000	5
Lead	5	5/5	760	299	12.5	4	5
Magnesium	5	5/5	3390	2618	3100	NA	NA
Manganese	5	5/5	512	253	600	428	1
Mercury	5	5/5	11	4.15	0.05	0.11	5
Nickel	5	5/5	45.7	20.52	18.6	16	3
Potassium	5	5/5	1980	1236	292	NA	NA
Selenium	5	1/5	28.1	5.62	0.2	0.48	1
Silver	5	4/5	19.2	8.0	0.2	1	4
Sodium	5	5/5	250	179	289	NA	NA
Vanadium	5	5/5	69.2	29.4	13.3	10	5
Zinc	5	5/5	724	361	55.6	65	4
Dieldrin	5	2/5	0.0333	0.009	NA	0.00002	2
Endosulfan I	5	3/5	0.0312	0.0125	NA	0.0003	3
Endosulfan II	5	4/5	0.00993	0.0037	NA	0.0003	4
Endosulfan Sulfate	2	1/2	0.00678	0.00337	NA	0.0003	1
Heptachlor	5	3/5	0.0153	0.0071	NA	0.0003	3
Heptachlor Epoxide	5	4/5	0.0372	0.016	NA	0.0003	4
PCB 1016	5	2/5	1.08	0.329	NA	0.007	2
PCB 1254	5	1/5	0.274	0.055	NA	0.06	1
PCB 1260	5	2/5	1.18	0.307	NA	0.005	2
ppDDD	5	5/5	0.2	0.077	NA	0.002	5
ppDDE	5	4/5	0.12	0.032	NA	0.002	4
ppDDT	5	4/5	0.22	0.063	NA	0.001	4
2-Methylnaphthalene	5	1/5	0.15	0.03	NA	0.065	1
Anthracene	5	1/5	4.8	0.96	NA	0.065	1
Benzo (a) anthracene	5	4/5	1.8	0.76	NA	0.23	3
Benzo (b) fluoranthene	5	3/5	2.5	0.85	NA	2	1

AOC 11
Summary of Ecological Risk Information
Devens, MA

Analyte	Number of Different Locations Sampled	Frequency of Detection	Maximum Concentration (µg/g)	Average Concentration (µg/g)	Background Concentration (µg/g)	Screening Criteria (µg/g)	Number of Sample Locations Where Ecological Benchmark is Exceeded
<u>Nashua River Sediment</u>							
Bis (2-Ethylhexyl) Phthalate	5	5/5	70	16	NA	1.19	5
Chrysene	5	4/5	2.6	1.1	NA	0.4	3
Fluoranthrene	5	5/5	13	3.5	NA	0.6	4
Flourene	5	2/5	2.1	0.5	NA	0.035	2
Phenanthrene	5	5/5	21	5.59	NA	0.225	5
Pyrene	5	5/5	5	2.9	NA	0.35	5
Total Petroleum Hydrocarbons	5	5/5	3300	1498	NA	NA	NA

This table is a summary of the ecological risk data as reported in the January 1996 Revised Final Site Investigation Report, Data Item A009.

Ecological Benchmark is a combination of State and Federal Standards and guidance values intended to be protective of aquatic and semi-terrestrial receptors.

The ecological benchmarks for sediment analytes were derived as the lowest of available criteria and other guidance values. These values were used for the purpose of eliminating areas and/or analytes that do not represent an ecological risk. Conversely, the exceedance of these conservative screening values does not necessarily imply

that ecological impacts will occur, because they are not based on the site-specific attributes that determine exposure and toxicological response (e.g., sensitivity of resident organisms).

µg/g = micrograms per gram

AOC 11
Summary of Ecological Risk Information
Devens, MA

Analyte	Number of Different Locations Sampled	Frequency of Detection	Maximum Concentration (µg/L)	Average Concentration (µg/L)	Background Concentration (µg/L)	MCL (µg/L)	Massachusetts Drinking Water Standard (µg/L)	Screening Criteria (µg/L)	Number of Locations Where Screening Criteria is Exceeded (µg/L)
Northern Wetland Surface Water									
Aluminum	5	4/5	26900	11340	733	50-200	50-200	87	4
Antimony	5	2/5	155	49.52	NA	6	6	30	2
Barium	5	5/5	2730	705	40.1	2000	2000	NA	5
Beryllium	5	4/5	7.77	3.2	5	4	4	5.3	1
Cadmium	5	4/5	147	44.9	4	5	5	2.33	4
Calcium	5	5/5	280000	120400	20600	NA	NA	NA	5
Chromium	5	4/5	301	114	6	100	100	11	4
Copper	5	4/5	578	217	8.1	1300	1300	25.8	4
Iron	5	5/5	750000	325195	1630	300	300	1000	4
Lead	5	4/5	1800	434	8.68	15	15	10.2	4
Magnesium	5	5/5	13400	8364	3340	NA	NA	NA	5
Manganese	5	5/5	2090	1272	357	50	50	NA	5
Mercury	5	4/5	2.5	1.21	24	2	2	0.012	4
Potassium	5	4/5	10100	4624	3150	NA	NA	NA	4
Silver	5	2/5	78.7	21.1	NA	100	100	0.12	2
Sodium	5	5/5	14300	10604	36300	NA	NA	NA	5
Thallium	5	2/5	513	136	NA	2	2	40	2
Vanadium	5	3/5	127	40.1	11	NA	NA	NA	3
Zinc	5	5/5	12000	3344	33.4	5000	5000	230	4
Endrin	5	1/5	0.0479	0.0096	NA	2	2	0.002	1
Heptachlor	5	1/5	0.0219	0.0044	NA	0.4	0.4	0.003	1
Heptachlor Epoxide	5	1/5	0.0212	0.0042	NA	0.2	0.2	0.003	1
Isodrin	5	1/5	0.00793	0.0016	NA	NA	NA	NA	1
ppDDD	5	3/5	0.38	0.112	NA	NA	NA	0.001	3
ppDDE	5	3/5	0.152	0.0474	NA	NA	NA	0.001	3
ppDDT	5	3/5	0.43	0.099	NA	NA	NA	0.001	3
Total Petroleum Hydrocarbons	5	2/5	260	94	NA	NA	NA	NA	3

AOC 11
Summary of Ecological Risk Information
Devens, MA

Analyte	Number of Different Locations Sampled	Frequency of Detection	Maximum Concentration (µg/L)	Average Concentration (µg/L)	Background Concentration (µg/L)	MCL (µg/L)	Massachusetts Drinking Water Standard (µg/L)	Screening Criteria (µg/L)	Number of Locations Where Screening Criteria is Exceeded (µg/L)
Southern Wetland Surface Water									
Aluminum	5	4/5	16000	5283	733	50-200	50-200	87	4
Antimony	5	1/5	62.5	12.5	NA	6	6	30	1
Beryllium	5	3/5	5.86	1.71	5	4	4	5.3	1
Cadmium	5	2/5	101	23.7	4	5	5	1.58	2
Calcium	5	5/5	112000	52900	20600	NA	NA	NA	5
Chromium	5	3/5	135	37.0	6	100	100	11	3
Copper	5	3/5	269	71.96	8.1	1300	1300	16.7	3
Iron	5	4/5	580000	153786	1630	300	300	1000	4
Lead	5	4/5	610	194	8.68	15	15	5.33	4
Magnesium	5	5/5	7310	5298	3340	NA	NA	NA	5
Manganese	5	5/5	562	163	357	50	50	NA	5
Potassium	5	5/5	7140	4008	3150	NA	NA	NA	5
Selenium	5	1/5	6.34	1.268	3.02	50	50	5	1
Silver	5	1/5	21.3	4.26	NA	100	100	0.12	1
Sodium	5	5/5	27400	13062	36300	NA	NA	NA	5
Vanadium	5	1/5	82.8	16.56	11	NA	NA	NA	1
Zinc	5	4/5	4590	1148	33.4	5000	5000	149	3
Dieldrin	5	1/5	0.016	0.0032	NA	NA	NA	0.001	1
ppDDD	5	4/5	0.84	0.2396	NA	NA	NA	0.001	4
ppDDE	5	4/5	0.148	0.0452	NA	NA	NA	0.001	4
ppDDT	5	3/5	0.0788	0.02854	NA	NA	NA	0.001	3
4-Methylphenol	5	1/5	32	6.4	NA	NA	NA	NA	1
1,1,1-Trichloroethane	5	2/5	2.8	2.1	NA	200	200	NA	2
Total Petroleum Hydrocarbons	5	2/5	220	74	NA	NA	NA	NA	4
Nashua River Surface Water									
Aluminum	5	5/5	218	152.8	733	50-200	50-200	87	5
Calcium	5	5/5	16900	15680	20600	NA	NA	NA	5
Lead	5	2/5	5.93	2.27	8.68	15	15	1.32	2
Magnesium	5	5/5	2460	2260	3340	NA	NA	NA	5
Potassium	5	5/5	4860	3968	3150	NA	NA	NA	5
Sodium	5	5/5	35500	32760	36300	NA	NA	NA	5

This table is a summary of the ecological risk data as reported in the January 1996 Revised Final Site Investigation Report, Data Item A009.

Ecological Benchmark is a combination of State and Federal Standards and guidance values intended to be protective of aquatic and semi-terrestrial receptors.

µg/L = micrograms per liter

MCL = maximum contaminant level

SA 12
Summary of Human Health Risk Information
Devens, MA

Analyte	No of Different Locations Sampled	Frequency of Detection	Maximum Concentration (µg/g)	Average Concentration (µg/g)	Background Concentration (µg/g)	Screening Health Standard (Region III RBC) (µg/g)	Site Specific Health Standard (MCP 8-2) (µg/g)	No of Sample Locations where Site Specific Health Standard is Exceeded
Surface Soil								
Arsenic	8	9/9	21	10	21	0.36	30	0
Beryllium	8	3/9	0.74	0.5	0.347	0.15	0.8	0
Lead	8	9/9	880	121.9	48.4	500	600	1
Benzo(b)fluoranthene	8	1/9	1	0.22	NA	0.87	0.7	1
Chrysene	8	1/9	0.8	0.17	NA	0.7	0.7	1
Aroclor-1254	8	1/9	6.9	0.84	NA	0.0083	2	1
TPH	8	4/9	1350	177	NA	500	500	1
Sediment								
Arsenic	6	6/6	22	15.83	NA	0.36	30	0
Beryllium	6	3/6	1.58	0.74	NA	0.15	0.8	3
Manganese	6	6/6	553	288	NA	390	NA	NA

This table is a summary of the Preliminary Risk Evaluation data presented in the October 1995 SI Report.

(µg/g) = micrograms per gram

RBC = risk based concentrations

MCP = Massachusetts Contingency Plan

SA 12
Summary of Human Health Risk Information
Devens, MA

Analyte	No of Different Locations Sampled	Frequency of Detection	Maximum Concentration (µg/L)	Average Concentration (µg/L)	Background Concentration (µg/L)	MCL (µg/L)	Massachusetts Drinking Water Standards (µg/L)	Region III Tap Water Standard (µg/L)	MCP GW-3 (µg/L)
Groundwater									
Bis(2-ethylhexyl)phthalate	5	1/6	9.1	3.52	NA	8	NA	NA	30
Aluminum	5	6/6	25200	10488	6870	50-200	50-200	37000	NA
Antimony	5	1/6	6.98	2.41	3.03	8	6	15	300
Beryllium	5	1/6	6.63	3.12	5	4	4	0.018	50
Cadmium	5	1/6	12.1	3.68	4.01	5	5	18	10
Iron	5	6/6	40200	16843	9100	300	300	11000	NA
Lead	5	6/6	500	125.8	4.25	15	15	NA	30
Manganese	5	6/6	990	281.7	291	50	50	840	NA

This table is a summary of the Preliminary Risk Evaluation data presented in the October 1995 SI Report.

(µg/L) = micrograms per liter

MCP = Massachusetts Contingency Plan

MCL = maximum contaminant level

SA 12
Summary of Ecological Risk Information
Devens, MA

Analyte	Number of Different Locations Sampled	Frequency of Detection	Maximum Concentration (µg/g)	Average Concentration (µg/g)	Background Concentration (µg/g)	Ecological Benchmark (µg/g)	Number of Sample Locations Where Ecological Benchmark is Exceeded
Surface Soil							
Barium	9	9/9	165	45.5	42.5	42.5	2
Lead	9	9/9	880	122	48.4	48.4	3
Zinc	9	9/9	736	119	35.5	640	1
Arochlor-1254	9	1/9	6.9	0.80	NA	3.1	1
Sediment¹							
Soil PCL's							
Aluminum	6	6/6	26300	16167	NA	15000	2
Barium	6	6/6	158	93.2	NA	42.5	6
Beryllium	6	3/6	1.58	0.65	NA	0.88	3
Cadmium	6	4/6	2.79	0.38	NA	2	3
Copper	6	6/6	39	31.7	NA	28	4
Lead	6	6/6	96	64.7	NA	48.4	4
Nickel	6	6/6	43.9	25.7	NA	35	2
Vanadium	6	6/6	60.2	33.7	NA	28.7	3
Sediment PCL's							
Heptachlor	6	1/6	0.02	0.0048	NA	0.003	1
4,4'-DDT	6	2/6	0.028	0.008	NA	0.022	1
4,4'-DDD	6	4/6	0.087	0.027	NA	0.022	3
4,4'-DDE	6	2/6	0.041	0.013	NA	0.022	1
Arsenic	6	6/6	22	15.8	NA	5	6
Cadmium	6	4/6	2.79	1.55	NA	0.8	4
Chromium	6	6/6	62.8	47.7	NA	28	6
Copper	6	6/6	39	31.7	NA	19	6
Iron	6	6/6	37800	21467	NA	24000	2
Lead	6	6/6	96	64.7	NA	27	6
Manganese	6	6/6	553	288	NA	428	1
Mercury	6	6/6	0.829	0.407	NA	0.11	6
Nickel	6	6/6	43.9	25.7	NA	22	3
Zinc	6	6/6	135	103	NA	85	5

1. Sediment samples were considered sediment/surface soil for purposes of ecological PRE and were compared to both sediment and surface soil protective contaminant levels (PCL's). This table is a summary of the ecological risk data as reported in the January 1996 Revised Final Site Investigation Report, Data Item A009. Ecological Benchmark is a combination of State and Federal Standards and guidance values intended to be protective of aquatic and semi-terrestrial receptors. The ecological benchmarks for sediment analytes were derived as the lowest of available criteria and other guidance values. These values were used for the purpose of eliminating areas and/or analytes that do not represent an ecological risk. Conversely, the exceedance of these conservative screening values does not necessarily imply that ecological impacts will occur, because they are not based on the site-specific attributes that determine exposure and toxicological response (e.g., sensitivity of resident organisms).
µg/g = micrograms per gram

SA 13
Summary of Human Health Risk Information
Devens, MA

Analyte	No of Different Locations Sampled	Frequency of Detection	Maximum Concentration (µg/g)	Average Concentration (µg/g)	Background Concentration (µg/g)	Screening Health Standard (Region III RBC) (µg/g)	Site Specific Health Standard (MCP S-2) (µg/g)	No of Sample Locations where Site Specific Health Standard is Exceeded
Surface Soil								
Arsenic	4	4/4	38	17.4	21	0.97	30	1
Beryllium	4	2/4	1.18	0.59	0.347	0.4	0.8	1
Benzo(a)anthracene	4	1/4	3	0.83	NA	1.6	1	1
Benzo(a)pyrene	4	1/4	2	0.63	NA	0.23	0.7	1
Benzo(b)fluoranthene	4	1/4	4	1.1	NA	1.9	1	1
Indeno(1,2,3-cd)pyrene	4	1/4	1	0.47	NA	0.84	1	0
Sediment								
Arsenic	3	3/3	22	9.8	NA	0.97	30	0
Beryllium	3	1/3	2.52	1.01	NA	0.4	0.8	1

This table is a summary of the Preliminary Risk Evaluation data presented in the October 1995 SI Report.

(µg/g) = micrograms per gram

RBC = risk based concentrations

MCP = Massachusetts Contingency Plan

SA 13
Summary of Human Health Risk Information
Devens, MA

Analyte	No of Different Locations Sampled	Frequency of Detection	Maximum Concentration (µg/L)	Average Concentration (µg/L)	Background Concentration (µg/L)	MCL (µg/L)	Massachusetts Drinking Water Standards (µg/L)	Region III Tap Water Standard (µg/L)	MCP GW-1 (µg/L)
Groundwater									
Aluminum	6	6/6	17400	7118	6870	50-200	50-200	37000	NA
Iron	6	6/6	26400	11358	9100	300	300	11000	NA
Lead	6	6/6	17.7	8.8	4.25	15	15	NA	30
Manganese	6	6/6	798	390	291	50	50	840	NA
Bis(2-ethylhexyl)phthalate	6	2/6	31	7.2	NA	6	NA	NA	30
Surface Water									
Aluminum	4	4/4	5060	3470	NA	50-200	50-200	37000	NA
Iron	4	4/4	3610	3115	NA	300	300	11000	NA
Lead	4	4/4	18.9	10.5	NA	15	15	NA	30
Manganese	4	4/4	1020	743	NA	50	50	840	NA
Bis(2-ethylhexyl)phthalate	4	1/4	6.9	3.5	NA	6	NA	NA	30
Nitroglycerine	4	1/4	38.5	13.4	NA	NA	NA	NA	NA

This table is a summary of the Preliminary Risk Evaluation data presented in the October 1995 SI Report.

(µg/L) = micrograms per liter

MCP = Massachusetts Contingency Plan

MCL = maximum contaminant level

SA 13
Summary of Ecological Risk Information
Devens, MA

Analyte	Number of Different Locations Sampled	Frequency of Detection	Maximum Concentration (µg/g)	Average Concentration (µg/g)	Background Concentration (µg/g)	Ecological Benchmark (µg/g)	Number of Sample Locations Where Ecological Benchmark is Exceeded
Surface Soil							
Arsenic	4	4/4	38	17.4	21	33	1
Barium	4	4/4	52.2	38.3	42.5	42.5	2
Beryllium	4	2/4	1.18	0.45	0.347	0.88	1
Cadmium	4	1/4	2.08	0.78	2	2	1
Lead	4	4/4	330	102.6	48.4	48.4	2
Selenium	4	1/4	0.9	0.32	NA	0.48	1
Sediment							
4,4'-DDE	3	2/3	0.059	0.024	NA	0.0274	1
Gamma-chlordane	3	3/3	0.049	0.03	NA	0.0002	3
Heptachlor	3	3/3	0.07	0.05	NA	0.00364	3
Arsenic	3	3/3	22	9.8	NA	5	1
Copper	3	3/3	25.9	11.2	NA	19	1
Lead	3	3/3	41	19.7	NA	27	1

This table is a summary of the ecological risk data as reported in the January 1996 Revised Final Site Investigation Report, Data Item A009.

Ecological Benchmark is a combination of State and Federal Standards and guidance values intended to be protective of aquatic and semi-terrestrial receptors.

The ecological benchmarks for sediment analytes were derived as the lowest of available criteria and other guidance values. These values were used for the purpose of eliminating areas and/or analytes that do not represent an ecological risk. Conversely, the exceedance of these conservative screening values does not necessarily imply that ecological impacts will occur, because they are not based on the site-specific attributes that determine exposure and toxicological response (e.g., sensitivity of resident organisms).
 µg/g = micrograms per gram

SA 13
Summary of Ecological Risk Information
Devens, MA

Analyte	Number of Different Locations Sampled	Frequency of Detection	Maximum Concentration (µg/L)	Average Concentration (µg/L)	Background Concentration (µg/L)	Ecological Benchmark (µg/L)	Number of Sample Locations Where Ecological Benchmark is Exceeded
Surface Water							
Aluminum	4	4/4	5060	3470	733	87	4
Iron	4	4/4	3610	3115	1630	1000	4
Lead	4	4/4	18.9	10.5	6.68	6.61	3
Mercury	4	2/4	1.25	0.66	24	0.012	2

This table is a summary of the ecological risk data as reported in the January 1996 Revised Final Site Investigation Report, Data Item A009. Ecological Benchmark is a combination of State and Federal Standards and guidance values intended to be protective of aquatic and semi-terrestrial receptors. µg/L = micrograms per liter

AOC 40
Summary of Human Health Risk Information
Devens, MA

Analyte	Number of Different Locations Sampled	Frequency of Detection	Maximum Concentration (µg/g)	Average Concentration (µg/g)	Background Concentration (µg/g)	Screening Health Standard (Region III RBC) (µg/g)	Site Specific Health Standard (MCP 6-2) (µg/g)	Number of Sample Locations Where Site-Specific Health Standard is Exceeded
Surface Soil								
Arsenic	3	3/3	45	32.6	21	0.43	30	2
4,4'-DDD	3	1/3	0.101	0.047	NA	2.7	3	0
4,4'-DDT	3	1/3	0.232	0.131	NA	1.9	2	0
Anthracene	3	1/3	0.514	0.35	NA	23000	2500	0
Benzo(a)Anthracene	3	1/3	1.04	0.45	NA	0.88	1	1
Benzo(a)Pyrene	3	1/3	1.3	0.58	NA	0.088	0.7	1
Benzo(b)Fluoranthene	3	1/3	0.969	0.44	NA	0.88	1	0
Benzo(k)Fluoranthene	3	1/3	1.72	0.84	NA	8.8	10	0
Chrysene	3	1/3	1.2	0.55	NA	88	10	0
Fluoranthrene	3	2/3	2.58	1.18	NA	3100	1000	0
Indeno(1,2,3-cd)Pyrene	3	1/3	0.275	0.16	NA	0.88	1	0
Phenanthrene	3	1/3	1.11	0.51	NA	NA	100	0
Pyrene	3	2/3	2.49	1.1	NA	23000	2000	0
Sediment								
Arsenic	25	25/25	390	78	NA	0.43	30	14
Iron	25	25/25	45000	15258	NA	23000	NA	NA
Lead	25	25/25	570	69	NA	NA	600	0
Manganese	25	25/25	3000	610	NA	1800	NA	NA
Zinc	25	17/25	690	82	NA	23000	2500	0
4,4'-DDD	25	9/25	6.2	0.48	NA	2.7	3	1
Benzo(a)Anthracene	25	3/25	4.31	0.49	NA	0.88	1	1
Benzo(a)Pyrene	25	2/25	5.96	0.98	NA	0.088	0.7	2
Benzo(b)Fluoranthene	25	3/25	5.3	0.63	NA	0.88	1	2
Indeno(1,2,3-cd)Pyrene	25	1/25	1.64	0.10	NA	0.88	1	1

This table is a summary of Risk Evaluation data presented in the 1993 RI Report and the 1993 RI Addendum Report

(µg/g) = micrograms per gram

MCP = Massachusetts Contingency Plan

RBC = risk based concentrations

AOC 40
Summary of Human Health Risk Information
Devens, MA

Analyte	Number of Different Locations Sampled	Frequency of Detection	Maximum Concentration (µg/L)	Average Concentration (µg/L)	Background Concentration (µg/L)	MCL (µg/L)	Massachusetts Drinking Water Standards (µg/L)	Region III Tap Water Standard (µg/L)	MCP GW-3 (µg/L)
Surface Water									
Arsenic	9	9/9	17.7	7.98	NA	50	50	0.045	400
Iron	9	9/9	3200	1590	NA	300	300	11000	NA
Groundwater¹									
Unfiltered²									
Arsenic	4	2/4	40	17.1	10.5	50	50	0.045	400
Iron	4	4/4	25400	12488	9100	300	300	11000	NA
Manganese	4	4/4	5700	2614	291	50	50	840	NA
Filtered³									
Arsenic	3	1/3	19.8	2.98	NA	50	50	0.045	400
Iron	3	2/3	4000	1398	NA	300	300	11000	NA
Manganese	3	3/3	6120	2764	NA	50	50	840	NA

1. Round 1 (March 1993) and Round 2 (June 1993) data; wells CSM-93-01A, CSM-92-02A, and CSM-93-02B were sampled in both rounds. Well CSB-2 was sampled in Round 1 only.
2. Unfiltered samples from monitoring wells CSB-2, CSM-93-01A, CSM-93-02A, CSM-93-02B.
3. Filtered samples from monitoring wells CSB-2, CSM-93-01A, CSM-93-02A.

This table is a summary of Risk Evaluation data presented in the 1993 RI Report and the 1993 RI Addendum Report

(µg/L) = micrograms per liter

MCP = Massachusetts Contingency Plan

MCL = maximum contaminant level

AOC 40
Summary of Ecological Risk Information
Devens, MA

Analyte	Number of Different Locations Sampled	Frequency of Detection	Maximum Concentration (µg/g)	Average Concentration (µg/g)	Background Concentration (µg/g)	Ecological Benchmark (µg/g)	Number of Sample Locations Where Screening Criteria is Exceeded
Sediment							
Anthracene	25	1/25	3	0.27	NA	.085	1
benzo(a) anthracene	25	2/25	4	0.51	NA	241	0
benzo(a) pyrene	25	2/25	6	1.1	NA	194.5	0
benzo(b) fluoranthene	25	2/25	5	0.64	NA	194.5	0
benzo(k) fluoranthene	25	2/25	10	0.9	NA	194.5	0
bis(2-ethylhexyl) phthalate	25	1/25	2	1.4	NA	21.9	0
Chrysene	25	2/25	8	0.63	NA	194.5	0
Dibenzofuran	25	2/25	0.61	0.15	NA	NA	NA
Fluoranthene	25	11/25	10	1.8	NA	344.6	0
Phenanthrene	25	3/25	6	0.77	NA	25.4	0
Pyrene	25	5/25	20	2.2	NA	239.9	0
DDD	25	16/25	6.2	0.5	NA	0.152	9
DDE	25	14/25	0.72	0.09	NA	0.152	3
DDT	25	6/25	15	0.64	NA	0.152	2
Aluminum	25	25/25	17000	6108	NA	NA	NA
Arsenic	25	25/25	390	78	NA	33	13
Barium	25	24/25	115	36.8	NA	20	16
Beryllium	25	2/25	0.41	0.19	NA	NA	NA
Cobalt	25	8/25	19.6	3.38	NA	50	0
Chromium	25	15/25	64.8	15.1	NA	80	0
Copper	25	16/25	42.9	8.5	NA	70	0
Iron	25	25/25	45000	15232	NA	24000	5
Lead	25	25/25	570	69.5	NA	35	9
Manganese	25	25/25	3000	634	NA	428	13
Mercury	25	7/25	0.72	0.077	NA	0.15	3
Nickel	25	16/25	54.3	10.8	NA	30	2
Selenium	25	5/25	5.77	1.96	NA	NA	NA
Silver	25	4/25	6.35	0.65	NA	1	2
Vanadium	25	18/25	48.6	12.1	NA	NA	NA
Zinc	25	17/25	690	82.5	NA	120	4

This table is a summary of Risk Evaluation data presented in the 1993 RI Report and the 1993 RI Addendum Report.

µg/g = micrograms per gram

MCP = Massachusetts Contingency Plan

The ecological benchmarks for sediment analytes were derived as the lowest of available criteria and other guidance values. These values were used for the purpose of eliminating areas and/or analytes that do not represent an ecological risk. Conversely, the exceedance of these conservative screening values does not necessarily imply that ecological impacts will occur, because they are not based on the site-specific attributes that determine exposure and toxicological response (e.g., sensitivity of resident organisms).

AOC 40
Summary of Ecological Risk Information
Devens, MA

Analyte	Number of Different Locations Sampled	Frequency of Detection	Maximum Concentration (µg/L)	Average Concentration (µg/L)	Background Concentration (µg/L)	Ecological Benchmark (µg/L)	Number of Locations Where Screening Criteria is Exceeded
Surface Water							
Arsenic	10	10/10	17.7	7.7	NA	190	0
Barium	10	10/10	13.4	10.7	NA	200	0
Chromium	10	2/10	4.78	2.7	NA	88	0
Copper	10	7/10	6.75	4.4	NA	4.8	6
Iron	10	10/10	3200	1560	NA	1000	10
Magnesium	10	10/10	400	151	NA	1000	0
Silver	10	1/10	0.708	0.2	NA	0.12	9
Zinc	10	3/10	86.3	21.8	NA	44	1

Ecological Benchmarks were developed to be protective of aquatic organisms only.

Wildlife exposures were also evaluated, and it was determined that the screening benchmark for sediment (as shown above), would be protective of wildlife as well.

This table is a summary of the ecological risk data as reported in the April 1993 RI Report, and the December 1993 RI Addendum Report, Data Item A009.

µg/L = micrograms per liter

SA 41
Summary of Human Health Risk Information
Devens, MA

Analyte	No of Different Locations Sampled	Frequency of Detection	Maximum Concentration (µg/g)	Average Concentration (µg/g)	Background Concentration (µg/g)	Screening Health Standard (Region III RBC) (µg/g)	Site Specific Health Standard (MCP S-2) (µg/g)	No of Sample Locations where Site Specific Health Standard is Exceeded
Surface Soil								
Arsenic	10	10/10	14	8.5	21	0.97	30	0
Beryllium	10	6/10	2.2	0.8	0.347	0.4	0.8	5
Lead	10	10/10	1400	287.9	48.4	500	600	1
Benzo(a)anthracene	10	2/10	2	0.37	NA	1.6	1	1
Benzo(a)pyrene	10	2/10	2	0.5	NA	0.23	0.7	2
Benzo(b)fluoranthene	10	2/10	2	0.38	NA	1.9	1	0
Indeno(1,2,3-c d)pyrene	10	1/10	1	0.23	NA	0.84	1	0
Sediment - Base of Landfill Low Area								
Arsenic	3	4/4	4.83	4.05	21	0.36	30	0
Benzo(a)anthracene	3	1/4	1.6	0.46	NA	0.87	0.7	1
Benzo(a)pyrene	3	1/4	2.1	0.62	NA	0.088	0.7	1
Benzo(b)fluoranthene	3	1/4	2.4	0.68	NA	0.87	0.7	1
Chrysene	3	1/4	2.4	0.65	NA	87	0.7	1
Indeno(1,2,3-c d)pyrene	3	1/4	1.6	0.51	NA	0.87	0.7	1
Aroclor - 1260	3	4/4	0.393	0.25	NA	0.083	2	0
Sediment - New Cranberry Pond								
Aroclor - 1260	4	2/4	0.316	0.15	NA	0.083	2	0
Arsenic	4	4/4	13.5	6.45	NA	0.36	30	0

This table is a summary of the Preliminary Risk Evaluation presented in the October 1995 SI Report.

(µg/g) = micrograms per gram

RBC = risk based concentrations

MCP = Massachusetts Contingency Plan

SA 41
Summary of Human Health Risk Information
Devens, MA

Analyte	No of Different Locations Sampled	Frequency of Detection	Maximum Concentration (µg/L)	Average Concentration (µg/L)	Background Concentration (µg/L)	MCL (µg/L)	Massachusetts Drinking Water Standard (µg/L)	Region III Tap Water Standard (µg/L)	MCP GW-3 (µg/L)
Surface Water									
Aluminum	4	3/5	8100	1922	NA	50-200	NA	37000	NA
Iron	4	5/5	16400	4438	NA	300	NA	11000	NA
Lead	4	3/5	43.9	13.3	NA	15	15	NA	30
Manganese	4	5/5	976	268	NA	50	50	840	NA
Groundwater									
1,1,2,2 - Tetrachloroethane	5	5/13	170	17.2	NA	NA	NA	0.052	20000
Tetrachloroethylene	5	2/13	10	1.58	NA	5	5	1.1	5000
Trichloroethylene	5	8/13	220	65	NA	5	5	1.8	20000
Aluminum	5	13/13	82800	24253	6870	50-200	50-200	37000	NA
Arsenic	5	13/13	83.4	38.26	10.5	50	50	0.045	400
Beryllium	5	1/13	6.08	3.16	5	4	4	0.016	50
Chromium (total)	5	12/13	149	51.4	14.7	100	100	37000	2000
Iron	5	13/13	110000	43268	9100	300	300	11000	NA
Lead	5	12/13	48.6	20.5	4.25	15	15	NA	30
Manganese	5	13/13	1820	702	291	50	50	840	NA
Nickel	5	6/13	178	61.1	34.3	100	100	730	80
Nitrite, nitrate-non specific	1	2/2	11000	5523	NA	10000	10000	58000	NA

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MCL = maximum contaminant level

SA 41
Summary of Ecological Risk Information
Devens, MA

Analyte	Number of Different Locations Sampled	Frequency of Detection	Maximum Concentration (µg/g)	Average Concentration (µg/g)	Background Concentration (µg/g)	Ecological Benchmark (µg/g)	Number of Sample Locations Where Ecological Benchmark is Exceeded
Surface Soil							
Antimony	10	3/10	19.5	3.3	NA	7	2
Barium	10	10/10	307	69.2	42.5	42.5	5
Beryllium	10	6/10	2.2	0.72	0.347	0.68	5
Cadmium	10	2/10	15.5	7.57	2	2	0
Copper	10	10/10	54.4	17.2	8.39	34	2
Lead	10	10/10	1400	287.9	48.4	48.4	5
Zinc	10	10/10	9200	1003.7	35.5	640	1
Sediment							
4,4'-DDD	4	2/4	0.046	0.022	NA	0.018	2
4,4'-DDE	4	3/4	0.038	0.019	NA	0.018	2
Heptachlor	4	1/4	0.31	0.01	NA	0.022	1
Arsenic	4	4/4	13.5	6.5	NA	5	1
Lead	4	4/4	40	21.3	NA	27	1
Zinc	4	4/4	98.1	39.7	NA	65	1

This table is a summary of the ecological risk data as reported in the January 1996 Revised Final Site Investigation Report, Data Item A009.

Ecological Benchmark is a combination of State and Federal Standards and guidance values intended to be protective of aquatic and semi-terrestrial receptors.

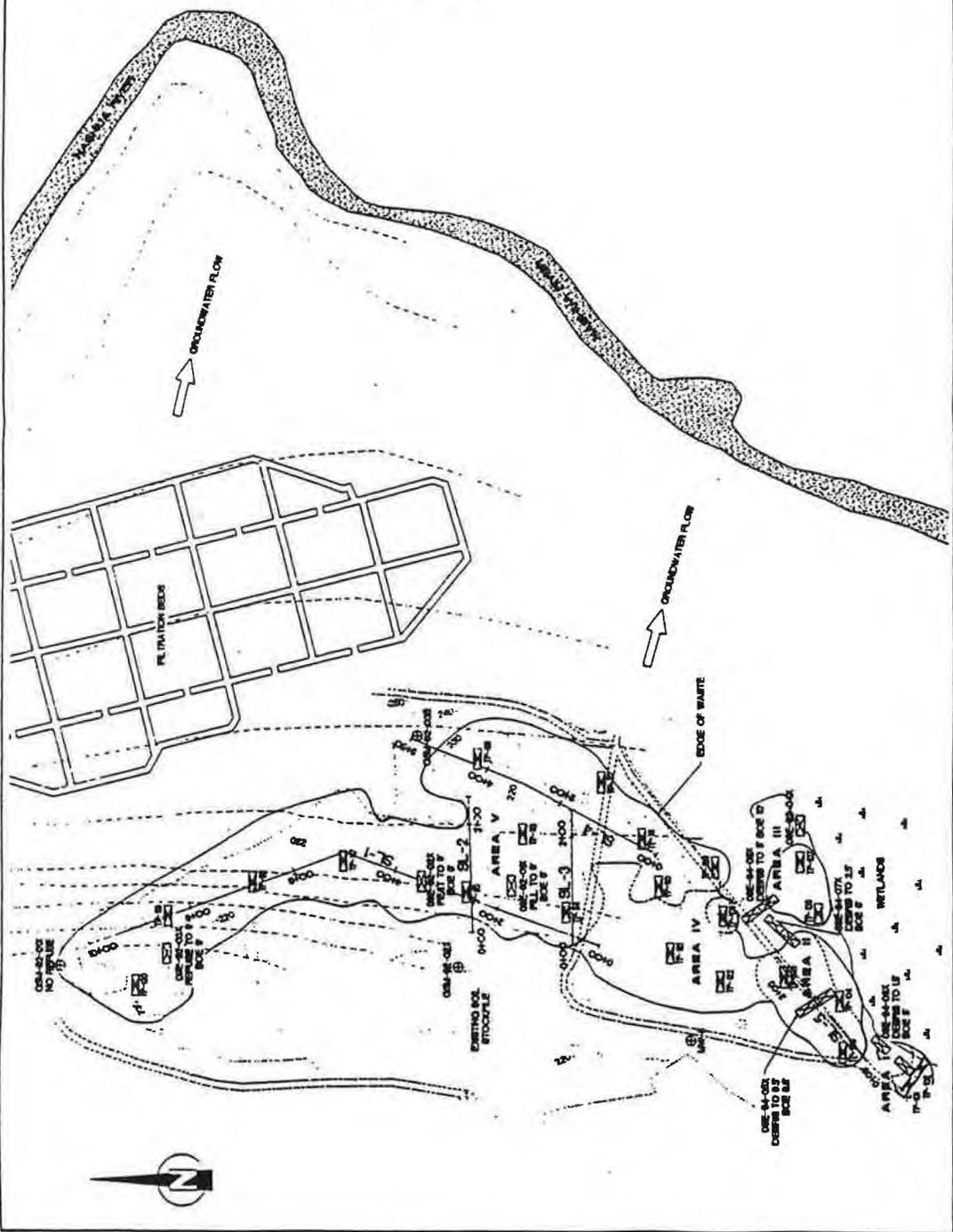
The ecological benchmarks for sediment analytes were derived as the lowest of available criteria and other guidance values. These values were used for the purpose of eliminating areas and/or analytes that do not represent an ecological risk. Conversely, the exceedance of these conservative screening values does not necessarily imply that ecological impacts will occur, because they are not based on the site-specific attributes that determine exposure and toxicological response (e.g., sensitivity of resident organisms).
 µg/g = micrograms per gram

AOC-9 NORTH POST LANDFILL

SCALE: 1"=200'

LEGEND

-  WATER
-  SURFACE CONTOURS
-  GROUNDWATER CONTOURS
-  EDGE OF WASTE
-  WETLANDS
-  SEA TEST PIT
-  ABB TEST PIT
-  MONITORING WELLS



TEST PIT FIELD LOG - FORT DEVENS, MA					PROJECT NO.: 6917-04	TEST PIT NO.: 09E9201X
CLIENT: AEC			DATE: 7/7/92		STUDY AREA: SA-9, LF-5	
CONTRACTOR: D. L. Maher			Time: 1320	End: 1405	PROTECTION: Level D	
GEOLOGIST: I. Broadwater, J. Corulle			GROUND ELEV.: 222.1'		TOTAL DEPTH: 9'	
DEPTH	SOIL DESCRIPTION				USCS	NOTES
0'	SAND, poorly graded, medium, 0-10% gravel, loose, moist, brown.				SP	
1'						
2'						
3'	PEAT, mostly wood with some electrical conduit pipes, occasional brick, some wood appears black and charred, fill.				PT	MS/MSD volume taken at 4' feet (#178)
4'						
5'						
6'						
7'						
8'						
9'	End of Test Pit at 9' (no water encountered)					
10'						
11'						
12'						
13'						
14'						
No.	Serial No.	Depth	Field #	PID		
S-1	178	4'	EX090104	BKG		
S-2	179	8'	EX090108	BKG		

SOIL BORING LOG - FORT DEVENS, MA.

BORING NO.: G5M-92-03B

SAMPLE NO.	DEPTH (ft)	PEN/REC (f/r)	PID OF SPOON (ppm)	SOIL DESCRIPTION AND PHYSICAL CONDITIONS	BLOWS/6"	COMMENTS
S-7	30-32	2.0/1.2	0	Similar to S-6 except 10YR4/2 Munsell dark grayish brown, very dense, Saturated, bedding. SP	12/16/17/16	Analytical sample collected. 3" spoon. Grain size analysis performed-->SP-SM.
S-8	35-37	2.0/0.7	0	SAND, well graded, fine to medium with some (~20%) coarse sand, little (~15%) fine gravel, and trace (~5%) silt, medium dense, wet, 10YR6/6 Munsell brownish yellow, no bedding. SW	5/5/7/8	
BOE at 38'						

TEST PIT FIELD LOG - FORT DEVINS, MA		PROJECT NO.: 6917-04	TEST PIT NO.: 09E9202X	
CLIENT: AEC		DATE: 7/7/92	STUDY AREA: SA-9, LF-5	
CONTRACTOR: D. L. Maher		Time: 1120 End:	PROTECTION: Level D	
GEOLOGIST: I. Broadwater, J. Corulla		GROUND ELEV.: 222.1'	TOTAL DEPTH: 9'	
DEPTH	SOIL DESCRIPTION	USCS	NOTES	
0'	SAND, poorly graded, medium, 10-20% gravel, loose, moist, brown.	SP		
1'				
2'				
3'				
4'	PEAT, charred wood with stained sand	PT		
5'				
6'				
7'				
8'				
9'	End of Test Pit at 9' (no water encountered)			
10'				
11'				
12'				
13'				
14'				
No.	Serial No.	Depth	Field #	PID
S-1	182 A,B,C	5'	EX090205	BKG
S-2	183 A,B,C	8'	ED090208	BKG
S-2	439 A,B,C	8'	EX090205	BKG

TEST PIT FIELD LOG - FORT DEVENS, MA		PROJECT NO.: 6917-04	TEST PIT NO.: 09E9203X
CLIENT: AEC	DATE: 7/7/92		STUDY AREA: SA-9, LF-5
CONTRACTOR: D. L. Maher	Time: 0855	End:	PROTECTION: Level D
GEOLOGIST: I. Broadwater, J. Corulla	GROUND ELEV.: 225.2'		TOTAL DEPTH: 9'

DEPTH	SOIL DESCRIPTION	USCS	NOTES
0'	SAND, well graded, fine to coarse, 10-20% gravel, loose, moist, brown	SW	
1'			
2'	MIXED REFUSE, tires, bottles, roof slate at 2.5-feet, carpet, clear plastic, automobile parts (red)	N/A	
3'			
4'			
5'			
6'			
7'			
8'			
9'	End of Test Pit at 9' (no water encountered)		
10'			
11'			
12'			
13'			
14'			

No.	Serial No.	Depth	Field #	PID
S-1	186 A,B,C	1'	EX090301	BKG
S-2	187 A,B,C	5'	ED090305	BKG
S-3	188 A,B,C	9'	EX090309	BKG

TEST PIT FIELD LOG - FORT DEVENS, MA		PROJECT NO.: 6917-04	TEST PIT NO.: 08E9204X
CLIENT: AEC		DATE: 7/7/92	STUDY AREA: SA-9, LF-5
CONTRACTOR: D. L. Maher		Time: 1530 End:	PROTECTION: Level D
GEOLOGIST: I. Broadwater, J. Corulla		GROUND ELEV.: 209.6'	TOTAL DEPTH: 9'

DEPTH	SOIL DESCRIPTION	USCS	NOTES	
0'	SAND, poorly graded, medium to coarse, 0-10% silt, 0-10% angular gravel, moist	SP		
1'				
2'				
3'	PEAT, decayed organics, 10-20% silt and clay, saturated, soft	PT		
4'	SILT, slightly plastic, 20% fine to medium sand, saturated, soft	ML		
5'				
6'				
7'				
8'				
9'				End of Test Pit at 9' (no water encountered)
10'				
11'				
12'				
13'				
14'				

No.	Serial No.	Depth	Field #	PID
S-1	404 A,B,C	3'	EX090403	BKG

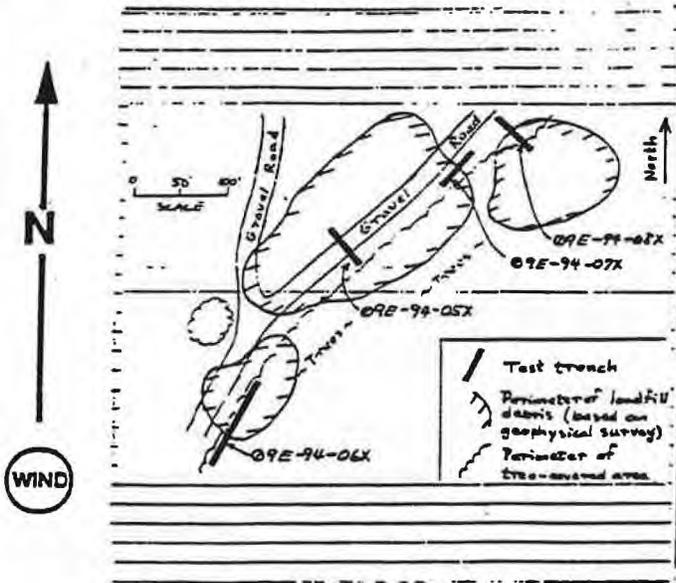
SOIL BORING LOG - FORT DEVENS, MA.				PROJECT NO.: 6917.07		BORING NO.: 21B-93-01X	
CLIENT: AEC			DATE STARTED: 6/7/93			STUDY AREA: 21	
CONTRACTOR: none			DATE COMPLETED: 6/7/93			PROTECTION: Modified 0	
METHOD: hand dug			BORING DIAMETER:			PID METER: Model 580B OVM	
GROUND ELEV:			REFERENCE PT. ELEV.:			TOTAL DEPTH: 4'	
LOGGED BY: D. Pierce			CHECKED BY:			WATER TABLE BGS: > 4'	
SAMPLE NO.	DEPTH (ft.)	PEN./REC. (ft./ft.)	PID OF SPOON (ppm)	SOIL/ROCK DESCRIPTION AND PHYSICAL CONDITIONS	BLOWS/6 IN.	USCS SOIL CLASS.	COMMENTS
S-1	0 - 1.2	NA	BKG	Clayey SAND, fine to medium sand, 5 - 10% gravel to 1 in. max. (sub-rounded), 20 - 30% slightly to mod plastic fines, loose, damp, dark grayish brown (10YR4/2), small root fibers, apparent FILL	NA	SC	Hole dug by hand shovel.
S-2	1.2 - 1.6	NA	BKG	SAND, poorly graded, fine to medium sand, < 5% fine gravel (sub-rounded), 5 - 12% nonplastic fines, loose, damp, very dark brown (10YR2/2), small root fibers, rich in decayed organics, buried RESIDUAL SOIL	NA	SP-SM	
S-3	1.6 - 4.0	NA	BKG	SAND, poorly graded, fine to medium sand, 5 - 10% gravel to 3 in. max. (sub-rounded), < 5% nonplastic fines, medium dense, damp, dark yellowish brown (10YR4/6), small root fibers	NA	SP	Analytical sample BX210102 composited from 2.0'-4.0' with stainless steel spoon and pail.

BOE at 4.0'

TEST PIT RECORD

Study Area: SA 9
 Well/Boring _____ Date 8/24/94 Time _____ End _____
 Coordinates _____ Grid Element _____

SKETCH MAP OF TEST PIT SITE



SCALE 1" = 200 FT.

NOTES: Test pits 09E-92-01X through 09E-92-04X excavated in 1992.
Purpose of test pits 09E-94-05X through 09E-94-06X is to define waste type and extent in southern "pods" identified during 1992 geophysical survey.

Crew Members:

1. D. Pierce, ABB
2. P. Joseph, Clean Harbors
3. P. Hsieh, Clean Harbors
4. E. Gonyea, Clean Harbors
- 5.
- 6.

Monitor Equipment:

PI Meter N
 Explosive Gas N
 Avail. Oxygen N
 OVA Y N
 Other _____

H₂S

Photographs, Roll 2

Exposure 4-12

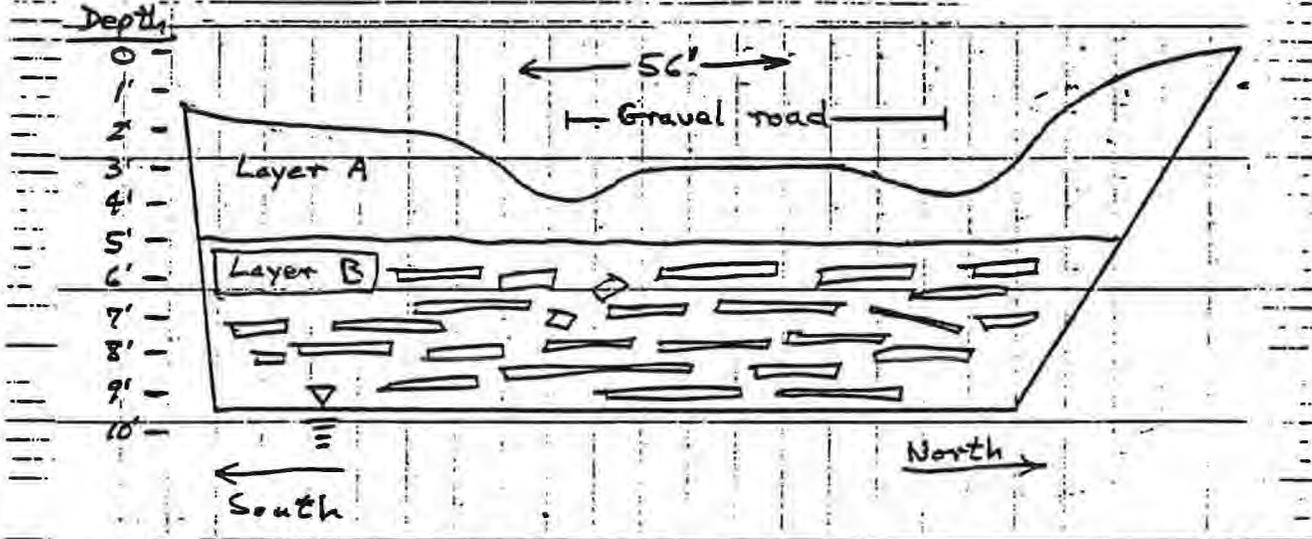
08/12/04

TEST PIT RECORD

Profile Along Test Pit: 09E-94-05X

Study Area: 9

SKETCH MAP OF TEST PIT PROFILE



SCALE 1" = 5 FT. (Vertical) 1" = 10 FT (Horizontal)
 DEPTH (FT). 4.5

NOTES:

Layer A: Clean fill, gravelly sand with rounded cobbles to 10" max. diameter, dry. No debris.

Layer B: Concentrated building demolition debris mostly wood (lumber), concrete, sheet metal, structural steel, pipes, asphalt, insulation. Layer is black, suggesting burning. Bottom of debris not observed. extends below water table.

PID = background

O₂ = 20.6

LEL = 000

H₂S = 000

no.	Inl. Ser. No.	Depth (FL)	HD. SP. VOA PPM
S-1			
S-2			
S-3			
S-4			
S-5			
S-6			
S-7			
S-8			

REFERENCE: FIELD BOOK, Pg. 52

ATTACHMENTS _____

SIGNATURE: B. L. Rivas

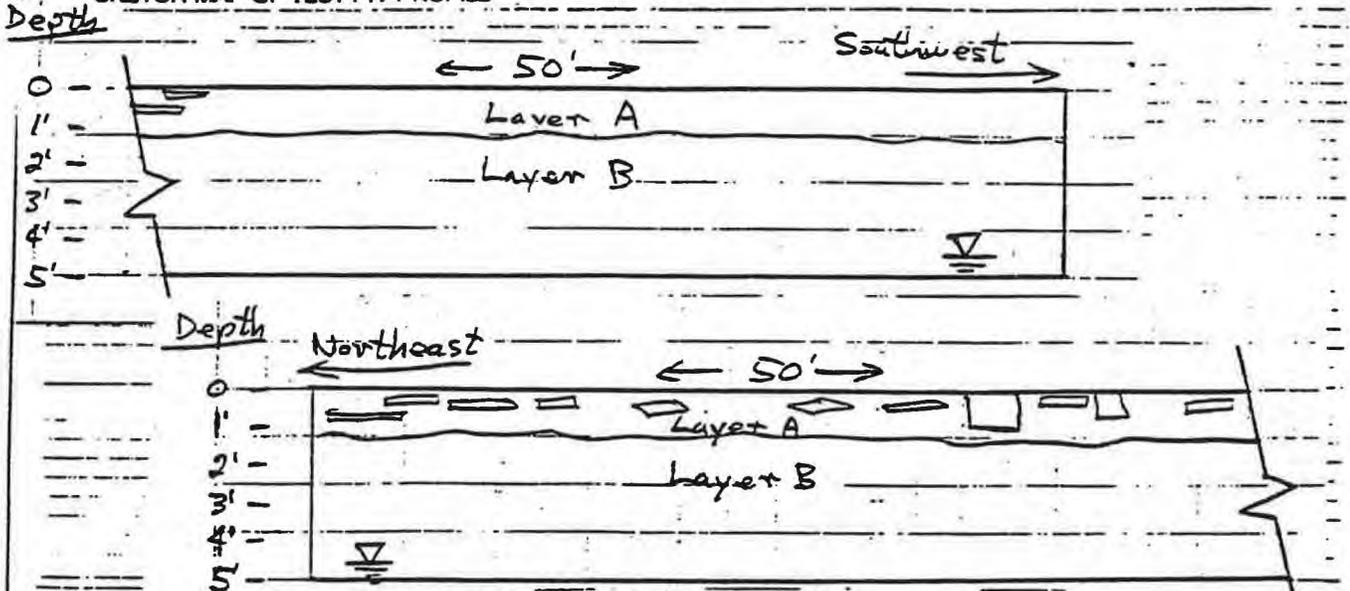
92021507

TEST PIT RECORD

Profile Along Test Pit: 09E-94-06X

Study Area: 9

SKETCH MAP OF TEST PIT PROFILE



SCALE 1" = 5 FT. (Vertical) 1" = 10 FT (Horizontal)
 DEPTH (FT.) 5

NOTES:

Layer A: Organic-rich sand, rootzone underlying thick growth of alder, poplar, and birch. Refuse in upper foot of soil beginning 46 ft. from southwest end. Sheet metal, pipe, steel cable, brick, concrete.

Layer B: Natural soil, no debris. Gravelly sand to silty fine sand. Med. yellow.

PID = background

O₂ = 20.6

LEL = 000

H₂S = 000

no.	InL Ser. No.	Depth (FL)	HD. SP. VOA PPM
S-1			
S-2			
S-3			
S-4			
S-5			
S-6			
S-7			
S-8			

REFERENCE: FIELD BOOK, Pg. 57

ATTACHMENTS _____

SIGNATURE: B. A. Berman

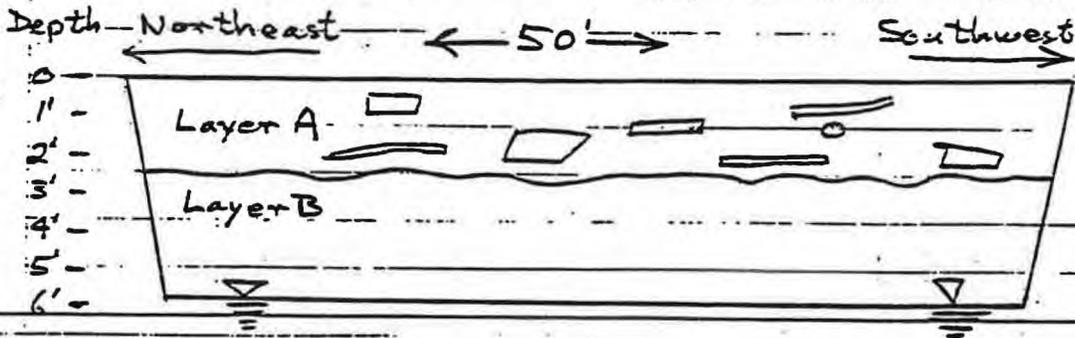
TEST PIT RECORD

0202159D

Profile Along Test Pit: 09E-94-07X

Study Area: 9

SKETCH MAP OF TEST PIT PROFILE



SCALE 1" = 5 FT. (VERTICAL) 1" = 10 FT (HORIZONTAL)
 DEPTH (FT.) 6

NOTES:

Layer A: Similar to Layer A in 09E-94-06X
except unit is 2 1/2 feet deep, with roots
and debris throughout.

Layer B: Same as Layer B in 09E-94-06X.
No debris

PID = background

O₂ = 21.0

LEL = 000

H₂S = 000

no.	InL Ser. No.	Depth (FL)	HD. SP. VOA PPM
S-1			
S-2			
S-3			
S-4			
S-5			
S-6			
S-7			
S-8			

REFERENCE: FIELD BOOK, Pg 59

ATTACHMENTS _____

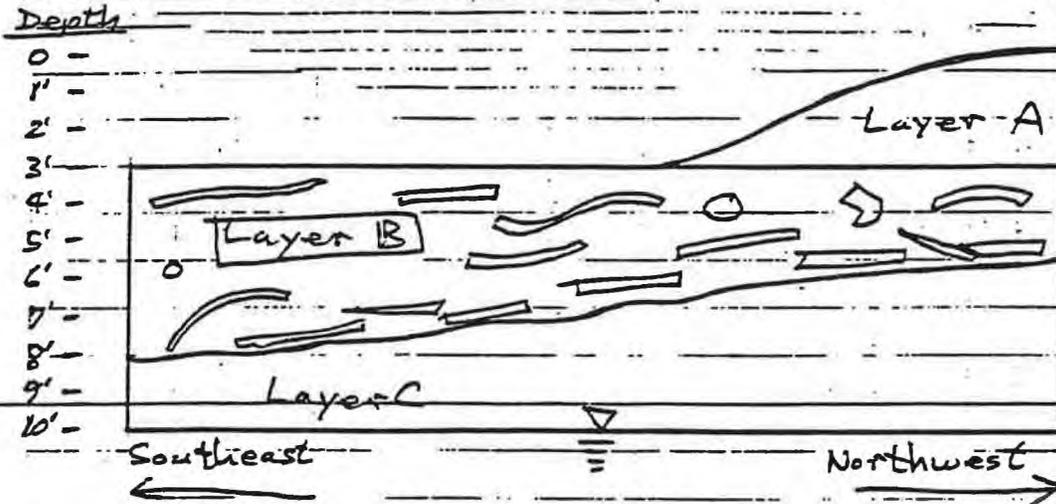
SIGNATURE: D.A. Pierce

TEST PIT RECORD

Profile Along Test Pit: 09E-94-08X

Study Area: 9

SKETCH MAP OF TEST PIT PROFILE



SCALE 1" = 5 FT. (Vertical) 1" = 10 FT (Horizontal)
 DEPTH (FT) 10

NOTES: Southwestern end of trench in thick growth of alder, viburnum, and poplar

Layer A: Gravelly sand fill mounded in a berm along the roadside sparsely vegetated.

Layer B: Same as Layer A in 09E-94-07X. Debris mostly sheet metal, pipes and concrete. No apparent burning.

Layer C: Same as Layer B in 09E-94-07X.

PID = background

O₂ = 20.9

LEL = 000

H₂S = 000

no.	Int. Ser. No.	Depth (FL)	HD. SP. VOA PPM
S-1			
S-2			
S-3			
S-4			
S-5			
S-6			
S-7			
S-8			

REFERENCE: FIELD BOOK, Pg. 61

ATTACHMENTS _____

SIGNATURE: D. Pierce

TEST PIT FIELD LOG



S E A Consultants Inc

PROJECT: DEVENS

TEST PIT NO.: TP 101 & 102

LOCATION: SA-9

DATE: 5/3/96

GROUND ELEVATION: 215.37

CONTRACTOR: MDR

WEATHER: SUN 60°

LOG PREPARED BY: TAT

EQUIPMENT: 330 EXCAV

DEPTH	STRATA CHANGE	SOIL DESCRIPTION	EXCAV. EFFORT	BOULD. COUNT	REMRK. NO.	
0						
1		MED COARSE TAN SAND & GRAVEL 	E			
2						
3			E A			
4						
5	▼		PERCHED	E A		
6						
7			E A			
8						
9		SHIFT PIT WEST ACROSS ROAD	E A			
10		END OF PIT = 12'				
11		NO WASTE ENCOUNTERED	E A			
12						
13						
14						

REMARKS:

<p>TEST PIT PLAN</p> <p style="text-align: center;">NORTH</p> <p>VOLUME = _____ cu.yd.</p>	<p>LEGEND:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>BOULDER SIZE RANGE CLASSIFICATION</th> <th>COUNT LETTER DESIGNATION</th> </tr> </thead> <tbody> <tr> <td>6" - 18"</td> <td>A</td> </tr> <tr> <td>18" - 36"</td> <td>B</td> </tr> <tr> <td>36" AND LARGER</td> <td>C</td> </tr> </tbody> </table>	BOULDER SIZE RANGE CLASSIFICATION	COUNT LETTER DESIGNATION	6" - 18"	A	18" - 36"	B	36" AND LARGER	C	<p>PROPORTIONS USED</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>TRACE</th> <th>0 - 10%</th> </tr> </thead> <tbody> <tr> <td>LITTLE</td> <td>10 - 20%</td> </tr> <tr> <td>SOME</td> <td>20 - 35%</td> </tr> <tr> <td>AND</td> <td>35 - 50%</td> </tr> </tbody> </table>	TRACE	0 - 10%	LITTLE	10 - 20%	SOME	20 - 35%	AND	35 - 50%	<p>GROUNDWATER</p> <p>▼ Observed Groundwater</p> <p>EXCAVATION EFFORT</p> <p>E — EASY</p> <p>M — MODERATE</p> <p>D — DIFFICULT</p>
BOULDER SIZE RANGE CLASSIFICATION	COUNT LETTER DESIGNATION																		
6" - 18"	A																		
18" - 36"	B																		
36" AND LARGER	C																		
TRACE	0 - 10%																		
LITTLE	10 - 20%																		
SOME	20 - 35%																		
AND	35 - 50%																		

TEST PIT FIELD LOG



SEA Consultants Inc.

PROJECT: DEVENS
LOCATION: SA-9

TEST PIT NO.: TP-103
DATE: 5/3/96

GROUND ELEVATION: 216.59
LOG PREPARED BY: JAT

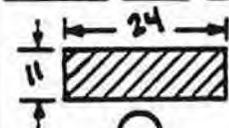
CONTRACTOR: MDR
EQUIPMENT: 330 EXCA

WEATHER: SUN 70

DEPTH	STRATA CHANGE	SOIL DESCRIPTION	EXCAV. EFFORT	BOULD. COUNT	REMRK. NO.
0		YELLOW MED / COARSE SAND & GRAVEL	E		
1'					
2'					
3'		DENSE BUILDING DEBRIS - WOOD / METAL / CONCR / ASPHALT MIXED WITH SAND & GRAVEL	D	A	
4'					
5'	▼ =	PERCHED			
6'			D	A	I
7'		BOTTOM WASTE = 7'			
8'		GREY FINE SAND & SILT	E		
9'		↓ END OF PIT = 13'			
10'			E		
11'					
12'			E		
13'					
14'					

REMARKS: D PETROLEUM ODR

TEST PIT PLAN



NORTH

VOLUME = _____ cu.yd.

LEGEND:

BOULDER SIZE RANGE CLASSIFICATION	COUNT LETTER DESIGNATION
6" - 18"	A
18" - 36"	B
36" AND LARGER	C

PROPORTIONS USED

TRACE	0 - 10%
LITTLE	10 - 20%
SOME	20 - 35%
AND	35 - 50%

GROUNDWATER

- ▼ Observed Groundwater EXCAVATION EFFORT
- E — EASY
 - M — MODERATE
 - D — DIFFICULT

TEST PIT FIELD LOG

CONSULTANTS, INC.
 Engineers Architects
 1855A Independence Avenue
 San Diego, CA 92108

PROJECT: **DEVENS**
 LOCATION: **NORTH POST - SA-9**
 CLIENT: **DC**
 WEATHER: **SUNNY 50's**

TEST PIT No. **TP-104**
 PROJECT No.:

Ground Surface Elevation: **216.19**
 Top of Surface: **513190**
 Top of Foundation: **513190**
 Foundation Elevation: **MOZ 330**
 Geotechnical Engineer: **T. Towle**

GROUNDWATER OBSERVATIONS

DATE	TIME	DEPTH	STABILIZATION TIME

DEPTH (ft)	STRATA CHANGE	SOIL DESCRIPTION	EXCAVATION EFFORT	BOULDER COUNT	REMARKS	
1	PERCHED	YELLOW MEDIUM COARSE SAND AND GRAVEL LITTLE BOULDERZ	E	A		
2						
3						
4			SEVERAL PIECES OF WOOD, CABLE	E		B
5				E		
6						
7						
8			GREY FINE SAND AND SILT, MOIST	E		
9						
10			WASTE VISIBLE FAR END - SHIFT PIT NORTH	M		
11			1 DENSE BUILDING DEBRIS, METAL WOOD	M		
12			2 CONC	M		
13						
14		PERCHED	M			
15			M			
16			M			
17		BOTTOM WASTE = 0'	M			
18		DENSE GREY SAND AND SILT, MOIST	M			
19						
20		1' ORGANICS	M			
21		SAND SILT WITH ROOTS (NATIVE)				
22		END OF PIT IS				
23						
24						
25						

REMARKS: 1) PIT IS SHIFTED NORTH TO CHASE WASTE START TIME: 8:20
 FINISH TIME: 8:40

PORTIONS USED	EXCAVATION EFFORT	BOULDER COUNT	TEST PIT PLAN	NORTH
ce 0 to 10%	E - EASY	SIZE FEET	4T	←
lc 10 to 20%	M - MODERATE	6" - 12"	VOLUME = cu.yd.	
nc 20 to 35%	D - DIFFICULT	18" - 60"		
nd 35 to 50%		60" - 120"		

TEST PIT FIELD LOG

SEA CONSULTANTS, INC. Engineers / Architects 485 Massachusetts Avenue Cambridge, MA 02139-1018	PROJECT: DEVENS LOCATION: 100 - 35 - F - SA - 9 CLIENT: CCC WEATHER: SUNNY 50%	TEST PIT No. TP-105 <hr/> PROJECT No.:
--	--	---

Ground Surface Elevation: 214.75 Date Started: 5/31/96 Date Finished: 5/31/96 Contractor Equipment: MD2330L Soil Engineer / Geologist: T-TJOSLO	GROUNDWATER OBSERVATIONS												
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">DATE</th> <th style="width: 15%;">TIME</th> <th style="width: 15%;">DEPTH</th> <th style="width: 55%;">STABILIZATION TIME</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	DATE	TIME	DEPTH	STABILIZATION TIME								
DATE	TIME	DEPTH	STABILIZATION TIME										

DEPTH ()	STRATA CHANGE	SOIL DESCRIPTION	EXCAVATION EFFORT	BOULDER COUNT	REMARK NO.
1		METAL, WOOD, STYROFOAM, CONC	M		
2	PERCHED		M		
3		VERY DENSE BUILDING DEBRIS	M		
4		- ODD			
5			M		
6		SAND/GRAVEL, UNSET	M		
7		VERY DENSE BUILDING DEBRIS	M		
8		BOTTOM WASTE = 8'	M		
9		FINE GREY SAND & SILT, MOIST (NATIVE)	E		
10					
11		END OF PIT = 12'			
12					
13					
14					
15					
16					
17					
18					
19					
20					
22					
23					
24					

REMARKS:
 PHOTO 19

START TIME: 7:55
 FINISH TIME: 8:16

PROPORTIONS USED	EXCAVATION EFFORT	BOULDER COUNT	TEST PIT PLAN	NORTH
Trace 0 to 10%	E - EASY	SIZE LETTER		+
Little 10 to 20%	M - MODERATE	6" - 18" A		
Some 20 to 35%	D - DIFFICULT	18" - 36" B		
And 35 to 50%		> 36" C		

TEST PIT FIELD LOG

SEA CONSULTANTS, INC. Engineers - Architects 485 Massachusetts Avenue Cambridge, MA 02139-0018	PROJECT: DEVEL LOCATION: UNIT # 15 - SA-9 CLIENT: DEC WEATHER: SUNNY 50s	TEST PIT No. TP-106 <hr/> PROJECT No.:
--	---	---

Ground Surface Elevation 718.55 Date Started 5/24/96 Date Finished 5/31/96 Contractor Equipment MCR 370 Soil Engineer - Geologist: T. Tolosko	GROUNDWATER OBSERVATIONS								
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">DATE</th> <th style="width: 15%;">TIME</th> <th style="width: 15%;">DEPTH</th> <th style="width: 55%;">STABILIZATION TIME</th> </tr> </thead> <tbody> <tr> <td>5/31/96</td> <td></td> <td>5'</td> <td></td> </tr> </tbody> </table>	DATE	TIME	DEPTH	STABILIZATION TIME	5/31/96		5'	
DATE	TIME	DEPTH	STABILIZATION TIME						
5/31/96		5'							

DEPTH ()	STRATA CHANGE	SOIL DESCRIPTION	EXCAVATION EFFORT	BOULDER COUNT	REMARK NO.
1		6" ORGANICS	E	A	
2		MEDIUM / COARSE YELLOW SAND AND GRAVEL SOME BOULDERS ROOTS	E	A	
3			E	A	
4			E	A	
5	= PERCHED		E	A	
6			E	A	
7			E	A	
8		PIECE OF LUMBER	E	A	
9		BOTTOM OF WASTE = 10'	E	A	
10		DARK ORGANIC LAYER	E	A	
11			E	A	
12		MEDIUM / COARSE SAND AND GRAVEL	E	A	
13		SOME BOULDERS, WET	E	A	
14			E	A	
15			E	A	
16		HOLE IS COLLAPSING			
17		END OF PIT-16			
18					
19					
20					
21					
22					
23					
24					
25					

REMARKS: START TIME: 720
FINISH TIME:

PORTIONS USED	EXCAVATION EFFORT	BOULDER COUNT	TEST PIT PLAN	NORTH
Trace 0 to 10%	E - EASY	SIZE LETTER	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> 25 VOLUME = cu.yd. </div>	+
Little 10 to 20%	M - MODERATE	6" - 18" A		
Some 20 to 35%	D - DIFFICULT	18" - 36" B		
And 35 to 50%		> 36" C		

TEST PIT FIELD LOG



SEA Consultants Inc.

PROJECT: DEVENS

TEST PIT NO.: TP-107

LOCATION SA-9

DATE: 5/2/96

GROUND ELEVATION: 215.4

CONTRACTOR: MOR

WEATHER: SUN 70

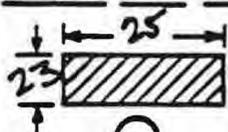
LOG PREPARED BY: TAT

EQUIPMENT: 330 EXCAV

DEPTH	STRATA CHANGE	SOIL DESCRIPTION	EXCAV. EFFORT	BOULD. COUNT	REMRK. NO.
0'		MED/ COARSE SAND AND GRAVEL			
1'					
2'		PIECE OF METAL			
3'					
4'	▽	SAND & GRAVEL			
5'					
6'		PIECE OF LUMBER			
7'					
8'		SAND & GRAVEL			
9'					
10'					
11'		END OF PIT = 11'			1
12'		BOTTOM OF WASTE ~ 6'			
13'					
14'					

REMARKS: D) SIDE WALLS CONTINUALLY COLLAPSING

TEST PIT PLAN



NORTH

VOLUME = _____ cu.yd.

LEGEND:

BOULDER SIZE RANGE CLASSIFICATION	COUNT LETTER DESIGNATION
6" - 18"	A
18" - 36"	B
36" AND LARGER	C

PROPORTIONS USED

TRACE	0 - 10%
LITTLE	10 - 20%
SOME	20 - 35%
AND	35 - 50%

GROUNDWATER

▽ Observed Groundwater

EXCAVATION EFFORT

E	EASY
M	MODERATE
D	DIFFICULT

TEST PIT FIELD LOG

S E A CONSULTANTS, INC.
 Engineers / Architects
 485 Massachusetts Avenue
 Cambridge, MA 02139-4018

PROJECT: DEWENS
LOCATION: WORTH ST SA-9
CLIENT: DCL
WEATHER: SUNNY 70s

TEST PIT No. TP-108

PROJECT No.:

Ground Surface Elevation: 216.00
Date Started: 5/2/94
Date Finished: 5/2/94
Contractor / Equipment: MOR 330
Soil Engineer / Geologist: T. TOLSK

GROUNDWATER OBSERVATIONS

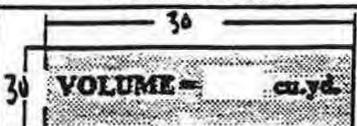
DATE	TIME	DEPTH	STABILIZATION TIME
		3'	

DEPTH ()	STRATA CHANGE	SOIL DESCRIPTION	EXCAVATION EFFORT	BOULDER COUNT	REMARK NO.
1		MED SAND & GRAVEL WITH PIECE OF METAL / SAND BAG			
2					
3		BOTTOM OF WASTE = 4'	E	A	
4					
5		MEDIUM / COARSE SAND W/ GRAVEL / BOULDERS	E	A	
6					
7					
8			E	A	
9					
10					
11		HOLE KEEPS COLLAPSING	E	A	
12		NO WASTE			
13		END OF PIT ~ 13-14'			
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

REMARKS:

PHOTO 4

START TIME: 9:25
FINISH TIME: 9:20

PROPORTIONS USED	EXCAVATION EFFORT	BOULDER COUNT	TEST PIT PLAN	NORTH
Trace 0 to 10%	E - EASY	SIZE LETTER	30 	+
Little 10 to 20%	M - MODERATE	6" - 18" A	30 VOLUME = cu.yd.	
Some 20 to 35%	D - DIFFICULT	18" - 36" B		
And 35 to 50%		> 36" C		

TEST PIT FIELD LOG

SEA CONSULTANTS, INC.
 Engineers / Architects
 485 Massachusetts Avenue
 Cambridge, MA 02139-4018

PROJECT: DEVENS
LOCATION: SA-9
CLIENT: DCC
WEATHER: SUN 70S

TEST PIT No. TP-109

PROJECT No.:

Ground Surface Elevation: 213.0'
 Date Started: 5/2/96
 Date Finished: 5/2/96
 Contractor Equipment: MOR 330 L
 Soil Engineer / Geologist: T. T. WILKO

GROUNDWATER OBSERVATIONS

DATE	TIME	DEPTH	STABILIZATION TIME

DEPTH ()	STRATA CHANGE	SOIL DESCRIPTION	EXCAVATION EFFORT	BOULDER COUNT	REMARK NO.
1		MEDIUM / COARSE SAND AND			
2		GRAVEL, LITTLE BOULDERS	E	A	
3		2 PIECES OF WOOD			
4		12" DRAIN PIPE RUNNING UNDER ROAD			
5	PERCHED	MEDIUM COARSE SAND AND	E	A	
6		GRAVEL, NO WASTE			
7			E	A	
8		WATER IN HOLE			
9					
10					
11					
12					
13		HOLE COLLAPSING			
14		BOTTOM PIT ~ 13-14'			
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

REMARKS:

START TIME: 9:20
FINISH TIME: 9:50

(1) ASBESTOS PIPE

PROPORTIONS USED	EXCAVATION EFFORT	BOULDER COUNT	TEST PIT PLAN	NORTH
Trace 0 to 10%	E - EASY	SIZE LETTER	27	+
Little 10 to 20%	M - MODERATE	6" - 18" A	VOLUME = cu.yd.	
Some 20 to 35%	D - DIFFICULT	18" - 36" B		
And 35 to 50%		> 36" C		

TEST PIT FIELD LOG 192



SEA Consultants Inc.

PROJECT: DEVENS

TEST PIT NO.: TP-110

LOCATION SA-9

DATE: 5/2/96

GROUND ELEVATION: 216.81

CONTRACTOR: MDR

WEATHER: SUN SU°

LOG PREPARED BY: TAT

EQUIPMENT: 330

DEPTH	STRATA CHANGE	SOIL DESCRIPTION	EXCAV. EFFORT	BOULD. COUNT	REMRK. NO.
0		6" GEYANKS			
1'					
2'		SAND & GRAVEL	E	A	
3'		DENSE BUILDING DEBRIS - LUMBER METAL CONC/WIRE			
4'			M	A	
5'	▼ =	PERCHED WATER			
6'			M	A	
7'		DENSE BUILDING DEBRIS			
8'			M	A	
9'					
10'			M	A	
11'					
12'		BOTTOM OF WASTE - 12'	E	A	
13'					
14'		YELLOW MEDIUM COARSE SAND, SOME GRAVEL, WET	E	A	

REMARKS:

TEST PIT PLAN	LEGEND:	PROPORTIONS USED	GROUNDWATER																
<p>VOLUME = _____ cu.yd.</p>	<table border="1"> <thead> <tr> <th>BOULDER SIZE RANGE CLASSIFICATION</th> <th>COUNT LETTER DESIGNATION</th> </tr> </thead> <tbody> <tr> <td>6" - 18"</td> <td>A</td> </tr> <tr> <td>18" - 36"</td> <td>B</td> </tr> <tr> <td>36" AND LARGER</td> <td>C</td> </tr> </tbody> </table>	BOULDER SIZE RANGE CLASSIFICATION	COUNT LETTER DESIGNATION	6" - 18"	A	18" - 36"	B	36" AND LARGER	C	<table border="1"> <thead> <tr> <th>TRACE</th> <th>0 - 10%</th> </tr> </thead> <tbody> <tr> <td>LITTLE</td> <td>10 - 20%</td> </tr> <tr> <td>SOME</td> <td>20 - 35%</td> </tr> <tr> <td>AND</td> <td>35 - 50%</td> </tr> </tbody> </table>	TRACE	0 - 10%	LITTLE	10 - 20%	SOME	20 - 35%	AND	35 - 50%	<p>▼ Observed Groundwater</p> <p>EXCAVATION EFFORT</p> <p>E — EASY</p> <p>M — MODERATE</p> <p>D — DIFFICULT</p>
BOULDER SIZE RANGE CLASSIFICATION	COUNT LETTER DESIGNATION																		
6" - 18"	A																		
18" - 36"	B																		
36" AND LARGER	C																		
TRACE	0 - 10%																		
LITTLE	10 - 20%																		
SOME	20 - 35%																		
AND	35 - 50%																		

TEST PIT FIELD LOG

S E A CONSULTANTS, INC. Engineers / Architects 485 Massachusetts Avenue Cambridge, MA 02139-4018	PROJECT: DEYENS LOCATION: SA-9 CLIENT: DCC WEATHER: SUN 70	TEST PIT No. TP-111 <hr/> PROJECT No.:
--	---	---

Ground Surface Elevation: 215.76 Date Started: 5/2/96 Date Finished: 5/2/96 Contractor / Equipment: MOE 330 Soil Engineer / Geologist: TAT	GROUNDWATER OBSERVATIONS																
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">DATE</th> <th style="width: 15%;">TIME</th> <th style="width: 15%;">DEPTH</th> <th style="width: 55%;">STABILIZATION TIME</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	DATE	TIME	DEPTH	STABILIZATION TIME												
DATE	TIME	DEPTH	STABILIZATION TIME														

DEPTH ()	STRATA CHANGE	SOIL DESCRIPTION	EXCAVATION EFFORT	BOULDER COUNT	REMARK NO.
1		6" ORLANS			
2					
3		SAND LEAVEL WITH CONC, METAL, PIPE			
4					
5	- PERCEIVED -	BOTTOM OF WASTE = 5'			
6		YELLOW MEDIUM GRADE SAND, SOME GRAVEL			
7					
8					
9	-	GREEN MEDIUM SAND/SILT			
10		HOLE IS COLLAPSING			
11		BOTTOM OF PIT = 9'			
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

REMARKS: START TIME: 9:55
FINISH TIME: 10:15

PROPORTIONS USED	EXCAVATION EFFORT	BOULDER COUNT	TEST PIT PLAN	NORTH
Trace 0 to 10% Little 10 to 20% Some 20 to 35% And 35 to 50%	E - EASY M - MODERATE D - DIFFICULT	SIZE LETTER 6" - 18" A 18" - 36" B > 36" C	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> 10 VOLUME = cu.yd. </div>	+

TEST PIT FIELD LOG



SEA Consultants Inc.

PROJECT: DEVENS

TEST PIT NO.: TP-112

LOCATION SA-9

DATE: 5/2/96

GROUND ELEVATION: 216.64

CONTRACTOR: MOR

WEATHER: SUN 70°

LOG PREPARED BY: TAT

EQUIPMENT: 330 EXCAV

DEPTH	STRATA CHANGE	SOIL DESCRIPTION	EXCAV. EFFORT	BOULD. COUNT	REMRK. NO.
0		CONC @ SURFACE			
1					
2		NUMEROUS 5 GAL PAILS OF OIL / TRAPS			
3		FLUID - STRONG PETROLEUM ODOR			
4		↓			
5	4 =				
6	6	↓ BOTTOM OF PIT = 6'			1
7					
8					
9					
10					
11					
12					
13					
14					

REMARKS: 1) TERMINATED PIT @ 6' BY DUE PRESENCE OF SCREEN ON WATER IN PIT & STRONG ODOR.

<p>TEST PIT PLAN</p> <p>VOLUME = _____ cu.yd.</p>	<p>LEGEND:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>BOULDER SIZE RANGE CLASSIFICATION</th> <th>COUNT LETTER DESIGNATION</th> </tr> </thead> <tbody> <tr> <td>6" - 18"</td> <td>A</td> </tr> <tr> <td>18" - 36"</td> <td>B</td> </tr> <tr> <td>36" AND LARGER</td> <td>C</td> </tr> </tbody> </table>	BOULDER SIZE RANGE CLASSIFICATION	COUNT LETTER DESIGNATION	6" - 18"	A	18" - 36"	B	36" AND LARGER	C	<p>PROPORTIONS USED</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td>TRACE</td> <td>0 - 10%</td> </tr> <tr> <td>LITTLE</td> <td>10 - 20%</td> </tr> <tr> <td>SOME</td> <td>20 - 35%</td> </tr> <tr> <td>AND</td> <td>35 - 50%</td> </tr> </tbody> </table>	TRACE	0 - 10%	LITTLE	10 - 20%	SOME	20 - 35%	AND	35 - 50%	<p>GROUNDWATER</p> <p>▼ Observed Groundwater</p> <p>EXCAVATION EFFORT</p> <p>E — EASY</p> <p>M — MODERATE</p> <p>D — DIFFICULT</p>
BOULDER SIZE RANGE CLASSIFICATION	COUNT LETTER DESIGNATION																		
6" - 18"	A																		
18" - 36"	B																		
36" AND LARGER	C																		
TRACE	0 - 10%																		
LITTLE	10 - 20%																		
SOME	20 - 35%																		
AND	35 - 50%																		

TEST PIT FIELD LOG

S E A CONSULTANTS, INC. Engineers / Architects 485 Massachusetts Avenue Cambridge, MA 02139-4018	PROJECT: DEVENTS LOCATION: NORTH POST - SA-9 CLIENT: OCC WEATHER: SUNNY 70's	TEST PIT No. TP-113
	PROJECT No.:	

Ground Surface Elevation: 221.09 Date Started: 5/2/96 Date Finished: 5/2/96 Contractor / Equipment: MOR 330L Soil Engineer / Geologist: T TOLOSKEW	GROUNDWATER OBSERVATIONS												
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 25%;">DATE</th> <th style="width: 25%;">TIME</th> <th style="width: 25%;">DEPTH</th> <th style="width: 25%;">STABILIZATION TIME</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	DATE	TIME	DEPTH	STABILIZATION TIME								
DATE	TIME	DEPTH	STABILIZATION TIME										

DEPTH ()	STRATA CHANGE	SOIL DESCRIPTION	EXCAVATION EFFORT	BOULDER COUNT	REMARK NO.
1		6" DEBRIS			
2		DK TAN SAND WITH LUMBER /	E	-	
3		ASPHALT SHINGLES / METAL PIPE			
4					
5		DENSE BUILDING DEBRIS - WOOD /	M	-	
6		ASPHALT SHINGLES			
7					
8			I	-	
9					
10	14	METAL COR. PIPE, PLASTIC WRAP	D	-	
11		DENSE BUILDING DEBRIS			
12					2
13			I	-	
14					
15					
16			I	-	
17					
18					
19					
20			M	-	
21					
22					
23		BOTTOM OF WASTE = 23'	M	-	
24		DARK, ORGANIC PEAT, MUD			
25		END OF PIT = 25'			

REMARKS: (1) DID NOT OBSERVE ASBESTOS FIBERS, BOARDS ETC.
 (2) WATER, DEBRIS VERY DARK IN COLOR

START TIME: 10:15
 FINISH TIME: 10:50

PROPORTIONS USED	EXCAVATION EFFORT	BOULDER COUNT	TEST PIT PLAN	NORTH
Trace 0 to 10%	E - EASY	SIZE LETTER		+
Little 10 to 20%	M - MODERATE	6" - 18" A	VOLUME = cu.yd.	
Some 20 to 35%	D - DIFFICULT	18" - 36" B		
And 35 to 50%		> 36" C		

TEST PIT FIELD LOG

SEA CONSULTANTS, INC. Engineers - Architects 485 Massachusetts Avenue Cambridge, MA 02139-4018	PROJECT: DEWEN'S LOCATION: NORTH POST LF. SA-9 CLIENT: DCC WEATHER: SUNNY S ₀	TEST PIT No. TP-114 PROJECT No.:
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Ground Surface Elevation: 221.71 Date Started: 5/21/96 Date Finished: 5/21/96 Contractor: Equipment: MDR 330 Soil Engineer: Geologist: [Signature]	GROUNDWATER OBSERVATIONS								
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">DATE</th> <th style="width: 15%;">TIME</th> <th style="width: 15%;">DEPTH</th> <th style="width: 55%;">STABILIZATION TIME</th> </tr> </thead> <tbody> <tr> <td>5/2</td> <td>7:35</td> <td>~10'</td> <td></td> </tr> </tbody> </table>	DATE	TIME	DEPTH	STABILIZATION TIME	5/2	7:35	~10'	
DATE	TIME	DEPTH	STABILIZATION TIME						
5/2	7:35	~10'							

DEPTH ()	STRATA CHANGE	SOIL DESCRIPTION	EXCAVATION EFFORT	BOULDER COUNT	REMARK NO.
1		4' SILTSTONES			
2		LUMBER, CLAY PIPE, CONC, METAL,	E	B	
3		PIPES WITH DARK BROWN SANDY			
4		GRAVEL			
5					
6					
7			M	A	
8					
9			E		
10				A	
11					
12			E		
13					
14					
15					
16			E		
17					
18					
19					
20					
21					
22					
23					
24					
25					

REMARKS: NO ODOOR, SWELL ON WATER

START TIME: 7:25
FINISH TIME: 7:40

PROPORTIONS USED	EXCAVATION EFFORT	BOULDER COUNT	TEST PIT PLAN	NORTH
Trace 0 to 10% Little 10 to 20% Some 20 to 35% And 35 to 50%	E - EASY M - MODERATE D - DIFFICULT	SIZE LETTER 6" - 18" A 18" - 36" B > 36" C	14 VOLUME = cu.yd.	

TEST PIT FIELD LOG

SEA CONSULTANTS, INC.
 Engineers / Architects-
 485 Massachusetts Avenue
 Cambridge, MA 02139-4018

PROJECT: DEVEN'S
LOCATION: SA-9
CLIENT: OCC
WEATHER: SUN 70°

TEST PIT No. TP-115

PROJECT No.:

Ground Surface Elevation: ~~213.15~~ 223.19

Date Started: 5/2/96

Date Finished: 5/2/96

Contractor Equipment: MDE 330L

Soil Engineer / Geologist: TAT

GROUNDWATER OBSERVATIONS

DATE	TIME	DEPTH	STABILIZATION TIME
NOT ENCOUNTERED			

NOT ENCOUNTERED

DEPTH ()	STRATA CHANGE	SOIL DESCRIPTION	EXCAVATION EFFORT	BOULDER COUNT	REMARK NO.
1		6" DEBRIS	E	-	
2		YELLOW MEDIUM SAND			
3			E		
4		DENSE WOOD, CONC, METAL, CONFOOT			
5		WITH SAND, METAL PIPES			
6		INSULATION (FOAM) YELLOW	D		
7			M		
8					
9					
10		BOTTOM OF WASTE = 11'	M		
11					
12		YELLOW, MEDIUM COARSE SAND		A	
13		WITH GRAVEL, MOIST			
14					
15					
16		END OF PIT = 16'			
17					
18					
19					
20					
21					
22					
23					
24					
25					

REMARKS:

START TIME: 10:45
FINISH TIME: 11:00

PROPORTIONS USED	EXCAVATION EFFORT	BOULDER COUNT	TEST PIT PLAN	NORTH
Trace 0 to 10%	E - EASY	SIZE LETTER	14 VOLUME = cu.yd.	+
Little 10 to 20%	M - MODERATE	6" - 18" A		
Some 20 to 35%	D - DIFFICULT	18" - 36" B		
And 35 to 50%		> 36" C		

TEST PIT FIELD LOG

S E A CONSULTANTS, INC. Engineers / Architects 485 Massachusetts Avenue Cambridge, MA 02139-1018	PROJECT: DEVENS LOCATION: SA-9 CLIENT: DCC WEATHER: SUN 70°	TEST PIT No. TP-116 <hr/> PROJECT No.:
---	--	--

Ground Surface Elevation: 226.23 Date Started: 5/2/96 Date Finished: 5/2/96 Contractor Equipment: M02 330 Soil Engineer / Geologist: TAT	GROUNDWATER OBSERVATIONS																
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">DATE</th> <th style="width: 15%;">TIME</th> <th style="width: 15%;">DEPTH</th> <th style="width: 55%;">STABILIZATION TIME</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	DATE	TIME	DEPTH	STABILIZATION TIME												
DATE	TIME	DEPTH	STABILIZATION TIME														

DEPTH ()	STRATA CHANGE	SOIL DESCRIPTION	EXCAVATION EFFORT	BOULDER COUNT	REMARK NO.
1					
2		LARGE PIECES CONC (4' Ø), BRICK WOOD	M	A	
3					
4		METAL PIPE, CONC FOOTINGS WITH DARK SANDS, GRAVEL/BOULDER	M	B	
5					
6			D		
7					
8		ASPHALT SHINGLES, CONC, WOOD	M		
9					
10			M		
11		BOTTOM OF WASTE = 11'			
12					
13		YELLOW, MED/LARGE SAND AND GRAVEL, SOME BOULDERS		A	
14					
15		BOTTOM OF PIT = 14'			
16					
17					
18					
19					
20					
21					
22					
23					
24					

REMARKS:

START TIME: 1345
FINISH TIME: 1406

PROPORTIONS USED	EXCAVATION EFFORT	BOULDER COUNT	TEST PIT PLAN	NORTH
Trace 0 to 10%	E - EASY	SIZE LETTER	18'	+
Little 10 to 20%	M - MODERATE	6" - 18" A	VOLUME = cu.yd.	
Some 20 to 35%	D - DIFFICULT	18" - 36" B		
And 35 to 50%		> 36" C		

TEST PIT FIELD LOG

SEA CONSULTANTS, INC. Engineers / Architects 485 Massachusetts Avenue Cambridge, MA 02139-4018	PROJECT: DEVEN'S LOCATION: SA-9 CLIENT: DCC WEATHER: SUN 70°	TEST PIT No. TP-117 <hr/> PROJECT No.:
--	---	---

Ground Surface Elevation: 220.98 Date Started: 5/2/96 Date Finished: 5/2/96 Contractor / Equipment: MOR 330 Soil Engineer / Geologist: TAT	GROUNDWATER OBSERVATIONS												
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">DATE</th> <th style="width: 15%;">TIME</th> <th style="width: 15%;">DEPTH</th> <th style="width: 55%;">STABILIZATION TIME</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	DATE	TIME	DEPTH	STABILIZATION TIME								
DATE	TIME	DEPTH	STABILIZATION TIME										

DEPTH ()	STRATA CHANGE	SOIL DESCRIPTION	EXCAVATION EFFORT	BOULDER COUNT	REMARK NO.
1		COARSE SAND & GRAVEL W/ SOME CONC	M	A	
2					
3					
4	—				
5		MOSTLY SAND & GRAVEL W/ LUMBER	M	-	
6					
7	—				
8		DENSE BUILDING DEBRIS - WOOD/CONC/METAL/ASPHALT	D		
9					
10					
11	PERCHED		D		
12					
13			D		
14					
15					
16			M	A	
17					
18			M	B	
19					
20					
21			D		
22					
23					
24		BOTTOM OF WASTE = 24' DENSE TILL - MOST			
25		BOTTOM OF PIT = 25'	D		

REMARKS: JOHN REGAN - DEP OBSERVE ACTIVITIES RON - DIPIPO - ARMY	START TIME: 11:05 FINISH TIME: 11:45
---	---

PROPORTIONS USED	EXCAVATION EFFORT	BOULDER COUNT	TEST PIT PLAN	NORTH
Trace 0 to 10%	E - EASY M - MODERATE D - DIFFICULT	SIZE LETTER	26 VOLUME = cu.yd.	+
Little 10 to 20%		6" - 18" A		
Some 20 to 35%		18" - 36" B		
And 35 to 50%		> 36" C		

TEST PIT FIELD LOG

SEA CONSULTANTS, INC. Engineers - Architects 485 Massachusetts Avenue Cambridge, MA 02139-1018	PROJECT: DEVENS LOCATION: SA-9 CLIENT: DCC WEATHER: SUN 70	TEST PIT No. TP-118 <hr/> PROJECT No.:
--	---	--

Ground Surface Elevation: 222.48 Date Started: 5/2/96 Date Finished: 5/2/96 Contractor Equipment: MOR 330 Soil Engineer Geologist: TAT	GROUNDWATER OBSERVATIONS								
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">DATE</th> <th style="width: 15%;">TIME</th> <th style="width: 15%;">DEPTH</th> <th style="width: 55%;">STABILIZATION TIME</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">5/2/96</td> <td></td> <td style="text-align: center;">~11</td> <td></td> </tr> </tbody> </table>	DATE	TIME	DEPTH	STABILIZATION TIME	5/2/96		~11	
DATE	TIME	DEPTH	STABILIZATION TIME						
5/2/96		~11							

DEPTH ()	STRATA CHANGE	SOIL DESCRIPTION	EXCAVATION EFFORT	BOULDER COUNT	REMARK NO.
1		MEDIUM/LARGE SAND AND GRAVEL	E	A	
2		SEVERAL PIECES OF WOOD			
3					
4		BOTTOM OF WASTE ~ 4'			
5		YELLOW SAND & GRAVEL	E		
6		NO WASTE			
7			E	A	
8					
9			E	A	
10					
11			E	A	
12					
13			E	A	
14		HOLE IS COLLAPSING			
15		END OF PIT			
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					

REMARKS:

START TIME: 11:45
FINISH TIME: 12:05

PORTIONS USED	EXCAVATION EFFORT	BOULDER COUNT	TEST PIT PLAN	NORTH
0 to 10%	E - EASY	SIZE LETTER	22	
10 to 20%	M - MODERATE	6" - 18" A	VOLUME = _____ cu.yd.	
20 to 35%	D - DIFFICULT	18" - 36" B		
35 to 50%		> 36" C		

TEST PIT FIELD LOG

SEA CONSULTANTS, INC. Engineers / Architects 485 Massachusetts Avenue Cambridge, MA 02139-4018	PROJECT: DEVENS LOCATION: SA-9 CLIENT: DCC WEATHER: SUN 70s	TEST PIT No. TP-119 <hr/> PROJECT No.:
--	--	--

Ground Surface Elevation: 227.24 Date Started: 5/2/96 Date Finished: Contractor / Equipment: MDC 330 Soil Engineer / Geologist: TAT	GROUNDWATER OBSERVATIONS																
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">DATE</th> <th style="width: 15%;">TIME</th> <th style="width: 15%;">DEPTH</th> <th style="width: 55%;">STABILIZATION TIME</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	DATE	TIME	DEPTH	STABILIZATION TIME												
DATE	TIME	DEPTH	STABILIZATION TIME														

DEPTH (FT)	STRATA CHANGE	SOIL DESCRIPTION	EXCAVATION EFFORT	BOULDER COUNT	REMARK NO.	
1		YELLOW MEDIUM SAND	E			
2						
3		FAIRLY DENSE BUILDING				
4		DEBRIS - WOOD, SHINGLES, P.P.E.	M	13		
5		CONC, BRICK, SOME PLASTIC				
6		WITH DARK TAN SAND & GRAVEL	M			
7						
8						
9			D			
10	11.7' PERLINED					
11						
12				M		
13						
14						
15				M		
16		↓ BOTTOM OF WASTE = 17'				
17						
18		↓ DRY PEAT				
19		↓ END OF PIT = 18'				
20						
21						
22						
23						
24						
25						

REMARKS: START TIME: 1250
FINISH TIME: 1320

PROPORTIONS USED	EXCAVATION EFFORT	BOULDER COUNT	TEST PIT PLAN	NORTH
Trace 0 to 10%	E - EASY	SIZE LETTER	14 VOLUME = cu.yd.	+
Little 10 to 20%	M - MODERATE	6" - 18" A		
Some 20 to 35%	D - DIFFICULT	18" - 36" B		
And 35 to 50%		> 36" C		

TEST PIT FIELD LOG

SEA CONSULTANTS, INC.
 Engineers / Architects
 485 Massachusetts Avenue
 Cambridge, MA 02139-4018

PROJECT: **DEVENS**
 LOCATION: **SA-9**
 CLIENT: **DCC**
 WEATHER: **SUN 70**

TEST PIT No. **TP-120**

PROJECT No.:

Ground Surface Elevation **227.93**
 Date Started
 Date Finished **5/2/96**
 Contractor Equipment **MOR 336**
 Soil Engineer Geologist **TAT**

GROUNDWATER OBSERVATIONS

DATE	TIME	DEPTH	STABILIZATION TIME
NOT FLOW MONITORED			

DEPTH ()	STRATA CHANGE	SOIL DESCRIPTION	EXCAVATION EFFORT	BOULDER COUNT	REMARK NO
1		YELLOW MED / COARSE SAND & GRAVEL		A	
2					
3					
4					
5		↑ VERY DENSE BUILDING DEBRIS WOOD / CONC / METAL ↓	VD	-	
6			VD	-	
7			VD	-	
8			VD	-	
9			VD	-	
10			VD	-	
11			VD	-	
12					
13					
14					
15					
16		↓ BOTTOM OF WASTE = 17'			
17		MED / COARSE SAND AND GRAVEL	VD		
18					
19		↓ END OF PIT = 19'			
20					
21					
22					
23					
24					

REMARKS:

START TIME: **1320**
 FINISH TIME: **1340**

PORTIONS USED	EXCAVATION EFFORT	BOULDER COUNT	TEST PIT PLAN	NORTH
Trace 0 to 10%	E - EASY M - MODERATE D - DIFFICULT	SIZE LETTER		+
Little 10 to 20%		6" - 18" A	VOLUME = cu.yd.	
Some 20 to 35%		18" - 36" B		
And 35 to 50%		> 36" C		

TEST PIT FIELD LOG



SEA Consultants Inc.

PROJECT: DEVENS

TEST PIT NO.: TP-121

LOCATION: SA-9

DATE: 5/3/96

GROUND ELEVATION: ~ 217.06

CONTRACTOR: MDE

WEATHER: CLOUDS 70s

LOG PREPARED BY: JAT

EQUIPMENT: 330 EXCAV

DEPTH	STRATA CHANGE	SOIL DESCRIPTION	EXCAV. EFFORT	BOULD. COUNT	REMRK. NO.
0		6" ORGANICS	E	A	
1'		SAND & GRAVEL WITH SOME CONC / BRCK / METAL / WOOD			
2'					
3'					
4'					
5'	▽ =	PERCHED	E	A	
6'		BOTTOM OF WASTE = 6' ALONG EASTERN WALL			
7'		⇒ SHIFT PIT EAST			
8'		DENSE BUILDING DEBRIS - WOOD / CONC / CABLES / METAL	E		
9'			E		
10'		BOTTOM OF WASTE = 8'	E		
11'		YELLOW MED / COARSE SAND / GRAVEL	E		
12'		8-13'	E		
13'		BOTTOM OF PIT = 13'			
14'					

REMARKS:

TEST PIT PLAN	LEGEND:	PROPORTIONS	GROUNDWATER																		
<p>VOLUME = _____ cu.yd.</p>	<table border="1"> <tr> <th>BOULDER SIZE RANGE CLASSIFICATION</th> <th>COUNT LETTER DESIGNATION</th> </tr> <tr> <td>6" - 18"</td> <td>A</td> </tr> <tr> <td>18" - 36"</td> <td>B</td> </tr> <tr> <td>36" AND LARGER</td> <td>C</td> </tr> </table>	BOULDER SIZE RANGE CLASSIFICATION	COUNT LETTER DESIGNATION	6" - 18"	A	18" - 36"	B	36" AND LARGER	C	<table border="1"> <tr> <th>PROPORTIONS USED</th> <th>PERCENTAGE</th> </tr> <tr> <td>TRACE</td> <td>0 - 10%</td> </tr> <tr> <td>LITTLE</td> <td>10 - 20%</td> </tr> <tr> <td>SOME</td> <td>20 - 35%</td> </tr> <tr> <td>AND</td> <td>35 - 50%</td> </tr> </table>	PROPORTIONS USED	PERCENTAGE	TRACE	0 - 10%	LITTLE	10 - 20%	SOME	20 - 35%	AND	35 - 50%	<p>▽ Observed Groundwater EXCAVATION EFFORT</p> <p>E — EASY M — MODERATE D — DIFFICULT</p>
BOULDER SIZE RANGE CLASSIFICATION	COUNT LETTER DESIGNATION																				
6" - 18"	A																				
18" - 36"	B																				
36" AND LARGER	C																				
PROPORTIONS USED	PERCENTAGE																				
TRACE	0 - 10%																				
LITTLE	10 - 20%																				
SOME	20 - 35%																				
AND	35 - 50%																				

FIELD LOG

SEA CONSULTANTS, INC.
 Engineers - Architects
 185 Massachusetts Avenue
 Cambridge, MA 02142

PROJECT: DEWENS
 LOCATION: NORTH POST SA-9
 CLIENT: DCC
 WEATHER: Partly Cloudy

TEST PIT No. TP-122

PROJECT No.:

Current Surface Elevation

Date Started 5/1/90

Date Finished 5/1/90

Equipment MDC 330L

Engineer Geologist T. TOLSONO

GROUNDWATER OBSERVATIONS

DATE	TIME	DEPTH	STABILIZATION TIME

DEPTH	STRATA CHANGE	SOIL DESCRIPTION	EXCAVATION EFFORT	BOULDER COUNT	REMARK NO.
1 2 4		SAND GRAVEL 0-2 FINE SAND SILT 2-5 MOVE NORTH SAME AS ABOVE MOVE NORTH KEEP MOVING NORTH TO A DEPTH OF ~5-6 FT, JUST ABOVE WATER SPARSE PIECES OF WOOD, METAL PIPE, BRICK, CONC IN TOP 2'. SAND/GRAVEL 2'-5/6'			

REMARKS: START TIME: 11:15
FINISH TIME: 11:50

PROPORTIONS USED Trace 0 to 10% Little 10 to 20% Some 20 to 35% And 35 to 50%	EXCAVATION EFFORT E - EASY M - MODERATE D - DIFFICULT	BOULDER COUNT SIZE EFFORT 0" - 12" A 12" - 18" B 18" - 36" C	TEST PIT PLAN 150 VOLUME = cu.yd.	NORTH
--	---	---	---	------------------

Arthur D Little

EXCAVATION PROFILE LOG

11E-94-01X

Client USAEC

Project FT. DEVELUSTX

Case No. 67064

Date 8/12/94

Date Start 8/12/94

Contractor T. Ford

Date Complete 8/12/94

Heavy Equipment ID Komatsu B50 Excavator

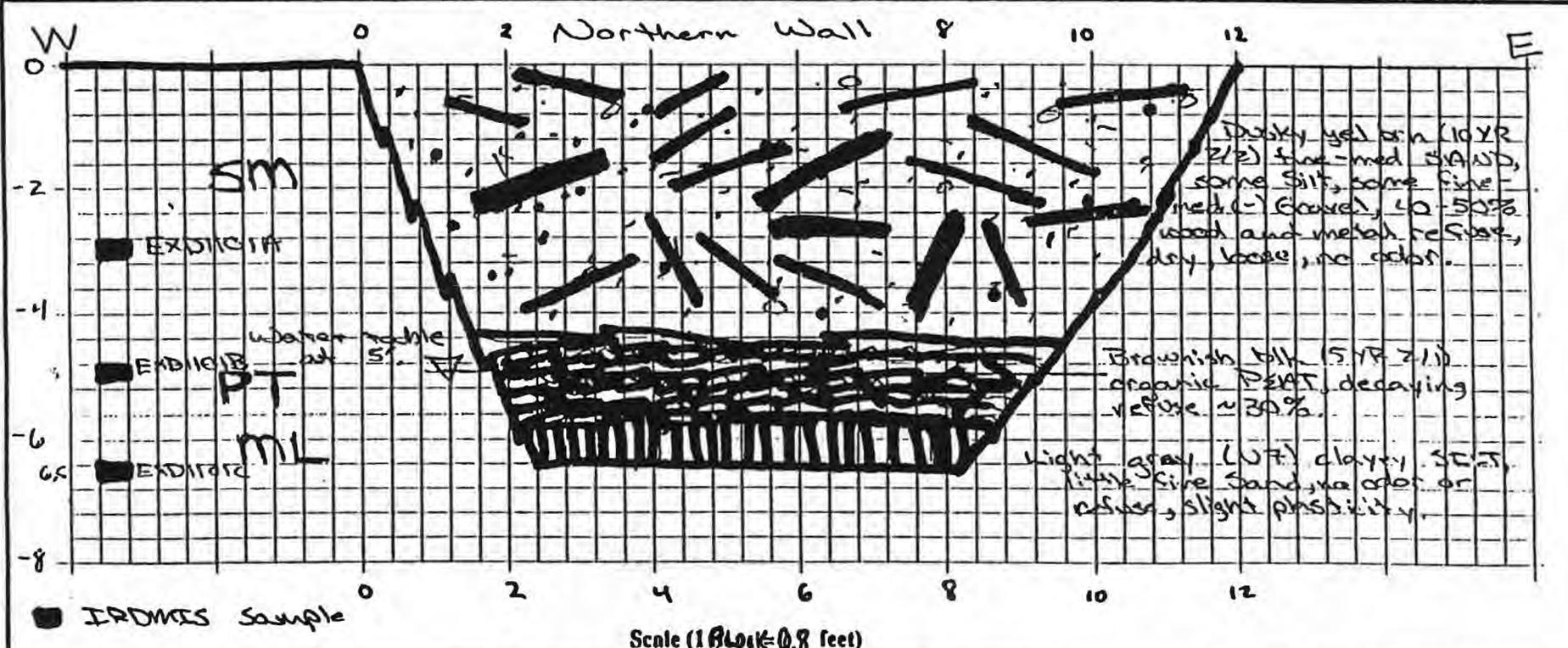
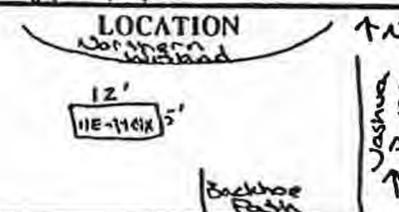
Sampling Method Test Pit

Geologist A. Schaeffer, F. Ricciardi

Pit/Trench Dimensions (LxWxD) 12'x5'x6.5'

Vapor Monitoring Device Microtip PID

Pit Orientation (include wall depicted) Northern wall runs west to east



Directions: Locate on profile (in code) all stratigraphic layers, sample locations, and other areas of comment. This profile should be as close to scale as possible. Identify all codes used below.

Refuse was found from 0-6' and stopped abruptly at the clayey silt layer, water table at 5'. Refuse comprised of rotted wood (~80%) and various pieces of metal, most of which was pipe (~20%)

Was pit/Trench Photographed (Y/N) Y Type and Number of Samples Collected 3 IRDMIS Samples (WC, SWC, Pest, TPH, Metals)

Arthur D Little

EXCAVATION PROFILE LOG

11E-94-02X

Client USAEC
Project FORT DEVENS III
Case No. 67064
Date 8/15/94

Date Start 8/15/94

Contractor T. FORD

Date Complete 8/15/94

Heavy Equipment ID KOMATSU PC 150 EXCAVATOR

Sampling Method GRAB - SS. Spoon

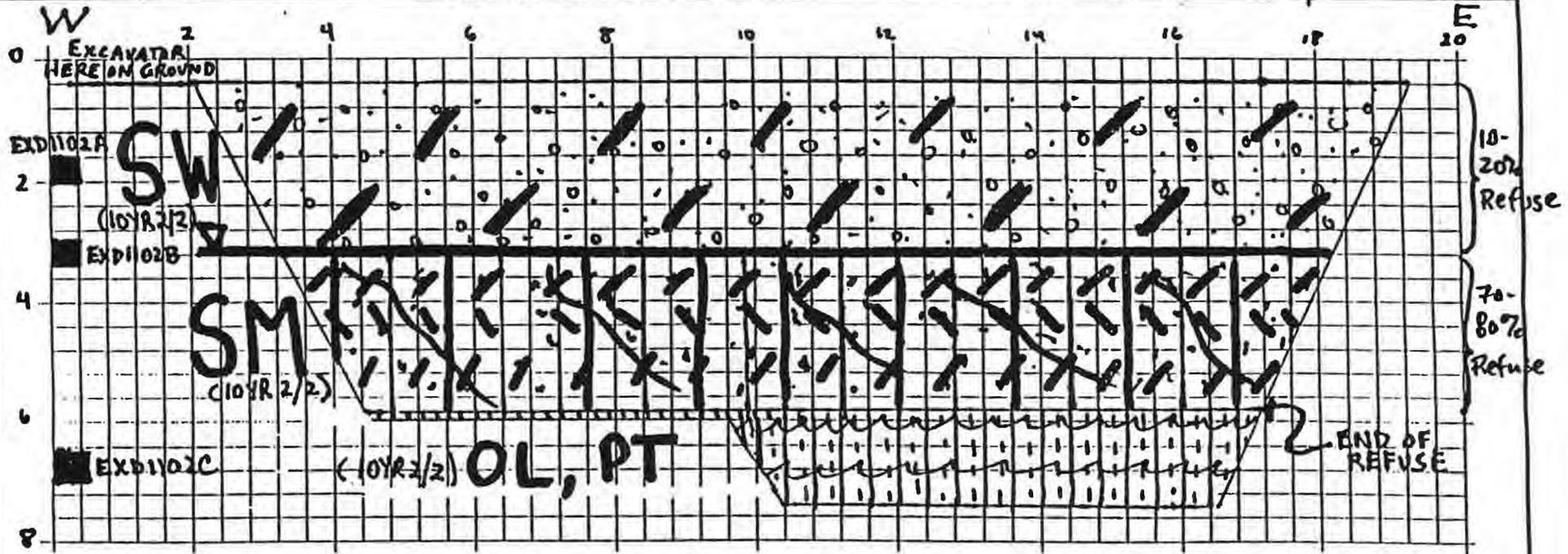
Geologist F. RICCIARDI

Pit/Trench Dimensions (LxWxD) 14.5 x 5 x 7.5

Vapor Monitoring Device COMBUSTIBLE GAS INDICATOR, PID/MICRO TPI HL 2000

Pit Orientation (include wall depicted) NORTHERN WALL RUNS W TO E

BLDG APPROX 750 WEST
LOCATION
11E-94-01
11E-94-02
Excavation
Trail
Northern Boundary



Y, X Scale (1 Block = 0.4 feet)

Directions: Locate on profile (in code) all stratigraphic layers, sample locations, and other areas of comment. This profile should be as close to scale as possible. Identify all codes used below.

SW = FINE-COARSE SAND, LITTLE SILT, FEW COBBLES

SM = FINE-MED. SAND, SOME SILT, DELAYING ORGANIC MATTER

■ = SAMPLING LOCATION

OL = ORGANIC SILTS LITTLE CLAY

PT = PEAT

10-20% REFUSE

70-80% REFUSE

* REFUSE = WOOD, WIRE, CONCRETE SLABS, SCRAP METAL, GLASS, FLOOR TILE AND OTHER CONST. DEBRIS

Was pit/Trench Photographed (Y/N)

Type and Number of Samples Collected 3 SAMPLES - VOL, SVOC, METALS, PEST/PCB, TPH

Arthur D Little

Soil Sample Log

11E-94-02X

Client USAEC

Project Ft. DEWENS task 4

Case No. 67064

Date

Sampling Method

GRAB FROM TEST PIT.

Equipment Used KOMATSU PC150 EXCAVATOR

S.S. BOWL, SPOON

Geologist(s)

F. RICCIARDI, N. WEBBER

Decontamination Procedure

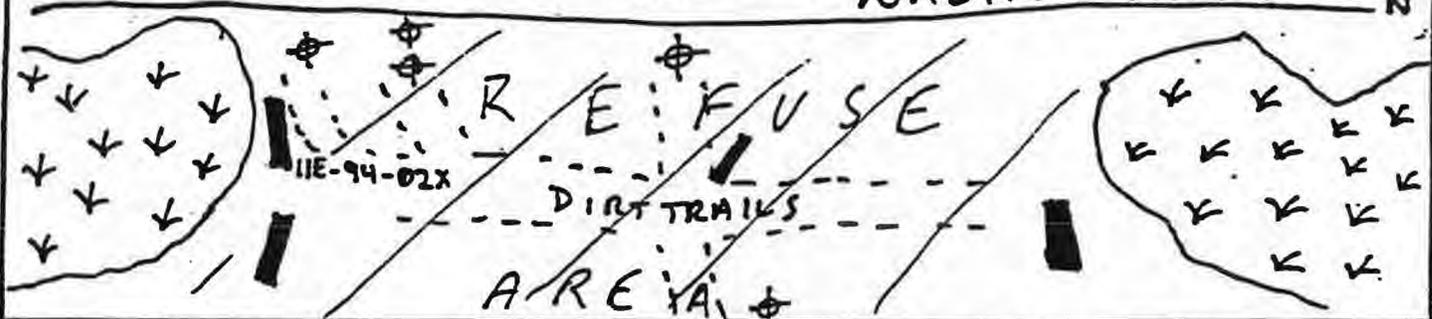
DI WATER

Comments

AOC II - WATER TABLE AT 3.5' BELOW GROUND SURFACE

Location Diagram (Give distances to ensure reproducibility)

NASHUA RIVER ← N



Sample Number	Auger Hole ID	Total Organics (ppm)	GEOLOGIC DESCRIPTION
			Unified Soil Class ID, color (Munsell System), grain size, sorting, moisture, compaction, indication of contaminants (unusual odor or sheen), and general stratigraphic description
IRDMIS EXD1102A	-	15.4	DUSKY YELLOWISH BROWN (10YR 2/2) FINE-COARSE SAND, LITTLE SILT, FEW SMALL COBBLES, 20% REFUSE MOIST, LOOSE, NO ODOR
IRDMIS EXD1102B	-	4.6	DUSKY YELLOWISH BROWN (10YR 2/2) FINE-MEDIUM SAND, SOME SILT, SOME DECAYING ORGANIC MATTER AND SOME ODOR, WET 70-80% REFUSE LOOSE
IRDMIS EXD1102C	-	0	DUSKY YELLOWISH BROWN (10YR 2) ORGANIC SILT, LITTLE CLAY, LITTLE ORGANIC MATTER (PEAT) WET, ORGANIC ODOR, COMPACT

Arthur D Little

EXCAVATION PROFILE LOG

11E-94-03X

Client USAEC

Project FORT DEVENS IX

Case No. 67064

Date 8/12/94

Date Start 8/12/94

Contractor T. FORD

Date Complete 8/12/94

Heavy Equipment ID PC-150 KOMATSU

Sampling Method GRAB w/ S.S. SPOON

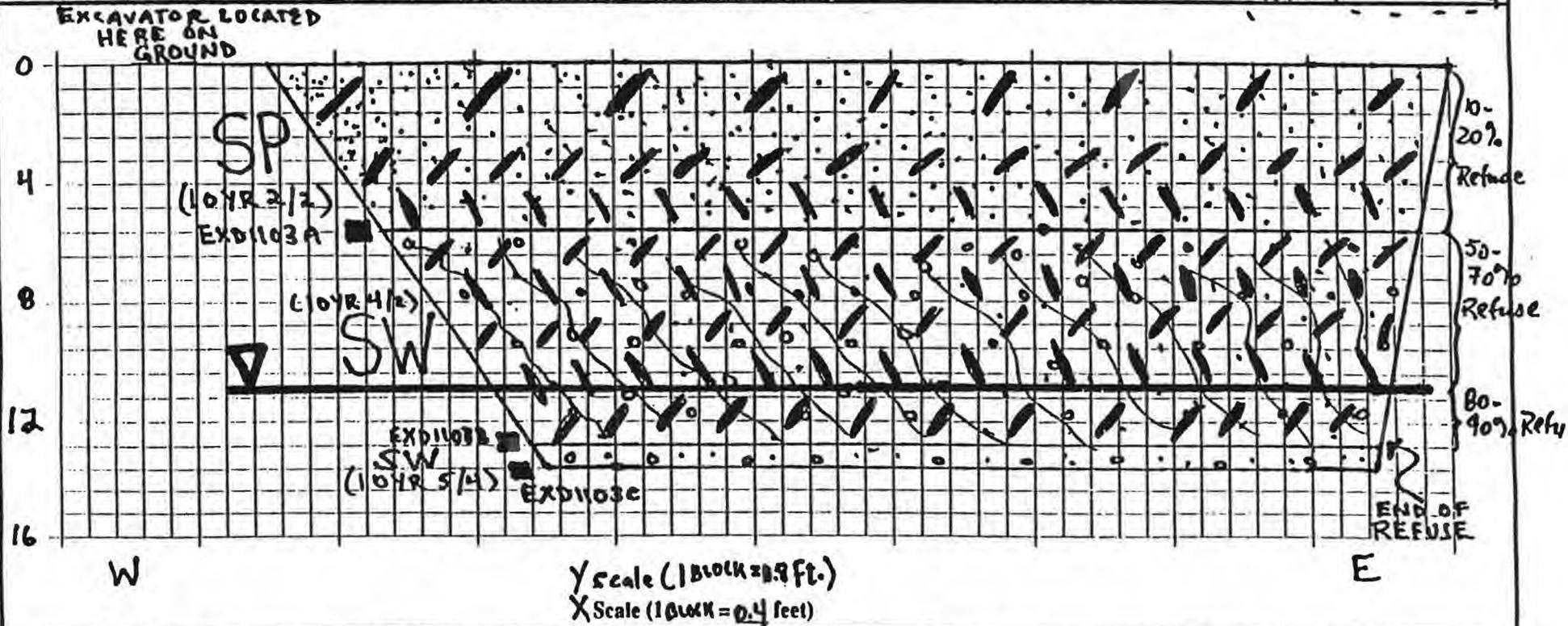
Geologist F. Ricciardi / H. Schaeffer

Pit/Trench Dimensions (LxWxD) 17x6x13.5

Vapor Monitoring Device COMBUSTIBLE GAS

Pit Orientation (include wall depicted)

SOUTHERN WALL RUNS W to E INDICATOR / PID



Directions: Locate on profile (in code) all stratigraphic layers, sample locations, and other areas of comment. This profile should be as close to scale as possible. Identify all codes used below.

= FINE SAND, TRACE SILT

= FINE-COARSE SAND, SOME SILT

= SAMPLE LOCATION

10-20% REFUSE

50-70% REFUSE

80-90% REFUSE

* REFUSE = WOOD, CONCRETE, CRAP METAL, WIRE, GLASS, FLOOR TILES AND OTHER CONST. DEBRIS

Was pit/Trench Photographed (N)

Type and Number of Samples Collected

3 SAMPLES - VOC, SVOC, METALS, PEST/PCB, TPH

Arthur D Little

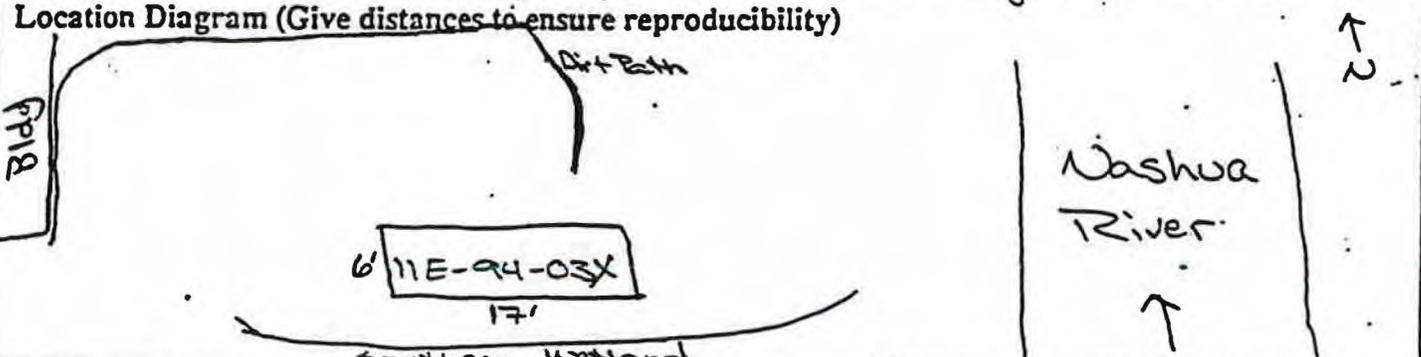
Soil Sample Log

Client CSAEC
 Project FT. DEVENS IV
 Case No. 67064
 Date 8/12/94

Sampling Method: Test Pit 11E-94-03X
 Equipment Used: Komatsu PC150 Excavator

Geologist(s): H. Schaeffer, F. Ricciardi
 Decontamination Procedure: Distilled Water

Comments: AOC 11; Water table at 11' below ground surface



Sample Number	Auger Hole ID	Total Organics (ppm)	GEOLOGIC DESCRIPTION
			Unified Soil Class ID, color (Munsell System), grain size, sorting, moisture, compaction, indication of contaminants (unusual odor or sheen), and general stratigraphic description
EXD1103A	Depth = 5.5' 11E-94-03X	0	Dusky yel brn (10 YR 2/2) fine SAND, trace Silt, poorly sorted, 40% refuse (wood + metal pipe) no odor, dry, loose.
EXD1103B	Depth = 11' 11E-94-03X	0	Dk yel brn (10 YR 4/2) fine - coarse SAND, some Silt, 70% wood refuse.
EXD1103C	Depth = 13' 11E-94-03X	0	Med yel brn (10 YR 5/4) med - coarse SAND, wet, loose, no odor.

Arthur D Little

EXCAVATION PROFILE LOG

11E-94-04X

Client USAEC

Project FORT DEVENS IV

Case No. 67064

Date 8/15/94

Date Start 8/15/94

Contractor T. FORD

Date Complete 8/15/94

Heavy Equipment ID PC150 KOMATSU EXCAVATOR

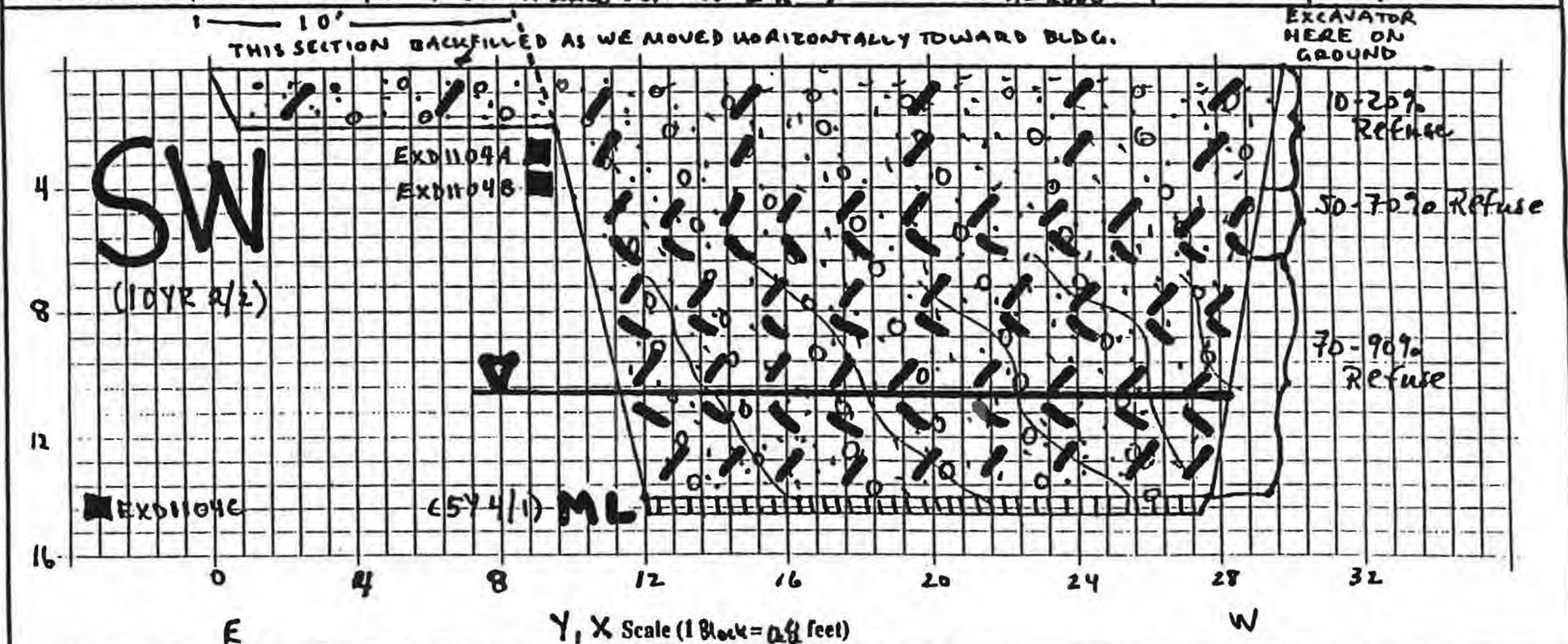
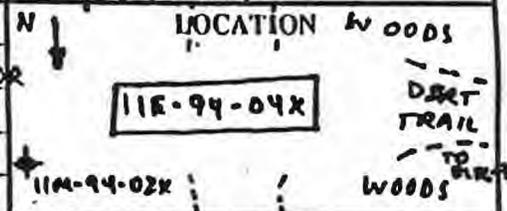
Sampling Method GRAB SS spoon

Geologist F. RICCIARDI

Pit/Trench Dimensions (LxWxD) 21'x7.5'x13.8'

Vapor Monitoring Device COMBUSTIBLE GAS INDICATOR, MICROTIP HL-2000

Pit Orientation (include wall depicted) SOUTH WALL DEPICTED E-W



Directions: Locate on profile (in code) all stratigraphic layers, sample locations, and other areas of comment. This profile should be as close to scale as possible. Identify all codes used below.

0:0 = SW = FINE- COARSE SAND, SOME Gravel, FEW small COBBLES

|||| = ML = FINE SAND WITH SILT

■ = SAMPLING LOCATION

1/1 = 10-20% REFUSE

5/5 = 50-70% REFUSE

7/7 = 70-90% REFUSE

Was pit/Trench Photographed (Y/N)

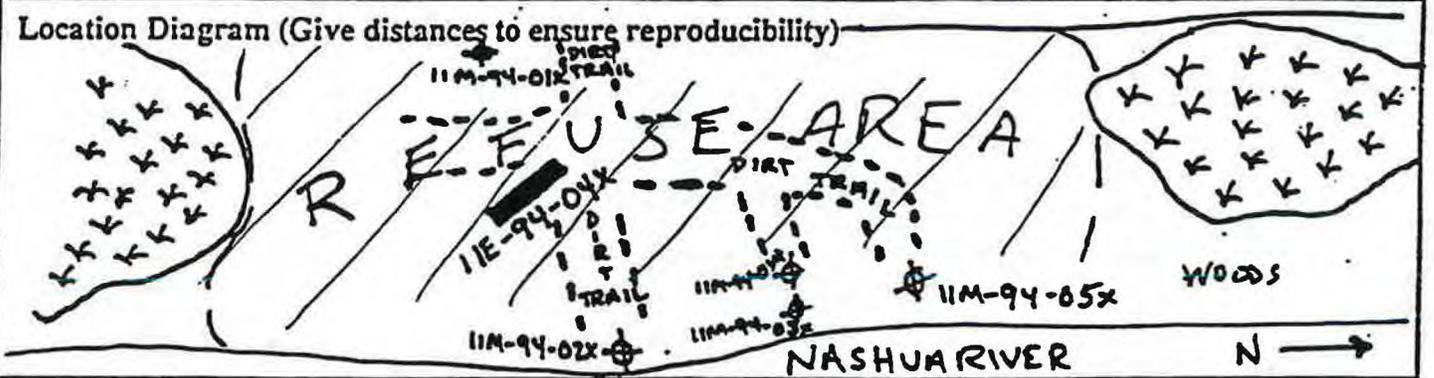
Type and Number of Samples Collected 3 SAMPLES - VOL, SVOC, PEST/PCB, METALS, TPH

Arthur D Little	Soil Sample Log 11E-94-04X	Client USAEC
		Project FORT DEVENS 4
		Case No. 67064
		Date 8/11/94

Sampling Method GRAB FROM TEST PIT	Equipment Used STAINLESS STEEL BOWL AND SPOON; KOMATSU PC150 EXCAVATOR
------------------------------------	--

Geologist(s) F. RICCIARDI / H. WEBBER	Decontamination Procedure EXCAVATOR - STEAM CLEANED / BOWL + SPOON - DI WATER
--	---

Comments TEST PIT FOR FIRST 30 FEET IN LENGTH WAS 3' DEEP. THIS LENGTH WAS EXCAVATED TO TRY TO CHARACTERIZE THE REFUSE. AS WE EXCAVATED HORIZONTALLY NORTHWARD REFUSE WAS STILL ENCOUNTERED THEREFORE WE BACKFILLED THE SOUTH END MOST 10' OF THE PIT



Sample Number	Auger Hole ID FROM WHERE IN TEST PIT (L x D)	Total Organics (ppm)	GEOLOGIC DESCRIPTION	
			Unified Soil Class ID, color (Munsell System), grain size, sorting, moisture, compaction, indication of contaminants (unusual odor or sheen), and general stratigraphic description	
EXD1104A (IRDMS)	FROM (5' x 3')	36.0	DUSKY YELLOWISH BROWN (10YR 2/2) FINE-COARSE SAND, SOME GRAVEL, FEW SMALL COBBLES, 10-20% REFUSE	BLACK STAINING FINE SPOTS SLIGHT PETROLEUM ODOR, LOOSE, DRY
	(10.5' x 3')	15.9	NO ODOR OR STAINING	SAME AS ABOVE SOIL 10-20% REFUSE
	(13' x 3')	4.6	SAME AS ABOVE	10-20% REFUSE
	(16' x 3')	15.6	SAME AS ABOVE	10-20% REFUSE
	(20' x 3')	0.0	SAME AS ABOVE	10-20% REFUSE
	(23' x 3')	0.0	SAME AS ABOVE	10-20% REFUSE
	(26' x 3')	14.4	SAME AS ABOVE	10-20% REFUSE
EXD1104B	(13' x 5')	1.5	SAME AS ABOVE	10-20% REFUSE
	(17.5' x 5')	0.0	SAME AS ABOVE	10-20% REFUSE
	(18' x 5')	0.0	SAME AS ABOVE	56-70% REFUSE

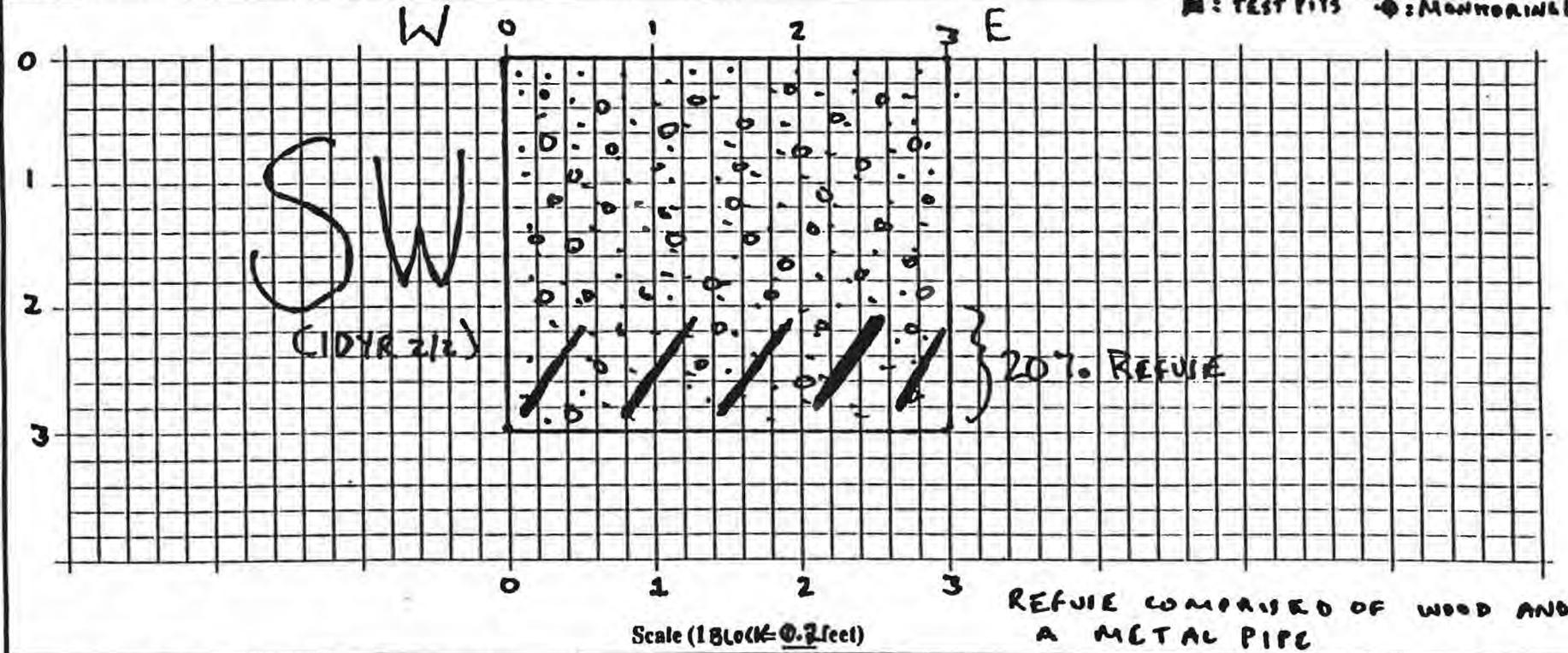
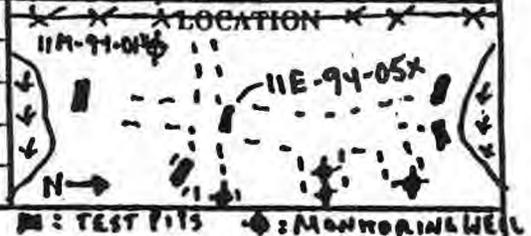
* FOR REFUSE DESCRIPTION PLEASE SEE REFUSE LOG IN FIELD NOTE. Page 1 of 1 BOOK *

Arthur D Little

EXCAVATION PROFILE LOG
11E-94-05X

Client USAEC
Project FORT DEVENS 4
Case No. 67064
Date 8/15/94

Date Start 8/15/94 Contractor T. FORD
Date Complete 8/15/94 Heavy Equipment ID KOMATSU PC 150 EXCAV.
Sampling Method NA Geologist F. RICCIARDI
Pit/Trench Dimensions (LxWxD) 3'x3'x3' Vapor Monitoring Device MICROTIP HL-2000 PID
Pit Orientation (include wall depicted) / - 1. NORTHERN WALL DEPICTED



Directions: Locate on profile (in code) all stratigraphic layers, sample locations, and other areas of comment. This profile should be as close to scale as possible. Identify all codes used below.

- NO HEADSPACE OR IRDMIS SAMPLES COLLECTED
- ☐ = WELL SORTED GRAVELLY SANDS,
- ▨ = 10-20% REFUSE

Was Photographed (Y/N) Type and Number of Samples Collected NONE

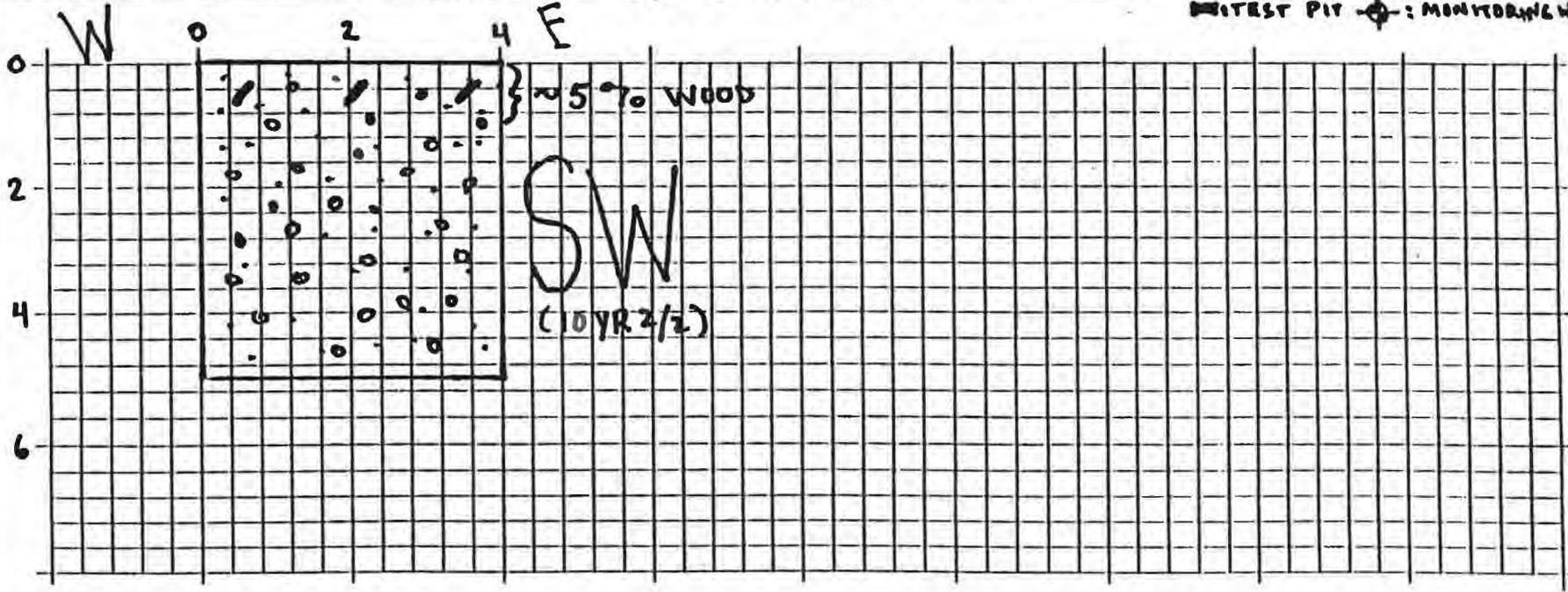
Arthur D Little

EXCAVATION PROFILE LOG

11E-94-06X

Client USAEC
Project FORT DEVENS 4
Case No. 67064
Date 8/15/94

Date Start 8/15/94 Contractor T. FORD
Date Complete 8/15/94 Heavy Equipment ID KOMATSU PC 150 EXCAV
Sampling Method NA Geologist F. RICCIARDI
Pit/Trench Dimensions (LxWxD) 4x4x5 Vapor Monitoring Device MICROSIP HL-2000 P10
Pit Orientation (include wall depicted) W - E NORTHERN WALL DEPICTED

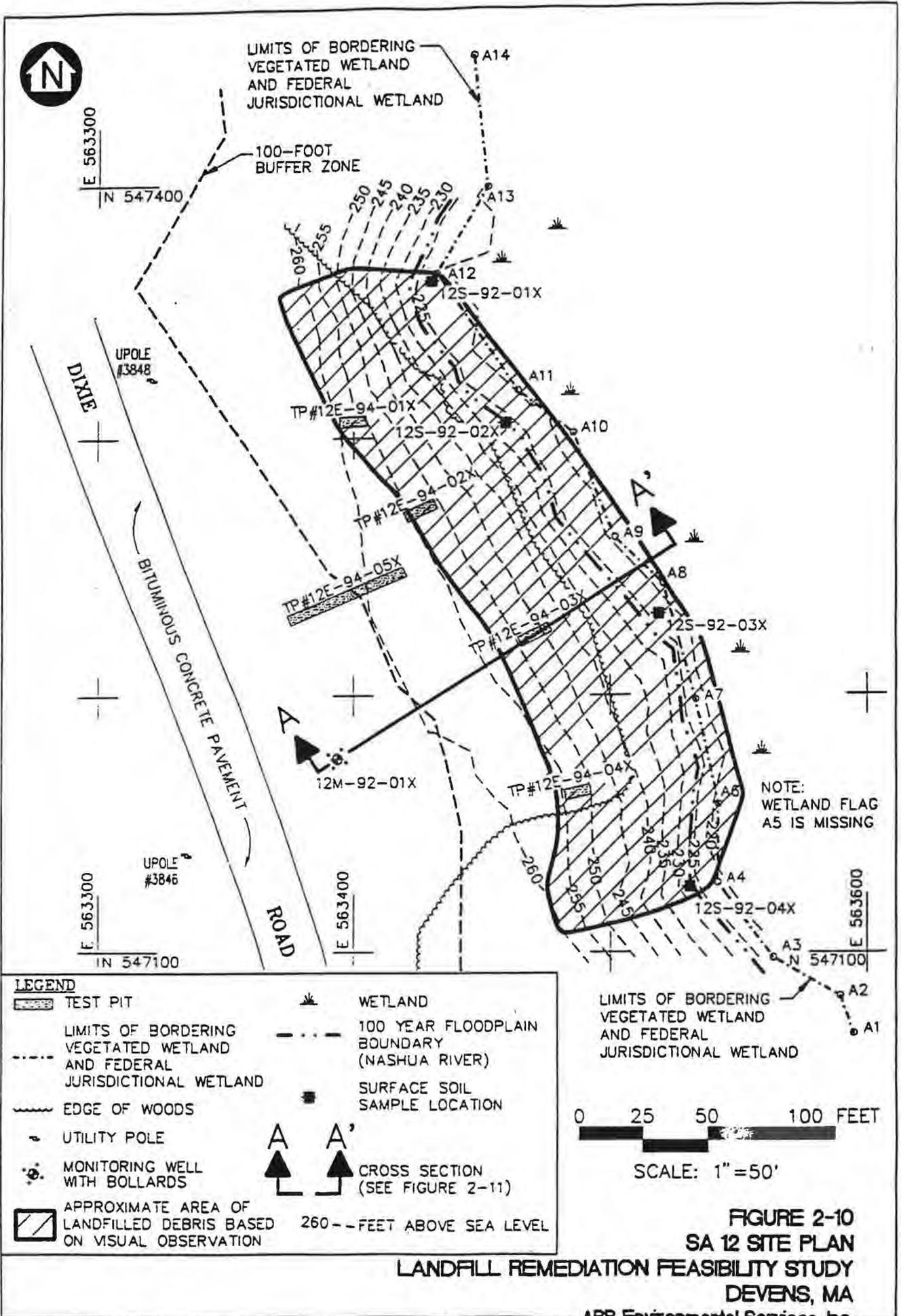


Scale (1 Block = 0.4 feet)

Directions: Locate on profile (in code) all stratigraphic layers, sample locations, and other areas of comment. This profile should be as close to scale as possible. Identify all codes used below.

- = ~5% wood
- = WELL SORTED GRAVELLY SANDS

Was pit/Trench Photographed (Y/N) Type and Number of Samples Collected NONE

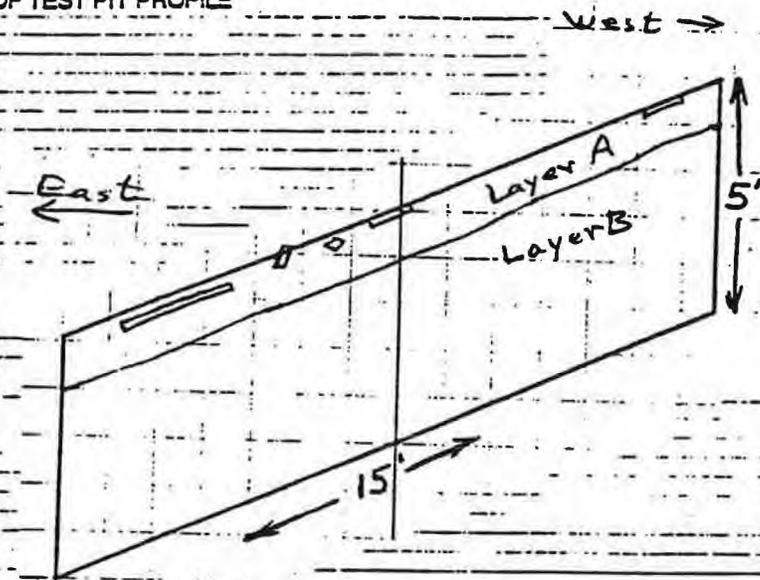


J:\M\12-04\B1\1022.DWG 1"=50' 1/28/97

Profile Along Test Pit: 12E-94-01X

Study Area: 12

SKETCH MAP OF TEST PIT PROFILE



SCALE 1" = 4 FT.
 DEPTH (FT) 5

NOTES:

Only debris is old lumber near the surface.

Layer A: Gravelly sand, boulders and cobbles to 1 ft max, fine and coarse gravel (10-20%), well-graded coarse to fine sand, <5% fines, loose, dry, organics and fibrous roots, med. brown (Sw)

Layer B: Similar to Layer A, except no organics, yellowish brown (SW)

no.	Int. Ser. No.	Depth (FL)	HD. SP. VOA PPM
S-1			
S-2			
S-3			
S-4			
S-5			
S-6			
S-7			
S-8			

REFERENCE: FIELD BOOK, Pg. 17

ATTACHMENTS _____

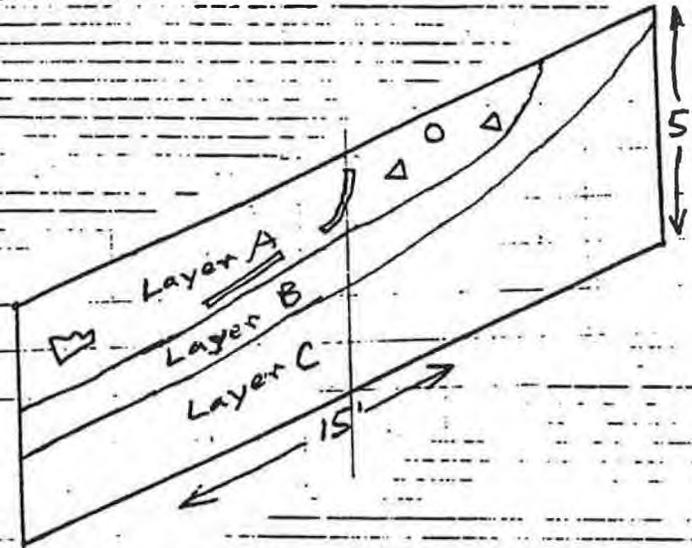
SIGNATURE: D. Pierce

TEST PIT RECORD

Profile Along Test Pit: 12E-94-02X

Study Area: 12

SKETCH MAP OF TEST PIT PROFILE



SCALE 1" = 4 FT.
DEPTH (FT) 5

NOTES:

Layer A: Gravely sand, boulders to 1.5' max., loose, dry, variegated brown and yellow, L_{50} fine (SP) Sparse debris throughout layer.
Layer B: Concentrated leaves, wood and wood ash, mixed with soil similar to Layer A.
Layer C: Similar to Layer B in 12E-94-01X except scattered roots or limbs to 6" diam. (SV) No debris.

PID = background

O₂ = _____

LEL = 000

H₂S = 000

no.	Int. Ser. No.	Depth (FL)	HD. SP. VOA PPM
S-1			
S-2			
S-3			
S-4			
S-5			
S-6			
S-7			
S-8			

REFERENCE: FIELD BOOK, Pg. 19

ATTACHMENTS _____

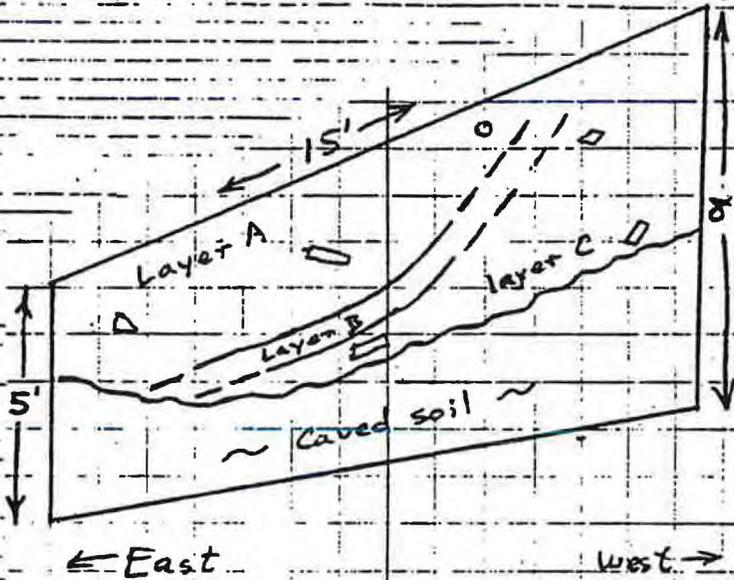
SIGNATURE: D. Pierce

TEST PIT RECORD

Profile Along Test Pit: 12E-94-03X

Study Area: 12

SKETCH MAP OF TEST PIT PROFILE



SCALE 1" = 4 FT.
DEPTH (FT.) 8

NOTES:

Sand is very loose, began to cave near tractor's left rear pad.

Debris found at all levels; consists of bricks, steel cable, rebar, angle iron, concrete, timbers, sand bags, bolts

Layer A: Finely sand, boulders to 2ft, very loose Debris sparse

Layer B: Same as Layer B in 12E-94-02X

Layer C: Silty sand, gravel and cobbles to 3" max, sand gen. fine to med., 20-40% fines, 10-30% gravel. More soil than debris

PID = background

D₅ = 20.8

LEL = 000

U₂S = 000

no.	Inl. Ser. No.	Depth (FL)	HD. SP. VOA PPM
S-1			
S-2			
S-3			
S-4			
S-5			
S-6			
S-7			
S-8			

REFERENCE: FIELD BOOK, Pg. 21

ATTACHMENTS _____

SIGNATURE: D. A. Pierce

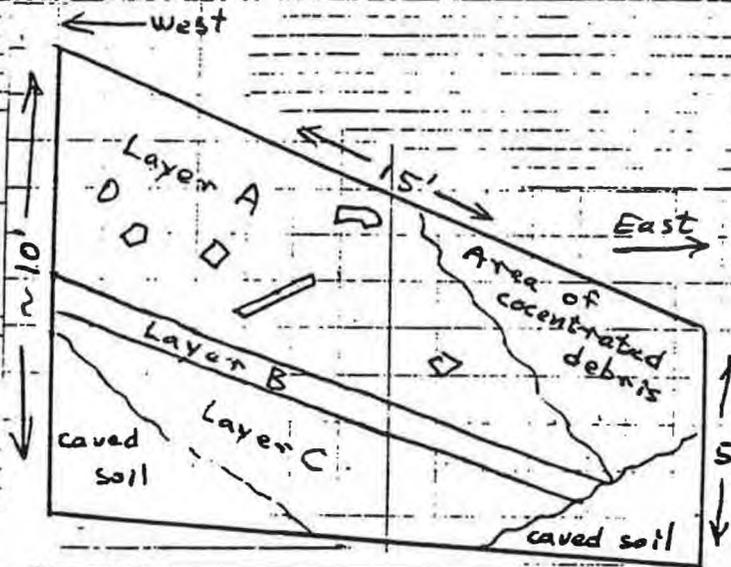
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TEST PIT RECORD

Profile Along Test Pit: 12E-94-04X

Study Area: 12

SKETCH MAP OF TEST PIT PROFILE



SCALE 1" = 4 FT.
DEPTH (FT.) 10

NOTES:

Debris observed in layers A and B only. Consists of brick, concrete, lumber, window screen, marble slabs, rebar, plastic sheeting.

Layer A: Gravelly sand, poorly graded, coarse to fine med to fine, well rounded gravel to cobble size (10-20% gravel), <10% fines, variable organic content, med. brown to light yellowish brown (SP).

Layer B: Same as Layer B in 12E-94-02X.

Layer C: Silty gravelly sand, similar to Layer C in 12E-94-03X. Layered parallel to slope.

PID = background

O₂ = 20.7

LEL = 000

H₂S = 000

no.	Int. Ser. No.	Depth (FL)	HD. SP. VOA PPM
S-1			
S-2			
S-3			
S-4			
S-5			
S-6			
S-7			
S-8			

REFERENCE: FIELD BOOK, Pg. 23

ATTACHMENTS _____

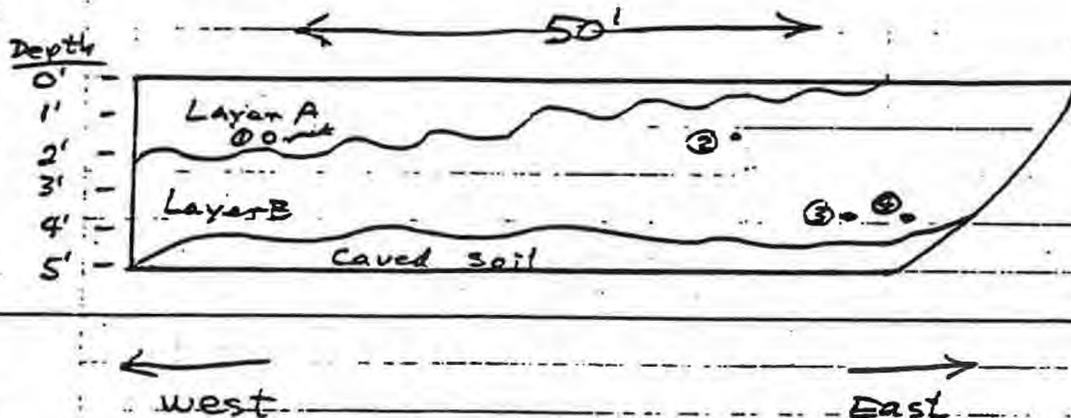
SIGNATURE: D. Pierce

TEST PIT RECORD

Profile Along Test Pit: 12E-94-05X

Study Area: 12

SKETCH MAP OF TEST PIT PROFILE



SCALE 1" = 5 FT. (Vertical) 1" = 10 FT (Horizontal)
 DEPTH (FT.) 5

NOTES:

Excavated to verify that landfill does not extend west toward Dixie Road.
 The only debris exposed are shown on profile:
 ① Sawn tree limb and steel cable.
 ② Brass shell casing.
 ③ Creosoted wood.
 ④ Stovepipe, brick, asphalt roofing.
 Exposed soil is fill or reworked till.
 Layer A: Sand, poorly graded, med. to fine, 5-12% fines, moist, med. dense, yellowish brown (SP-SM)
 Layer B: Disturbed contact with Layer A. Silty sand, gravelly silty sand, and sand lenses, becomes coarsely westward. One lense of crushed stone yellow, gray, and dk. brown.

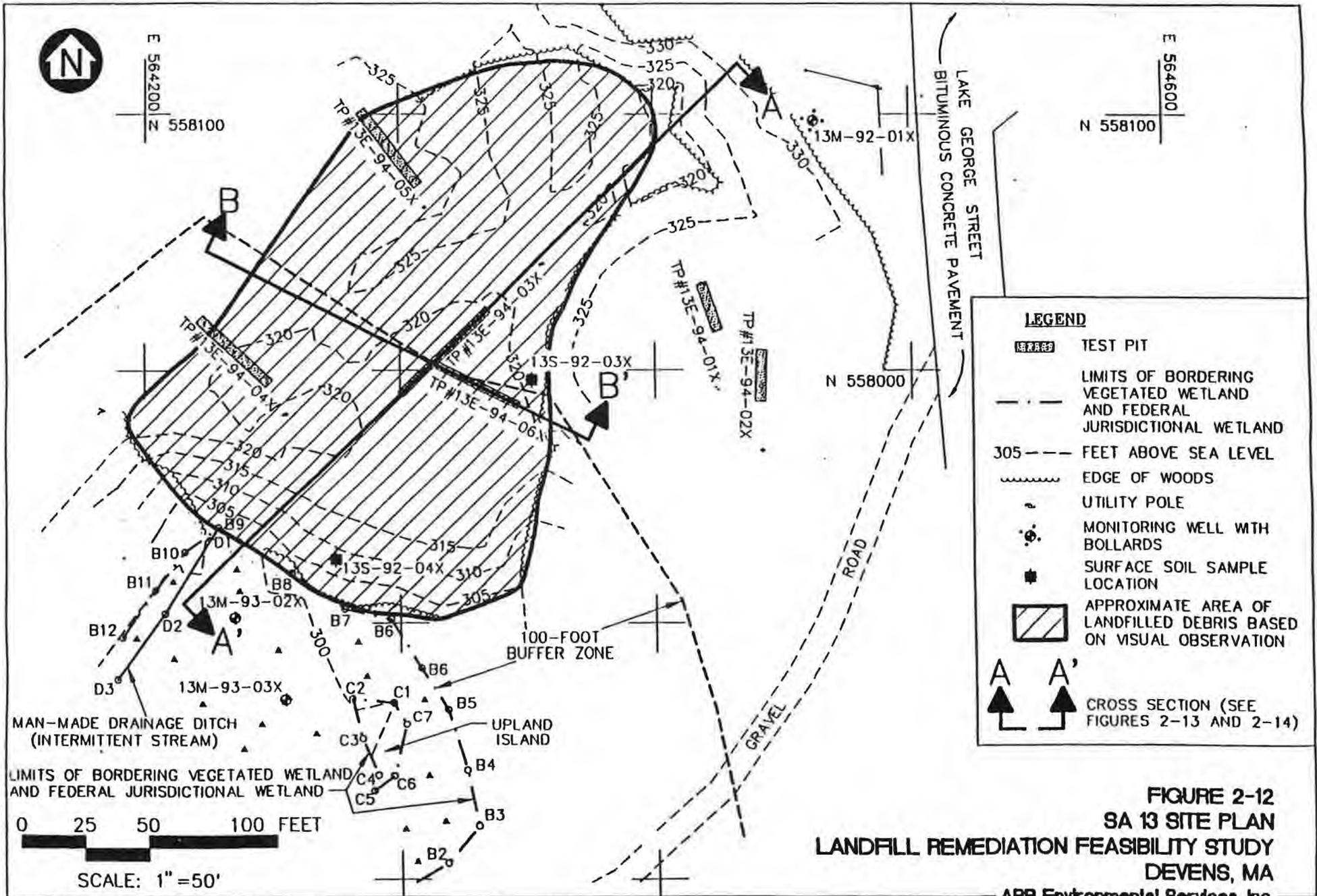
no.	Int. Ser. No.	Depth (FL)	HD. SP. VOA PPM
S-1			
S-2			
S-3			
S-4			
S-5			
S-6			
S-7			
S-8			

REFERENCE: FIELD BOOK, Pg. 27

ATTACHMENTS _____

SIGNATURE: D. L. Purse

PID = background.
 O₂ = 21.0
 LEL = 000
 H₂S = 000



LEGEND

- TEST PIT
- LIMITS OF BORDERING VEGETATED WETLAND AND FEDERAL JURISDICTIONAL WETLAND
- 305- FEET ABOVE SEA LEVEL
- EDGE OF WOODS
- UTILITY POLE
- MONITORING WELL WITH BOLLARDS
- SURFACE SOIL SAMPLE LOCATION
- APPROXIMATE AREA OF LANDFILLED DEBRIS BASED ON VISUAL OBSERVATION
- A
- A'

CROSS SECTION (SEE FIGURES 2-13 AND 2-14)

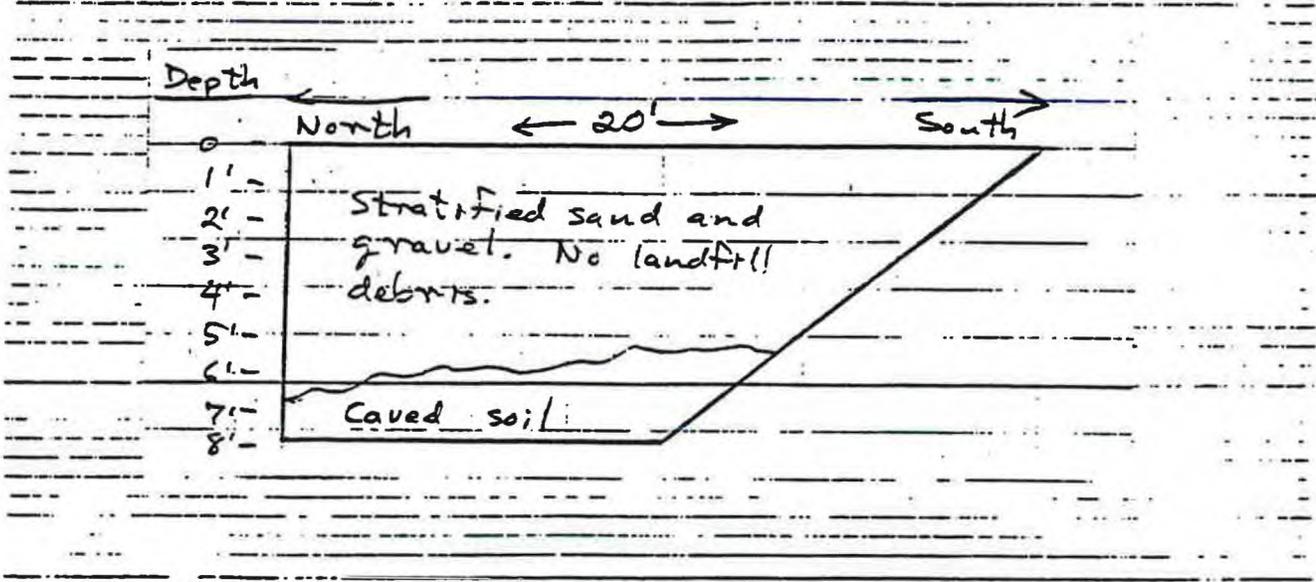
FIGURE 2-12
SA 13 SITE PLAN
LANDFILL REMEDIATION FEASIBILITY STUDY
DEVENS, MA
 ABB Environmental Services, Inc.

TEST PIT RECORD

Profile Along Test Pit: 13E-94-01X

Study Area: 13

SKETCH MAP OF TEST PIT PROFILE



SCALE 1" = 5 FT.
DEPTH (FT.) 8

NOTES:

Soil is loose, distinctly stratified sand and gravel. Stratified sands have cut-and-fill structure typical of river or deltaic deposits. No landfill debris.

PID = background

C₂ = 21.0

LEL = 000

H₂S = 000

no.	Inl. Ser. No.	Depth (FL)	HD. SP. VOA PPM
S-1			
S-2			
S-3			
S-4			
S-5			
S-6			
S-7			
S-8			

REFERENCE: FIELD BOOK, Pg. 45

ATTACHMENTS _____

SIGNATURE: [Signature]

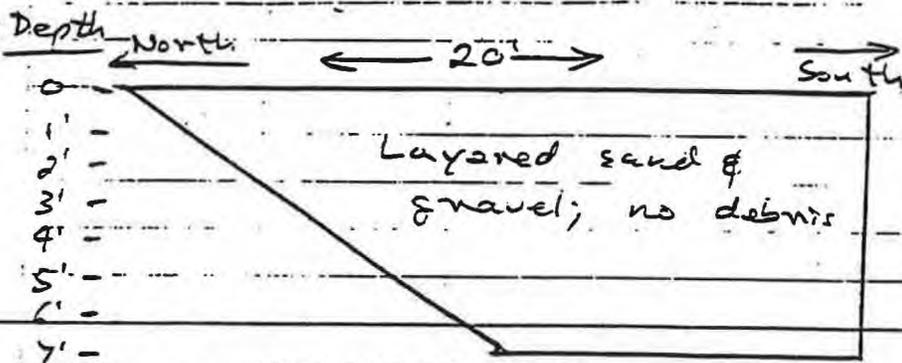
0202158D

TEST PIT RECORD

Profile Along Test Pit: 13E-94-02X

Study Area: 13

SKETCH MAP OF TEST PIT PROFILE



SCALE 1" = 5 FT.
DEPTH (FT.) 7

NOTES:

Material is loose stratified sand and gravel.

No debris observed below ground or on surface

PID = background

O₂ = 21.0

LEL = 000

H₂S = 000

no.	Int. Ser. No.	Depth (FL)	HD. SP. VOA PPM
S-1			
S-2			
S-3			
S-4			
S-5			
S-6			
S-7			
S-8			

REFERENCE: FIELD BOOK, Pg. 43

ATTACHMENTS _____

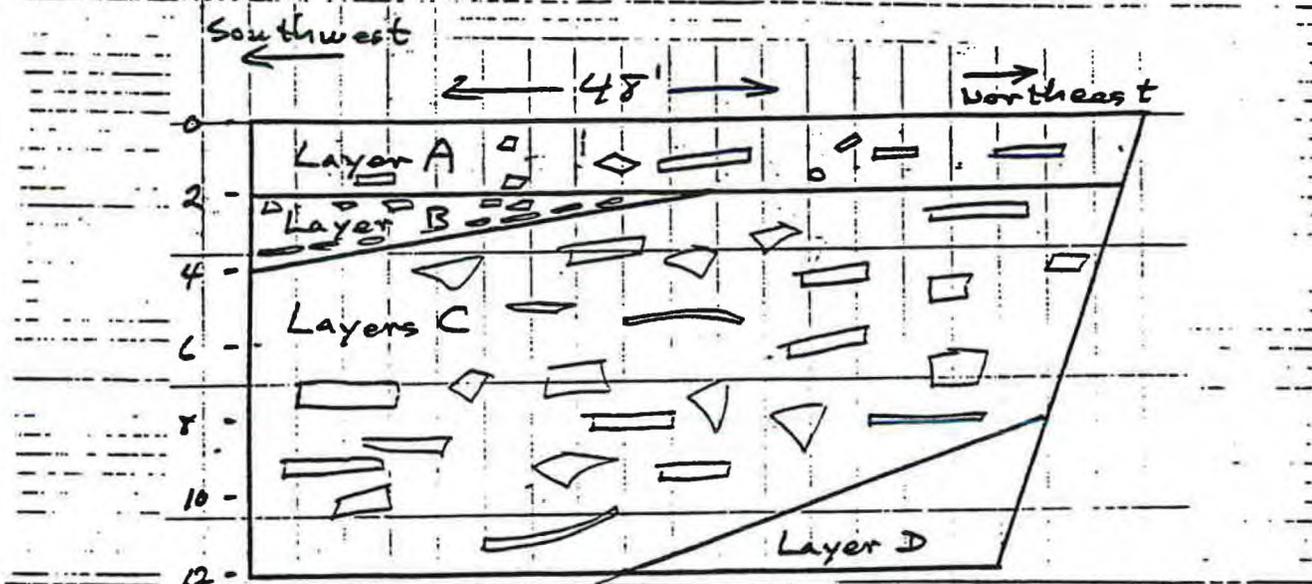
SIGNATURE: D.A. Pierce

TEST PIT RECORD

Profile Along Test Pit: 13E-94-03X

Study Area: 13

SKETCH MAP OF TEST PIT PROFILE



SCALE 1" = 5 FT. (Vertical) 1" = 10 FT (Horizontal)
 DEPTH (FT.) 12

NOTES:

Debris consists of lumber; some asphalt, bricks, concrete, air ducts, steel cable, electric cable, angle iron, sheet metal.

Layer A: Gravelly sand (fill); limited debris; organic rich in upper 1 foot dry.

Layer B: Charred and burned wood. Perched water seeping from layer from previous day's heavy rain.

Layer C: Boulderly sand; concentrated layers of debris. Dry.

Layer D: Boulder till, yellow, dry; appears undisturbed and contains no debris.

PID = 0.0

O₂ = 20.7

LEL = 000

H₂S = 000

no.	Int. Ser. No.	Depth (FL)	HD. SP. VOA PPM
S-1			
S-2			
S-3			
S-4			
S-5			
S-6			
S-7			
S-8			

REFERENCE: FIELD BOOK, Pg. 34

ATTACHMENTS _____

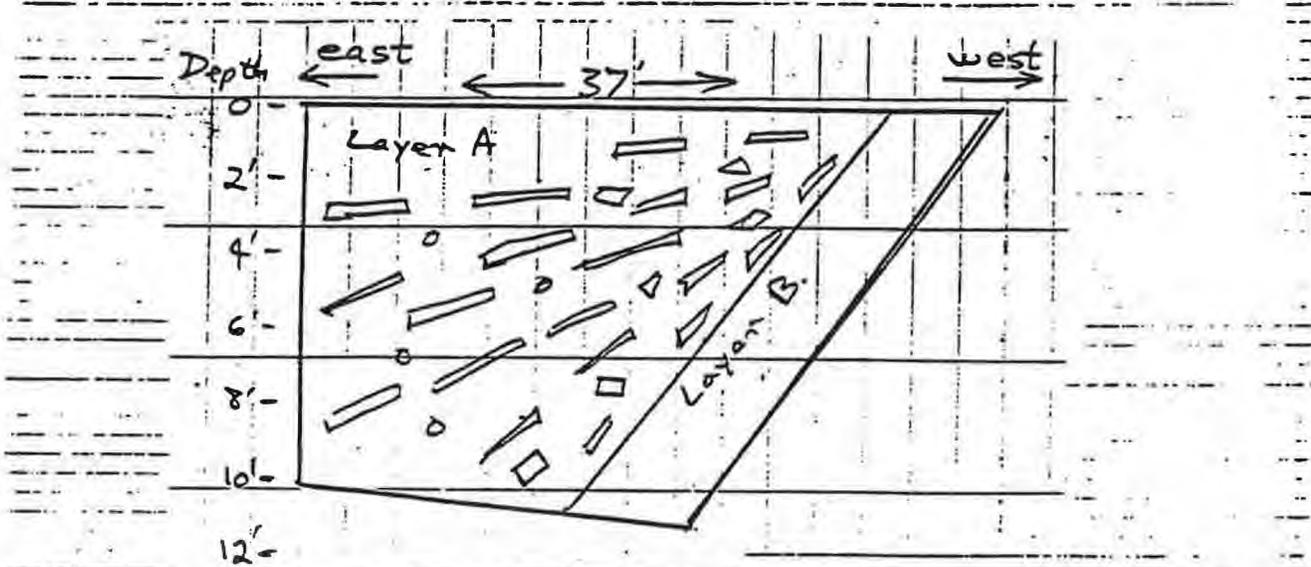
SIGNATURE: D.A. Pierce

TEST PIT RECORD

Profile Along Test Pit: 13E-94-04X

Study Area: 13

SKETCH MAP OF TEST PIT PROFILE



SCALE 1" = 5 FT. (Vertical) 1" = 10 FT (Horizontal)
 DEPTH (FT.) 10

NOTES:

West edge of landfill. Higher proportion of soil to debris than in 13E-94-03X.
Debris consists of lumber, concrete slabs, electric cable, sheet metal, pipes. Dry.
Layer A: Gravelly sand mixed with debris.
Base of layer has concentrated roots, suggesting in-situ pre-landfill ground surface, now buried.
Layer B: Yellow till, same as Layer D in 13E-94-03X. May be covered with loose sandy gravel fill near the ground surface.

no.	Int. Ser. No.	Depth (FL)	HD. SP. VOA PPM
S-1			
S-2			
S-3			
S-4			
S-5			
S-6			
S-7			
S-8			

PID = background
G = 21.0
LEL = 000
H₂S = 000

REFERENCE: FIELD BOOK, Pg. 38

ATTACHMENTS _____

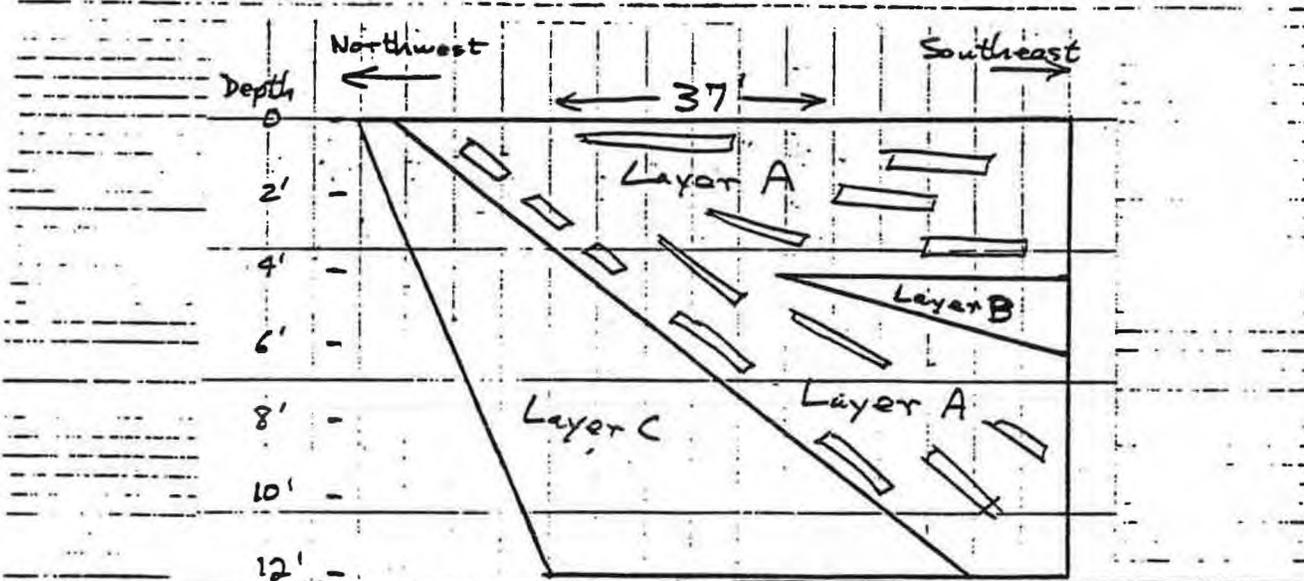
SIGNATURE: D. Pierce

TEST PIT RECORD

Profile Along Test Pit: 13E-94-05X

Study Area: 13

SKETCH MAP OF TEST PIT PROFILE



SCALE 1" = 5 FT. (Vertical) 1" = 10 FT (Horizontal)
 DEPTH (FT.) 12

NOTES:

- Layer A: Same as Layer A in 13E-94-05X.
 Debris mostly lumber, some concrete, sheet metal, electric cable, roofing material.
- Layer B: Same as Layer B in 13E-94-03X.
 Water seeping from layer. Underlying layer is dry.
- Layer C: Same as Layer B in 13E-94-04X.

PID = background
 O₂ = 21.0
 LEL = 000
 H₂S = 000

no.	Int. Ser. No.	Depth (FL)	HD. SP. VOA PPM
S-1			
S-2			
S-3			
S-4			
S-5			
S-6			
S-7			
S-8			

REFERENCE: FIELD BOOK, Pg. 40

ATTACHMENTS _____

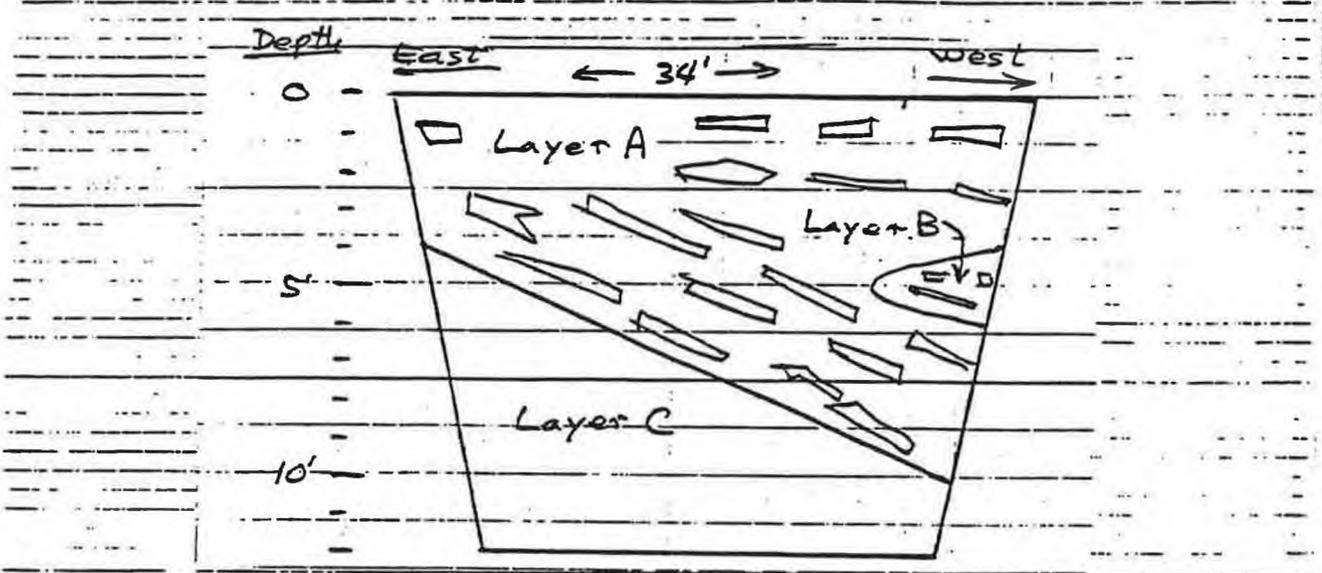
SIGNATURE: D. A. Pierce

TEST PIT RECORD

Profile Along Test Pit: 13E-94-06X

Study Area: 13

SKETCH MAP OF TEST PIT PROFILE



SCALE 1" = 5 FT. (Vertical) 1" = 10 FT (Horizontal)
 DEPTH (FT). 12

NOTES:

Layer A: Same as Layer A in 13E-94-03X;
 debris throughout layer. Mostly lumber,
 some pipes, sheet metal, cable, concrete,
 bricks. Tank (7 1/2' x 2 1/2') found at 7 ft. at
 south end of trench. Dry soil.
 Layer B: Same as Layer B in 13E-94-03X,
 except dry.
 Layer C: Till, gravelly silty fine sand
 yellow, no debris

PID = background
 O₂ = 20.9
 LEL = 000
 H₂S = 000

no.	Int. Ser. No.	Depth (FL)	HD. SP. VOA PPM
S-1			
S-2			
S-3			
S-4			
S-5			
S-6			
S-7			
S-8			

REFERENCE: FIELD BOOK, Pg. 47

ATTACHMENTS _____

SIGNATURE: D. Pierce

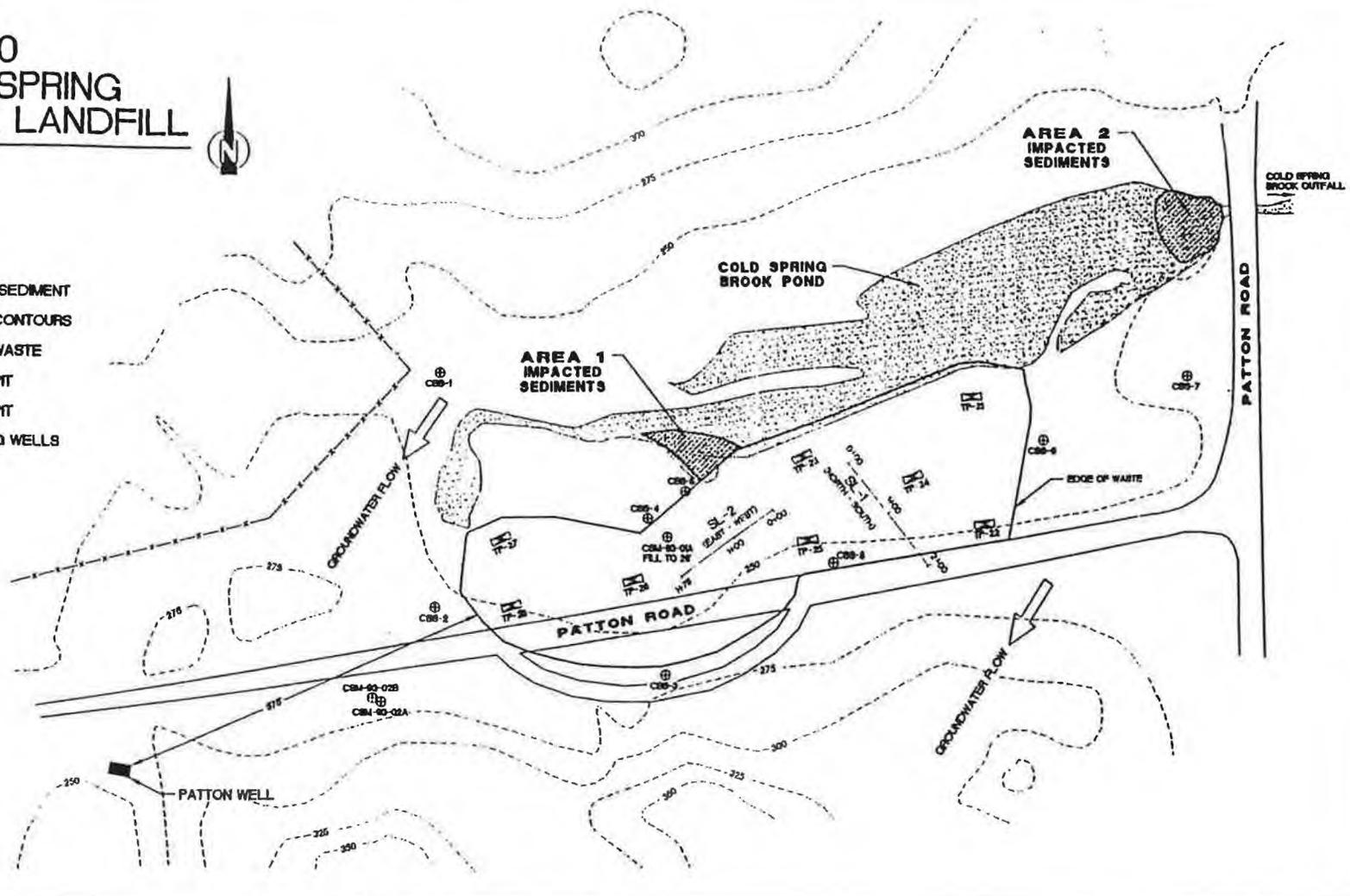
AOC-40 COLD SPRING BROOK LANDFILL

SCALE: 1"=160'



LEGEND

-  WATER
-  IMPACTED SEDIMENT
-  SURFACE CONTOURS
-  EDGE OF WASTE
-  SEA TEST PIT
-  ABB TEST PIT
-  MONITORING WELLS



TEST PIT FIELD LOG 142



SEA Consultants Inc.

PROJECT: DEVENS
LOCATION: SA-40

TEST PIT NO.: TP-21
DATE: 5/1/96

GROUND ELEVATION: 251.08
LOG PREPARED BY: TAT

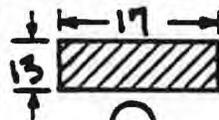
CONTRACTOR: MDR
EQUIPMENT: 330 EX

WEATHER: SUN 60's

DEPTH	STRATA CHANGE	SOIL DESCRIPTION	EXCAV. EFFORT	BOULD. COUNT	REMRK. NO.
0'		ASPHALT @ SURFACE			
1'		DK BROWN GRAVEL WITH CONC / REIN / CABLE	E	A	
2'					
3'			E	A	
4'					
5'			E	B	
6'		WOOD STUMPS / LUMBER / ASPHALT MIXED WITH SAND & GRAVEL			
7'	▽ =				
8'			M	B	
9'					
10'			M	B	
11'					
12'			M	B	
13'					
14'			M	B	

REMARKS:

TEST PIT PLAN



VOLUME = _____ cu.yd.

LEGEND:

BOULDER SIZE RANGE CLASSIFICATION	COUNT LETTER DESIGNATION
6" - 18"	A
18" - 36"	B
36" AND LARGER	C

PROPORTIONS USED

TRACE	0 - 10%
LITTLE	10 - 20%
SOME	20 - 35%
AND	35 - 50%

GROUNDWATER

- ▽ Observed Groundwater
- EXCAVATION EFFORT**
- E — EASY
- M — MODERATE
- D — DIFFICULT

TEST PIT FIELD LOG 2 of 2



SEA Consultants Inc.

PROJECT: DEVENS
LOCATION: SA-40

TEST PIT NO.: TP-21
DATE: 5/1/96

GROUND ELEVATION: 251.08
LOG PREPARED BY: TAT

CONTRACTOR: MDR
EQUIPMENT: 330 EX

WEATHER: SUN 60's

DEPTH	STRATA CHANGE	SOIL DESCRIPTION	EXCAV. EFFORT	BOULD. COUNT	REMRK. NO.	
0'4"		AS ABOVE WELL GRADED, GREY SAND & SILT (NATIVE) END OF PIT ~20'				
1'5"						
2'6"				D	B	
3'7"						
4'8"				D	A	
5'9"						
6'10"						
7'11"						
8'12"						
9'						
10'						
11'						
12'						
13'						
14'						

REMARKS:

<p>TEST PIT PLAN</p> <p style="text-align: center;">NORTH</p> <p>VOLUME = _____ cu.yd.</p>	<p>LEGEND:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>BOULDER SIZE RANGE CLASSIFICATION</th> <th>COUNT LETTER DESIGNATION</th> </tr> </thead> <tbody> <tr> <td>6" - 18"</td> <td>A</td> </tr> <tr> <td>18" - 36"</td> <td>B</td> </tr> <tr> <td>36" AND LARGER</td> <td>C</td> </tr> </tbody> </table>	BOULDER SIZE RANGE CLASSIFICATION	COUNT LETTER DESIGNATION	6" - 18"	A	18" - 36"	B	36" AND LARGER	C	<p>PROPORTIONS USED</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>TRACE</th> <th>USED</th> </tr> </thead> <tbody> <tr> <td>0 - 10%</td> <td></td> </tr> <tr> <td>LITTLE</td> <td>10 - 20%</td> </tr> <tr> <td>SOME</td> <td>20 - 35%</td> </tr> <tr> <td>AND</td> <td>35 - 50%</td> </tr> </tbody> </table>	TRACE	USED	0 - 10%		LITTLE	10 - 20%	SOME	20 - 35%	AND	35 - 50%	<p>GROUNDWATER</p> <p>▼ Observed Groundwater</p> <p>EXCAVATION EFFORT</p> <p>E — EASY M — MODERATE D — DIFFICULT</p>
BOULDER SIZE RANGE CLASSIFICATION	COUNT LETTER DESIGNATION																				
6" - 18"	A																				
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36" AND LARGER	C																				
TRACE	USED																				
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LITTLE	10 - 20%																				
SOME	20 - 35%																				
AND	35 - 50%																				

TEST PIT FIELD LOG 142



SEA Consultants Inc.

PROJECT: DEVESS

TEST PIT NO.: TP-22

LOCATION SA-40

DATE: 5/1/96

GROUND ELEVATION: 255.12

CONTRACTOR: MOR

WEATHER: SUN 60's

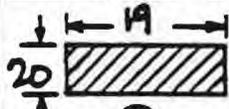
LOG PREPARED BY: TBT

EQUIPMENT: 330 EXCAV.

DEPTH	STRATA CHANGE	SOIL DESCRIPTION	EXCAV. EFFORT	BOULD. COUNT	REMRK. NO.
0'					
1'		ORGANICS			
2'		MEDIUM SAND & GRAVEL	M	A	
3'		SAND & GRAVEL MIXED WITH LOGS / STUMPS			
4'		SOME ASPHALT	M	A	
5'					
6'			M	A	
7'					
8'			M	A	
9'	▼ =		M		
10'		MOSTLY SAND & GRAVEL WITH PIECES ASPHALT SOME STUMPS & LOGS	M	A	
11'					
12'			D	A	
13'					
14'			D	A	

REMARKS:

TEST PIT PLAN



VOLUME = _____ cu.yd.

LEGEND:

BOULDER SIZE RANGE CLASSIFICATION	COUNT LETTER DESIGNATION
6" - 18"	A
18" - 36"	B
36" AND LARGER	C

PROPORTIONS USED

TRACE	0 - 10%
LITTLE	10 - 20%
SOME	20 - 35%
AND	35 - 50%

GROUNDWATER

▼ Observed Groundwater
EXCAVATION EFFORT
 E — EASY
 M — MODERATE
 D — DIFFICULT

TEST PIT FIELD LOG 2 of 2



SEA Consultants Inc.

PROJECT: DEVENS

TEST PIT NO.: TP-22

LOCATION: SA-40

DATE: 5/1/96

GROUND ELEVATION: 255.12

CONTRACTOR: _____

WEATHER: _____

LOG PREPARED BY: TAT

EQUIPMENT: _____

DEPTH	STRATA CHANGE	SOIL DESCRIPTION	EXCAV. EFFORT	BOULD. COUNT	REMRK. NO.
0'14"		AS ABOVE ↓ GREY, WELL GRADED SAND & SILT (NATIVE) END OF PIT ~ 20'			
1'15"			M	A	
2'16"					
3'17"					
4'18"			D	A	
5'19"					
6'20"			M		
7'					
8'					
9'					
10'					
11'					
12'					
13'					
14'					

REMARKS:

<p>TEST PIT PLAN</p> <p style="text-align: center;">NORTH</p> <p>VOLUME = _____ cu.yd.</p>	<p>LEGEND:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>BOULDER SIZE RANGE CLASSIFICATION</th> <th>COUNT LETTER DESIGNATION</th> </tr> </thead> <tbody> <tr> <td>6" - 18"</td> <td>A</td> </tr> <tr> <td>18" - 36"</td> <td>B</td> </tr> <tr> <td>36" AND LARGER</td> <td>C</td> </tr> </tbody> </table>	BOULDER SIZE RANGE CLASSIFICATION	COUNT LETTER DESIGNATION	6" - 18"	A	18" - 36"	B	36" AND LARGER	C	<p>PROPORTIONS USED</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td>TRACE</td> <td>0 - 10%</td> </tr> <tr> <td>LITTLE</td> <td>10 - 20%</td> </tr> <tr> <td>SOME</td> <td>20 - 35%</td> </tr> <tr> <td>AND</td> <td>35 - 50%</td> </tr> </tbody> </table>	TRACE	0 - 10%	LITTLE	10 - 20%	SOME	20 - 35%	AND	35 - 50%	<p>GROUNDWATER</p> <p>▼ Observed Groundwater</p> <p>EXCAVATION EFFORT</p> <p>E — EASY</p> <p>M — MODERATE</p> <p>D — DIFFICULT</p>
BOULDER SIZE RANGE CLASSIFICATION	COUNT LETTER DESIGNATION																		
6" - 18"	A																		
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TRACE	0 - 10%																		
LITTLE	10 - 20%																		
SOME	20 - 35%																		
AND	35 - 50%																		

TEST PIT FIELD LOG 142



SEA Consultants Inc.

PROJECT: DEVENS
LOCATION SA-40

TEST PIT NO.: TP-23
DATE: Sun 6/5/196

GROUND ELEVATION: 249.84
LOG PREPARED BY: TAT

CONTRACTOR: MDR
EQUIPMENT: 330 EXCAV.

WEATHER: SUN 60's

DEPTH	STRATA CHANGE	SOIL DESCRIPTION	EXCAV. EFFORT	BOULD COUNT	REMRK. NO.
0		DARK ORGANICS			
1'					
2'		DK BROWN MED / COARSE SAND & GRAVEL	E	A	
3'		MIXED WITH WOOD / CONC / METAL			
4'					
5'					
6'	▼ ≡	DK BROWN SAND & GRAVEL WITH ASPHALT	D	A	
7'		CONC / METAL, SOME LOGS			
8'					
9'					
10'			D	A	
11'					
12'					
13'			D	A	
14'			D	A	

REMARKS:

TEST PIT PLAN	LEGEND:	PROPORTIONS	GROUNDWATER																		
<p>VOLUME = _____ cu.yd.</p>	<table border="1"> <tr> <th>BOULDER SIZE RANGE CLASSIFICATION</th> <th>COUNT LETTER DESIGNATION</th> </tr> <tr> <td>6" - 18"</td> <td>A</td> </tr> <tr> <td>18" - 36"</td> <td>B</td> </tr> <tr> <td>36" AND LARGER</td> <td>C</td> </tr> </table>	BOULDER SIZE RANGE CLASSIFICATION	COUNT LETTER DESIGNATION	6" - 18"	A	18" - 36"	B	36" AND LARGER	C	<table border="1"> <tr> <th>USED</th> <th>PROPORTIONS</th> </tr> <tr> <td>TRACE</td> <td>0 - 10%</td> </tr> <tr> <td>LITTLE</td> <td>10 - 20%</td> </tr> <tr> <td>SOME</td> <td>20 - 35%</td> </tr> <tr> <td>AND</td> <td>35 - 50%</td> </tr> </table>	USED	PROPORTIONS	TRACE	0 - 10%	LITTLE	10 - 20%	SOME	20 - 35%	AND	35 - 50%	<p>▼ Observed Groundwater</p> <p>EXCAVATION EFFORT</p> <p>E — EASY M — MODERATE D — DIFFICULT</p>
BOULDER SIZE RANGE CLASSIFICATION	COUNT LETTER DESIGNATION																				
6" - 18"	A																				
18" - 36"	B																				
36" AND LARGER	C																				
USED	PROPORTIONS																				
TRACE	0 - 10%																				
LITTLE	10 - 20%																				
SOME	20 - 35%																				
AND	35 - 50%																				

TEST PIT FIELD LOG 2 of 2



SEA Consultants Inc.

PROJECT: DEXENS

TEST PIT NO.: TP-23

LOCATION SA-40

DATE: 5/1/96

GROUND ELEVATION: 249.84

CONTRACTOR: MDE

WEATHER: SUN 60°

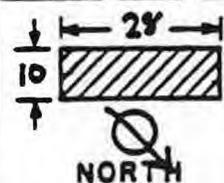
LOG PREPARED BY: TBT

EQUIPMENT: 330 EXCAV.

DEPTH	STRATA CHANGE	SOIL DESCRIPTION	EXCAV. EFFORT	BOULD. COUNT	REMRK. NO.	
0'14"		AS ABOVE * ↓ WELL GRADED, DENSE GREY FINE SAND AND SILT, MOIST (NATIVE) END OF PIT = 20' WATER ENCOUNTERED ~ 6' B4	D	A		
15'						
2'16"						
3'17"				D	A	
4'18"				D	A	
5'19"						
6'20"				D	—	
7'21"						
8'22"						
9'23"						
10'24"						
11'						
12'						
13'						
14'						

REMARKS:

TEST PIT PLAN



VOLUME = _____ cu.yd.

LEGEND:

BOULDER SIZE RANGE CLASSIFICATION	COUNT LETTER DESIGNATION
6" - 18"	A
18" - 36"	B
36" AND LARGER	C

PROPORTIONS USED

TRACE	0 - 10%
LITTLE	10 - 20%
SOME	20 - 35%
AND	35 - 50%

GROUNDWATER

- ▼ Observed Groundwater EXCAVATION EFFORT
- E — EASY
- M — MODERATE
- D — DIFFICULT

TEST PIT FIELD LOG 142



SEA Consultants Inc

PROJECT: DEVENS

TEST PIT NO.: TP-24

LOCATION SA-40

DATE: 5/1/96

GROUND ELEVATION: 253.52

CONTRACTOR: MDR

WEATHER: SUN 60's

LOG PREPARED BY: TAT

EQUIPMENT: 330 EXCAV.

DEPTH	STRATA CHANGE	SOIL DESCRIPTION	EXCAV. EFFORT	BOULD. COUNT	REMRK. NO.	
0		ORGANICS				
1		YELLOW MED / COARSE SAND & GRAVEL, LITTLE BOULDERS	M	A		
2						
3						
4		DK BROWN MED / COARSE SAND & GRAVEL MIXED WITH ASPHALT / CONC FOOTINGS / LOGS / CABLE / STUMPS	M	A		
5						
6						
7						
8	▼ =					
9				M	A	
10						
11			M	A		
12						
13			M	A		
14			M	A		

REMARKS:

<p>TEST PIT PLAN</p>	<p>LEGEND:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>BOULDER SIZE RANGE</th> <th>CLASSIFICATION</th> <th>COUNT LETTER DESIGNATION</th> </tr> </thead> <tbody> <tr> <td>6" - 18"</td> <td>A</td> <td></td> </tr> <tr> <td>18" - 36"</td> <td>B</td> <td></td> </tr> <tr> <td>36" AND LARGER</td> <td>C</td> <td></td> </tr> </tbody> </table>	BOULDER SIZE RANGE	CLASSIFICATION	COUNT LETTER DESIGNATION	6" - 18"	A		18" - 36"	B		36" AND LARGER	C		<p>PROPORTIONS USED</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>TRACE</th> <th>0 - 10%</th> </tr> </thead> <tbody> <tr> <td>LITTLE</td> <td>10 - 20%</td> </tr> <tr> <td>SOME</td> <td>20 - 35%</td> </tr> <tr> <td>AND</td> <td>35 - 50%</td> </tr> </tbody> </table>	TRACE	0 - 10%	LITTLE	10 - 20%	SOME	20 - 35%	AND	35 - 50%	<p>GROUNDWATER</p> <p>▼ Observed Groundwater</p> <p>EXCAVATION EFFORT</p> <p>E — EASY</p> <p>M — MODERATE</p> <p>D — DIFFICULT</p>
BOULDER SIZE RANGE	CLASSIFICATION	COUNT LETTER DESIGNATION																					
6" - 18"	A																						
18" - 36"	B																						
36" AND LARGER	C																						
TRACE	0 - 10%																						
LITTLE	10 - 20%																						
SOME	20 - 35%																						
AND	35 - 50%																						

TEST PIT FIELD LOG 212



SEA Consultants Inc.

PROJECT: DEVENS

TEST PIT NO.: TP-24

LOCATION SA-40

DATE: 5/1/96

GROUND ELEVATION: 253.52

CONTRACTOR: MDRZ

WEATHER: SUN 60°

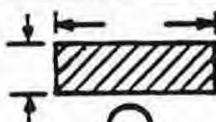
LOG PREPARED BY: JAT

EQUIPMENT: 330 EXCAV

DEPTH	STRATA CHANGE	SOIL DESCRIPTION	EXCAV. EFFORT	BOULD. COUNT	REMRK. NO.
0'14"		AS ABOVE	M	A	
1'15"					
2'16"		GREY, WELL GRADED SAND AND SILT (NATIVE) END OF PIT = 20'	M	A	
3'17"					
4'18"					
5'19"					
6'20"					
7'					
8'					
9'					
10'					
11'					
12'					
13'					
14'					

REMARKS:

TEST PIT PLAN



NORTH

VOLUME = _____ cu.yd.

LEGEND:

BOULDER SIZE RANGE CLASSIFICATION	COUNT LETTER DESIGNATION
6" - 18"	A
18" - 36"	B
36" AND LARGER	C

PROPORTIONS USED

TRACE	0 - 10%
LITTLE	10 - 20%
SOME	20 - 35%
AND	35 - 50%

GROUNDWATER

- ▼ Observed Groundwater
- EXCAVATION EFFORT**
- E — EASY
- M — MODERATE
- D — DIFFICULT

TEST PIT FIELD LOG 142



SEA Consultants Inc.

PROJECT: DEVENS
LOCATION: SA-40

TEST PIT NO.: TP-25
DATE: 5/1/96

GROUND ELEVATION: 259.87
LOG PREPARED BY: JAT

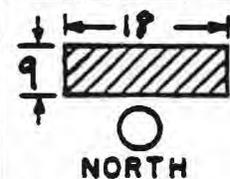
CONTRACTOR: MOE
EQUIPMENT: 330

WEATHER: SUN 60s

DEPTH	STRATA CHANGE	SOIL DESCRIPTION	EXCAV. EFFORT	BOULD. COUNT	REMRK. NO.
0		CONCRETE @ SURFACE			
1		TAN MEDIUM / COARSE SAND & GRAVEL MIXED WITH CONC / ASPHALT / ROCK / METAL 			
2					
3			M A		
4					
5			M A		
6					
7					
8					
9			M A		
10					
11					
12					
13			D B		
14					

REMARKS:

TEST PIT PLAN



VOLUME = _____ cu.yd.

LEGEND:

BOULDER SIZE RANGE CLASSIFICATION	COUNT LETTER DESIGNATION
6" - 18"	A
18" - 36"	B
36" AND LARGER	C

PROPORTIONS USED

TRACE	0 - 10%
LITTLE	10 - 20%
SOME	20 - 35%
AND	35 - 50%

GROUNDWATER

▼ Observed Groundwater
EXCAVATION EFFORT
 E — EASY
 M — MODERATE
 D — DIFFICULT

TEST PIT FIELD LOG 2 of 2



SEA Consultants Inc.

PROJECT: Devens

TEST PIT NO.: TP-25

LOCATION SA-40

DATE: 5/1/96

GROUND ELEVATION: 259.87

CONTRACTOR: MDR

WEATHER: SUN 60°

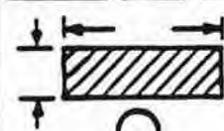
LOG PREPARED BY: TAT

EQUIPMENT: 330

DEPTH	STRATA CHANGE	SOIL DESCRIPTION	EXCAV. EFFORT	BOULD. COUNT	REMRK. NO.	
0'4"						
1'5"		AS ABOVE				
2'6"			M	A		
3'7"						
4'8"			M	A		
5'9"						
6'20"			M	A		
7'21"						
8'22"			M	A		
9'23"						
10'24"			YELLOW MEDIUM / FINE SAND & SILT			
11'			END OF PIT ~ 24'			
12'		WATER NOT ENCOUNTERED				
13'						
14'						

REMARKS:

TEST PIT PLAN



NORTH

VOLUME = _____ cu.yd.

LEGEND:

BOULDER SIZE RANGE CLASSIFICATION	COUNT LETTER DESIGNATION
6" - 18"	A
18" - 36"	B
36" AND LARGER	C

PROPORTIONS USED

TRACE	0 - 10%
LITTLE	10 - 20%
SOME	20 - 35%
AND	35 - 50%

GROUNDWATER

▼ Observed Groundwater

EXCAVATION EFFORT

- E — EASY
- M — MODERATE
- D — DIFFICULT

TEST PIT FIELD LOG 1 of 2



SEA Consultants Inc.

PROJECT: DEVENS

TEST PIT NO.: TP-26

LOCATION SA-40

DATE: 5/1/96

GROUND ELEVATION: 262.97

CONTRACTOR: MDR

WEATHER: SUN 60's

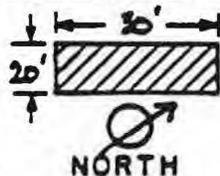
LOG PREPARED BY: JAT

EQUIPMENT: 330 EXCAV.

DEPTH	STRATA CHANGE	SOIL DESCRIPTION	EXCAV. EFFORT	BOULD. COUNT	REMRK. NO.
0		6" TOPSOIL	E		
1		DK BRN SAND & GRAVEL, LITTLE SILT MIXED WITH BRICK / METAL / PIECES CONC / PLASTIC WRAP, PIPE			
2					
3			E		
4		WHITE ASH WITH BRICK	E		
5					
6		↑ SAND & GRAVEL WITH LARGE 2' PIECES CONC ↓	E		
7				A	
8			B	A	1
9					
10					
11					
12			D	A	
13					
14		SAND & GRAVEL WITH CONC / BRICK / METAL / PLASTIC	D	A	

REMARKS: 1) CONE W/ 1/4" REBAR

TEST PIT PLAN



VOLUME = _____ cu.yd.

LEGEND:

BOULDER SIZE RANGE CLASSIFICATION	COUNT LETTER DESIGNATION
6" - 18"	A
18" - 36"	B
36" AND LARGER	C

PROPORTIONS

USED	PERCENTAGE
TRACE	0 - 10%
LITTLE	10 - 20%
SOME	20 - 35%
AND	35 - 50%

GROUNDWATER

▼ Observed Groundwater EXCAVATION EFFORT

E — EASY
M — MODERATE
D — DIFFICULT

TEST PIT FIELD LOG 242



SEA Consultants Inc.

PROJECT: DEVENS
LOCATION: SA-40

TEST PIT NO.: TP-26
DATE: 5/1/96

GROUND ELEVATION: 262.97
LOG PREPARED BY: TAT

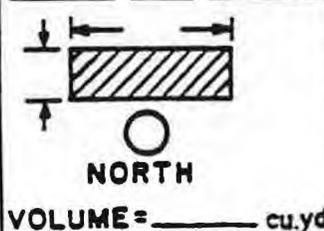
CONTRACTOR: MDR
EQUIPMENT: 330 EXCAV.

WEATHER: SUN 60's

DEPTH	STRATA CHANGE	SOIL DESCRIPTION	EXCAV. EFFORT	BOULD COUNT	REMRK. NO.	
014						
15		<div style="display: flex; align-items: center; justify-content: center;"> <div style="text-align: center; margin-right: 10px;">↑</div> <div style="text-align: center; margin-right: 10px;">↓</div> </div> <p>SAND & GRAVEL W/ CONC / WIRE / CABLES</p> <hr/> <p>MOST SAND & GRAVEL WITH PIECES OF BRICK</p> <p>END OF PIT 25'</p> <p>NO WATER ENCOUNTERED</p>	M	A		
26						
37				M	A	
48						
59						
20				M	A	
21						
22						
23						
24						
25						
26					2	
27						
28						

REMARKS: 2) LIMIT OF EXCAVATOR ~ 25'

TEST PIT PLAN



LEGEND:

BOULDER SIZE RANGE CLASSIFICATION	COUNT LETTER DESIGNATION
6" - 18"	A
18" - 36"	B
36" AND LARGER	C

PROPORTIONS USED

TRACE	0 - 10%
LITTLE	10 - 20%
SOME	20 - 35%
AND	35 - 50%

GROUNDWATER

▼ Observed Groundwater EXCAVATION EFFORT

E — EASY
M — MODERATE
D — DIFFICULT

TEST PIT FIELD LOG 1 of 2



SEA Consultants Inc

PROJECT: DEVENS

TEST PIT NO.: TP-27

LOCATION SA-40

DATE: 5/1/96

GROUND ELEVATION: 261.54

CONTRACTOR: MORZ

WEATHER: SUN 60S

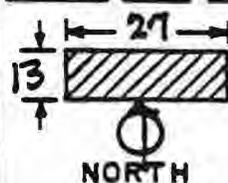
LOG PREPARED BY: TAT

EQUIPMENT: 330 EX

DEPTH	STRATA CHANGE	SOIL DESCRIPTION	EXCAV. EFFORT	BOULD COUNT	REMRK NO.	
0		DEBRIS / ROOTS				
1'		↓ SAND & GRAVEL	E	A		
2'						
3'						
4'				E	A	
5'						
6'				E	A	
7'						
8'				E	A	
9'						
10'				E	A	
11'						
12'				E	A	
13'						
14'			SAND & GRAVEL WITH SOME PLASTIC / CONC	M	A	

REMARKS:

TEST PIT PLAN



VOLUME = _____ cu.yd.

LEGEND:

BOULDER SIZE RANGE CLASSIFICATION	COUNT LETTER DESIGNATION
6" - 18"	A
18" - 36"	B
36" AND LARGER	C

PROPORTIONS USED

TRACE	0 - 10%
LITTLE	10 - 20%
SOME	20 - 35%
AND	35 - 50%

GROUNDWATER

▼ Observed Groundwater

EXCAVATION EFFORT

E — EASY

M — MODERATE

D — DIFFICULT

TEST PIT FIELD LOG 212



SEA Consultants Inc.

PROJECT: DEVENS

TEST PIT NO.: TP-27

LOCATION SA-40

DATE: 5/1/96

GROUND ELEVATION: 261.54

CONTRACTOR: MDR

WEATHER:

LOG PREPARED BY: TAT

EQUIPMENT: 330

SUN 60°

DEPTH	STRATA CHANGE	SOIL DESCRIPTION	EXCAV. EFFORT	BOULD. COUNT	REMRK. NO.
0'14"					
0'15"		AS ABOVE			
0'16"					
0'17"		SAND & GRAVEL WITH SOME WOOD & STUMPS			
0'18"					
0'19"					
0'20"					
0'21"					
0'22"					
0'23"					
1'02"		GREY SAND & SILT WITH WOOD/BRICK/CONC/METAL PIPE - MOIST			
1'12"					
1'22"		END OF PIT - 26' (LIMIT OF MACHINE) NO WATER ENCOUNTERED			
1'32"					
1'4'					

REMARKS:

TEST PIT PLAN	LEGEND:	PROPORTIONS USED	GROUNDWATER																		
<p style="text-align: center;">NORTH</p> <p>VOLUME = _____ cu.yd.</p>	<table border="1"> <tr> <th>BOULDER SIZE RANGE CLASSIFICATION</th> <th>COUNT LETTER DESIGNATION</th> </tr> <tr> <td>6" - 18"</td> <td>A</td> </tr> <tr> <td>18" - 36"</td> <td>B</td> </tr> <tr> <td>36" AND LARGER</td> <td>C</td> </tr> </table>	BOULDER SIZE RANGE CLASSIFICATION	COUNT LETTER DESIGNATION	6" - 18"	A	18" - 36"	B	36" AND LARGER	C	<table border="1"> <tr> <th>PROPORTIONS USED</th> <th>PERCENTAGE</th> </tr> <tr> <td>TRACE</td> <td>0 - 10%</td> </tr> <tr> <td>LITTLE</td> <td>10 - 20%</td> </tr> <tr> <td>SOME</td> <td>20 - 35%</td> </tr> <tr> <td>AND</td> <td>35 - 50%</td> </tr> </table>	PROPORTIONS USED	PERCENTAGE	TRACE	0 - 10%	LITTLE	10 - 20%	SOME	20 - 35%	AND	35 - 50%	<p>▼ Observed Groundwater</p> <p>EXCAVATION EFFORT</p> <p>E — EASY</p> <p>M — MODERATE</p> <p>D — DIFFICULT</p>
BOULDER SIZE RANGE CLASSIFICATION	COUNT LETTER DESIGNATION																				
6" - 18"	A																				
18" - 36"	B																				
36" AND LARGER	C																				
PROPORTIONS USED	PERCENTAGE																				
TRACE	0 - 10%																				
LITTLE	10 - 20%																				
SOME	20 - 35%																				
AND	35 - 50%																				

TEST PIT FIELD LOG 142



S & E Consultants Inc.

PROJECT: DEVENS
LOCATION: SA-40

TEST PIT NO.: TP-28
DATE: 5/1/96

GROUND ELEVATION: 265.51
LOG PREPARED BY: TAT

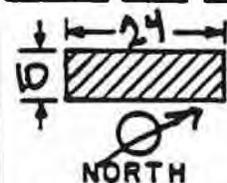
CONTRACTOR: MDR
EQUIPMENT: 330 EXCAV

WEATHER: SUN 60°

DEPTH	STRATA CHANGE	SOIL DESCRIPTION	EXCAV. EFFORT	BOULD. COUNT	REMRK. NO.
0					
1		ORGRASS			
2		DK BROWN GRAVEL & SAND MIXED WITH CONC / LUMBER	M	A	
3					
4			M	A	
5					
6		BROWN MEDIUM / COARSE SAND & GRAVEL	M	A	
7					
8			M	A	
9					
10		MOSTLY SAND & GRAVEL WITH STUMPS / LOGS ↓			
11			M	A	
12					
13			M	A	
14					

REMARKS:

TEST PIT PLAN



VOLUME = _____ cu.yd.

LEGEND:

BOULDER SIZE RANGE CLASSIFICATION	COUNT LETTER DESIGNATION
6" - 18"	A
18" - 36"	B
36" AND LARGER	C

PROPORTIONS USED

TRACE	0 - 10%
LITTLE	10 - 20%
SOME	20 - 35%
AND	35 - 50%

GROUNDWATER

▼ Observed Groundwater
EXCAVATION EFFORT
E — EASY
M — MODERATE
D — DIFFICULT

TEST PIT FIELD LOG 212



S E A Consultants Inc.

PROJECT: Devens
LOCATION: SA-40

TEST PIT NO.: TP-28
DATE: 5/1/96

GROUND ELEVATION: 215.51
LOG PREPARED BY: TAT

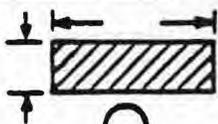
CONTRACTOR: MDR
EQUIPMENT: 380 Exc

WEATHER: SUN 60°

DEPTH	STRATA CHANGE	SOIL DESCRIPTION	EXCAV. EFFORT	BOULD. COUNT	REMRK. NO.	
0'4"		AS ABOVE ↓ SAND & GRAVEL WITH SOME CONK FOOTINGS & STUMPS PIECE OF PVC PIPE GREY MEDIUM / FINE SAND & SILT (NATIVE)	M	A		
1'5"						
2'11"						
3'17"				M	A	
4'18"						
5'19"				M	A	
6'20"						
7'21"				M	A	
8'22"						
9'23"				M	A	
10'24"						
11'		END OF PIT ~ 24'				
12'		WATER NOT ENCOUNTERED				
13'						
14'						

REMARKS:

TEST PIT PLAN



NORTH

VOLUME = _____ cu.yd.

LEGEND:

BOULDER SIZE RANGE CLASSIFICATION	COUNT LETTER DESIGNATION
6" - 18"	A
18" - 36"	B
36" AND LARGER	C

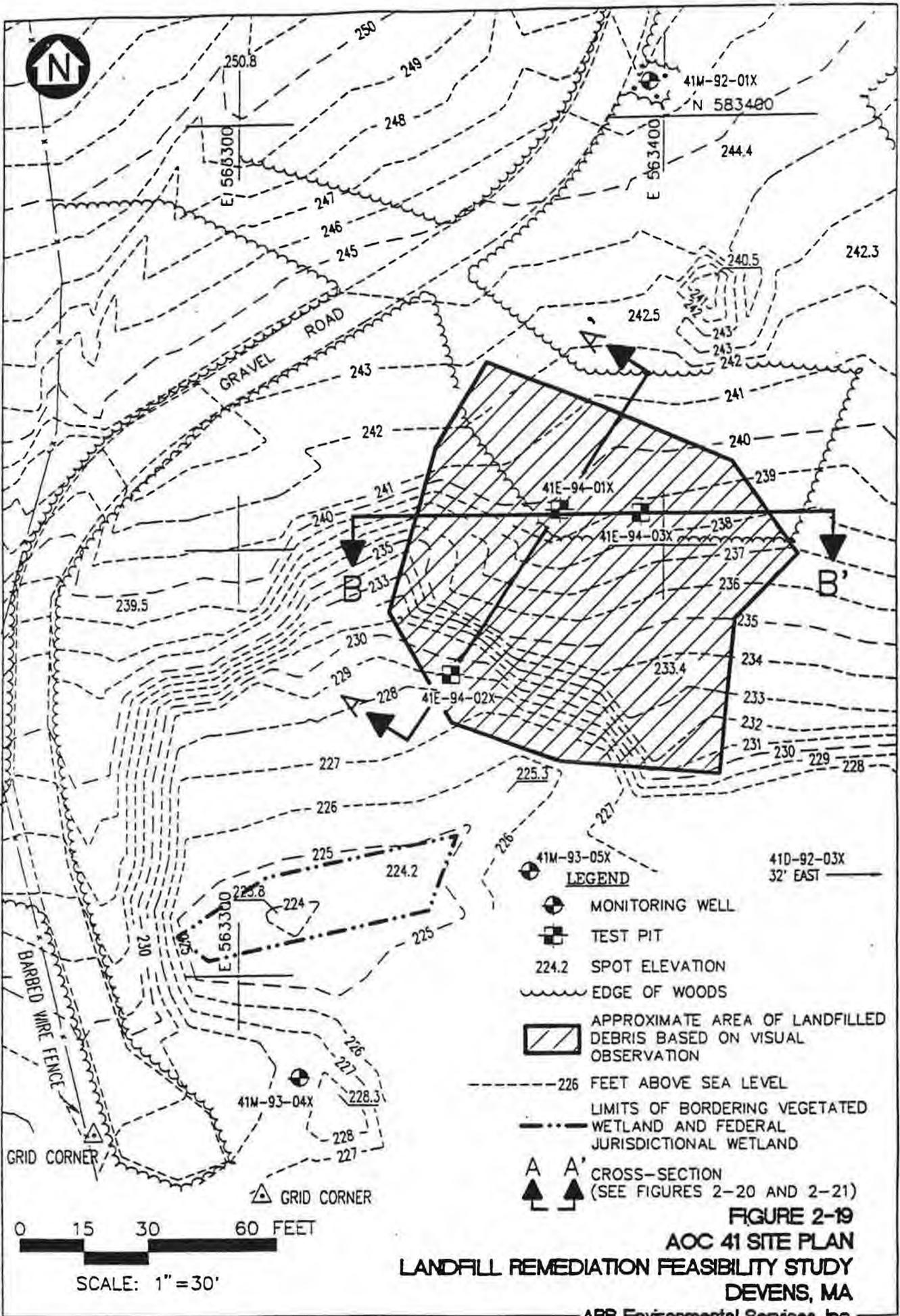
PROPORTIONS USED

TRACE	0 - 10%
LITTLE	10 - 20%
SOME	20 - 35%
AND	35 - 50%

GROUNDWATER

- ▼ Observed Groundwater
- EXCAVATION EFFORT**
- E — EASY
- M — MODERATE
- D — DIFFICULT

J:\8712-04\8712F029.DWG 1/07/97



- LEGEND**
- 41M-93-05X 41D-92-03X
32' EAST
 - MONITORING WELL
 - TEST PIT
 - 224.2 SPOT ELEVATION
 - EDGE OF WOODS
 - APPROXIMATE AREA OF LANDFILLED DEBRIS BASED ON VISUAL OBSERVATION
 - 226 FEET ABOVE SEA LEVEL
 - LIMITS OF BORDERING VEGETATED WETLAND AND FEDERAL JURISDICTIONAL WETLAND
 - A A' CROSS-SECTION (SEE FIGURES 2-20 AND 2-21)

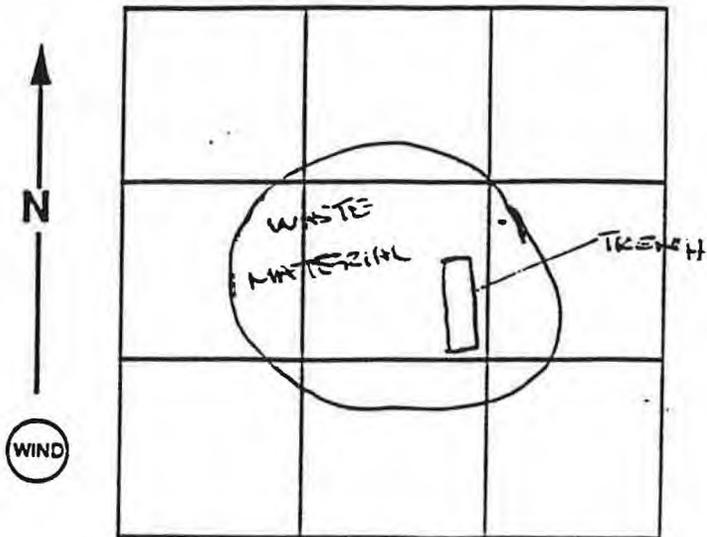
FIGURE 2-19
AOC 41 SITE PLAN
LANDFILL REMEDIATION FEASIBILITY STUDY
DEVENS, MA
 ABB Environmental Services, Inc.

9202150D (P)

TEST PIT RECORD

Study Area: D-RANGE
 Well/Boring: 41E-94-01X Date: 10-4-94 Time: 1245 End: 1430
 Coordinates: _____ Grid Element: _____

SKETCH MAP OF TEST PIT SITE



SCALE 1" = 20 FT.

NOTES: _____
DIMENSIONS 13 FT. LONG, 2 FT. WIDE,
1 FT. DEEP.

SCATTERED BEER CANS (CONAL TOP)
AND GLASS BOTTLES ON GROUND
SURFACE.

- Crew Members:
1. BOB BLANDIERO
 2. BRUCE MCE
 3. DAVE BELAN
 4. _____
 5. _____
 6. _____

Monitor Equipment:

PI Meter	<u>Y</u>	N
Explosive Gas	<u>Y</u>	N
Avail. Oxygen	<u>Y</u>	N
OVA	<u>Y</u>	N
Other	_____	_____

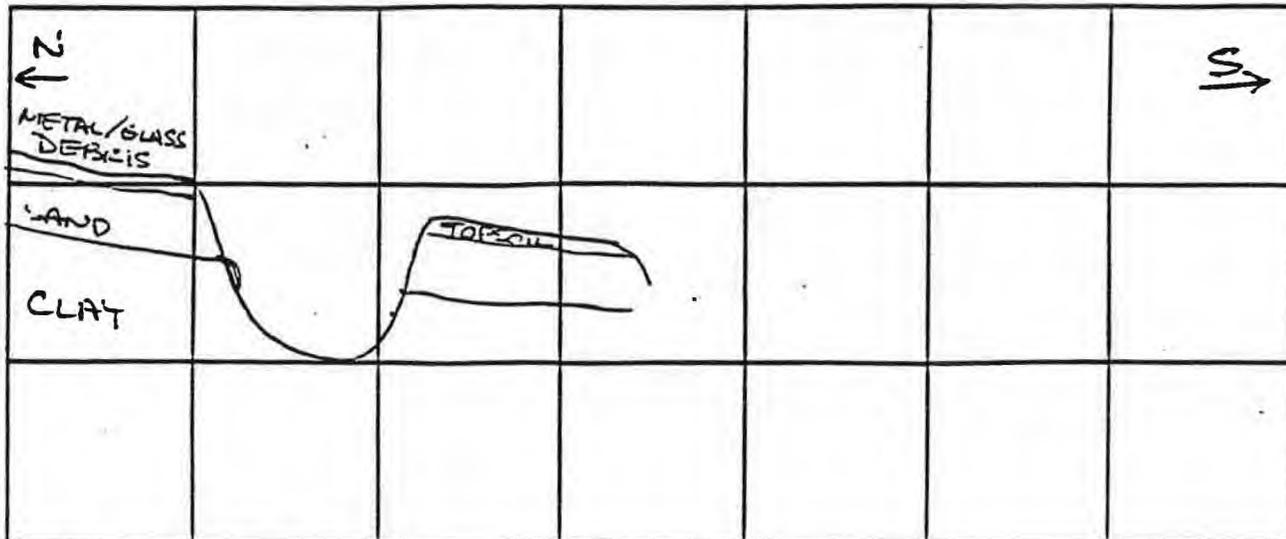
Photographs, Roll _____
 Exposure _____

FIGURE 4-1
TEST PIT RECORD
PROJECT OPERATIONS PLAN
FORT DEVENS, MASSACHUSETTS
ABB Environmental Services, Inc.

Profile Along Test Pit: _____

Study Area: FT DEVENS - D-RANGE

SKETCH MAP OF TEST PIT PROFILE



SCALE 1" = 10 FT.
DEPTH (FT) _____

NOTES:

0-1' TOPSOIL, ROOTS.
1-4' SAND, FINE, COARSING
DOWNWARDS, YELLOW BROWN,
DAMP-MOIST (PERCHED WATER
AT 4 FT.) TRACE GRAVEL, NO ODOR
OR STAINING APPARENT.
4-10' CLAY, STIFF-PLASTIC,
LIGHT GRAY AND LIGHT YELLOW BROWN,
DRY-MOIST, TRACE GRAVEL, NO
ODOR OR STAIN.

NO FILL.

TRENCH BACK FILLED ON 10/5/94

no.	Int. Ser. No.	Depth (Ft.)	HD. SP. VOA PPM
S-1	TP401035	2	0.6
S-2	TP40104S	4	0.3
S-3	TP40102S	10	0.2
S-4			
S-5			
S-6			
S-7			
S-8			

REFERENCE: FIELD BOOK, Pg. 56-57

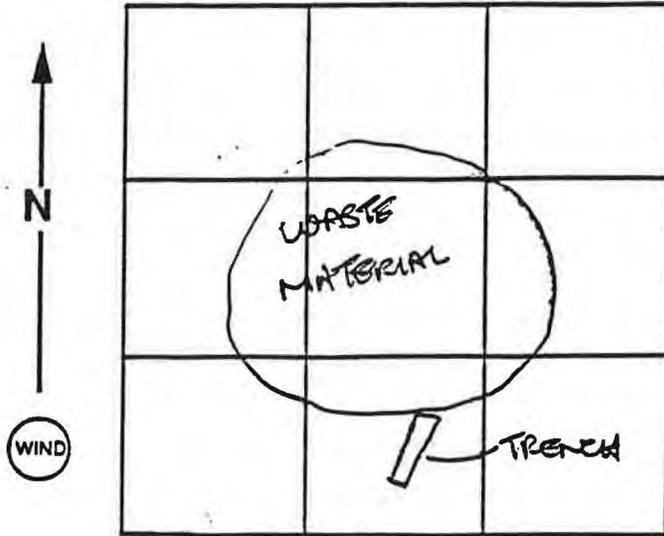
ATTACHMENTS _____

SIGNATURE: D.H. Betan

TEST PIT RECORD

Study Area: D-RANGE
 Well/Boring: 41E-94-01X Date: 10-4-94 Time: 1530 End: 1650
 Coordinates: _____ Grid Element: _____

SKETCH MAP OF TEST PIT SITE



SCALE 1" = 20 FT.

NOTES:

DIMENSIONS: 18 FT. LONG, 2 FT. WIDE,
9.5 FT. DEEP

SCATTERED METAL DEBRIS ON GROUND
(ALTC PARTS, WATER CANS, ETC.)

Crew Members:

1. BOB BLANDFORD
2. BRUCE MOE
3. DAVE BELAN
4. _____
5. _____
6. _____

Monitor Equipment:

PI Meter Y N
 Explosive Gas Y N
 Avail. Oxygen Y N
 OVA Y N
 Other _____

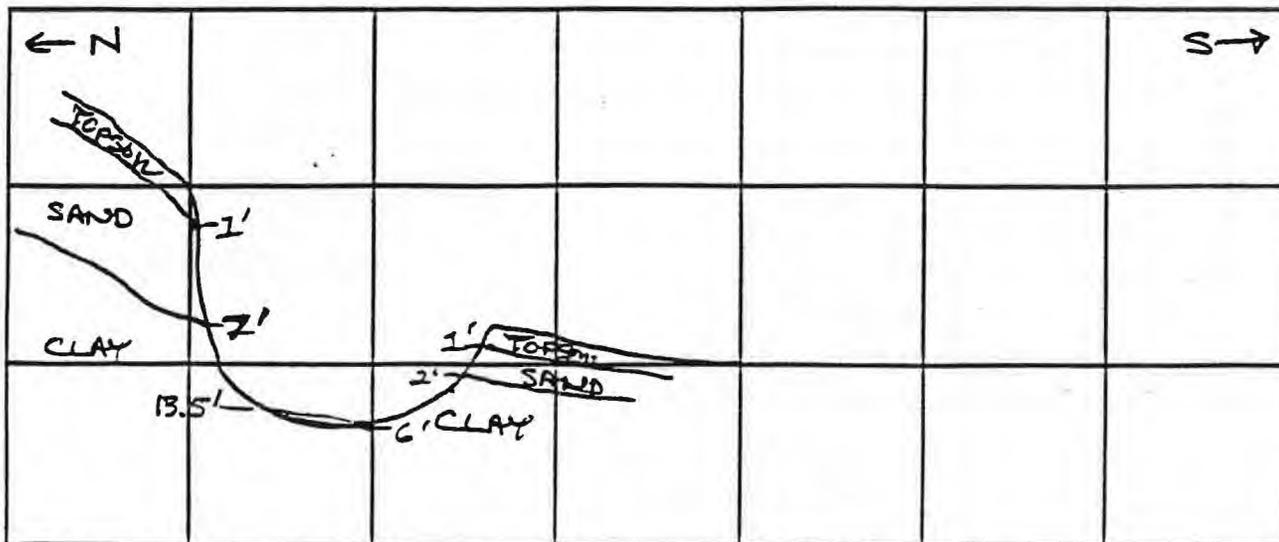
Photographs, Roll _____

Exposure _____

Profile Along Test Pit:

Study Area: FT. DEVENS D-RANGE

SKETCH MAP OF TEST PIT PROFILE



SCALE 1" = 10 FT.
DEPTH (FT.)

NOTES:

0-1' - TOPSOIL, ROOTS

1-(2-7') - SAND, FINE, SOME COARSE JUNK
DOWNWARDS, YELLOW BROWN, DAMP,
TRACE GRAVEL, NO ODOR OR STAIN.

(2-7')-(6-13.5') CLAY, STIFF - SLIGHTLY
PLASTIC, LIGHT GRAY, SOME LIGHT YELLOW
BROWN. DRY - ^{DAMP} DAMP, TRACE GRAVEL,
NO ODOR OR STAIN. MOIST AT TRENCH
BOTTOM.

NO FILL.

TRENCH BACKFILLED ON 10/5/94

no.	Int. Ser. No.	Depth (FL)	HD SP VOA PPM
S-1	TP402025	2	0.3
S-2	TP402095	9.5	0.3
S-3			
S-4			
S-5			
S-6			
S-7			
S-8			

REFERENCE: FIELD BOOK. Pg 57-58,60

ATTACHMENTS

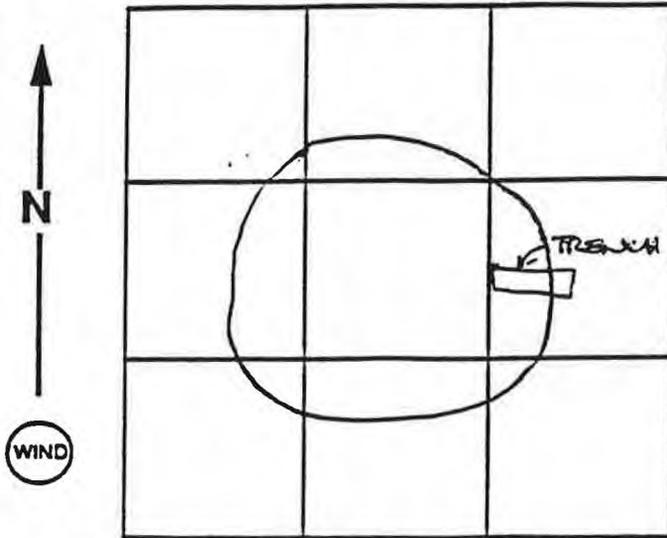
SIGNATURE: David A. Belan

FIGURE 4-1 (CONT.)
TEST PIT RECORD
PROJECT OPERATIONS PLAN
FORT DEVENS, MASSACHUSETTS

TEST PIT RECORD

Study Area: D-RANGE
 Well/Boring: 41E-94-03X Date: 10-5-94 Time: _____ End: _____
 Coordinates: _____ Grid Element: _____

SKETCH MAP OF TEST PIT SITE



SCALE 1" = 20 FT.

NOTES: _____
DIMENSIONS: 18 FT. LONG, 2 FT. WIDE
11 FT. DEEP.

SCATTERED BEER CANS (CONICAL TOP)
AND GLASS BOTTLES ON GROUND
SURFACE.

Crew Members:

1. BOB BLANFORD
2. BRUCE MOE
3. DAVE BELAN
4. _____
5. _____
6. _____

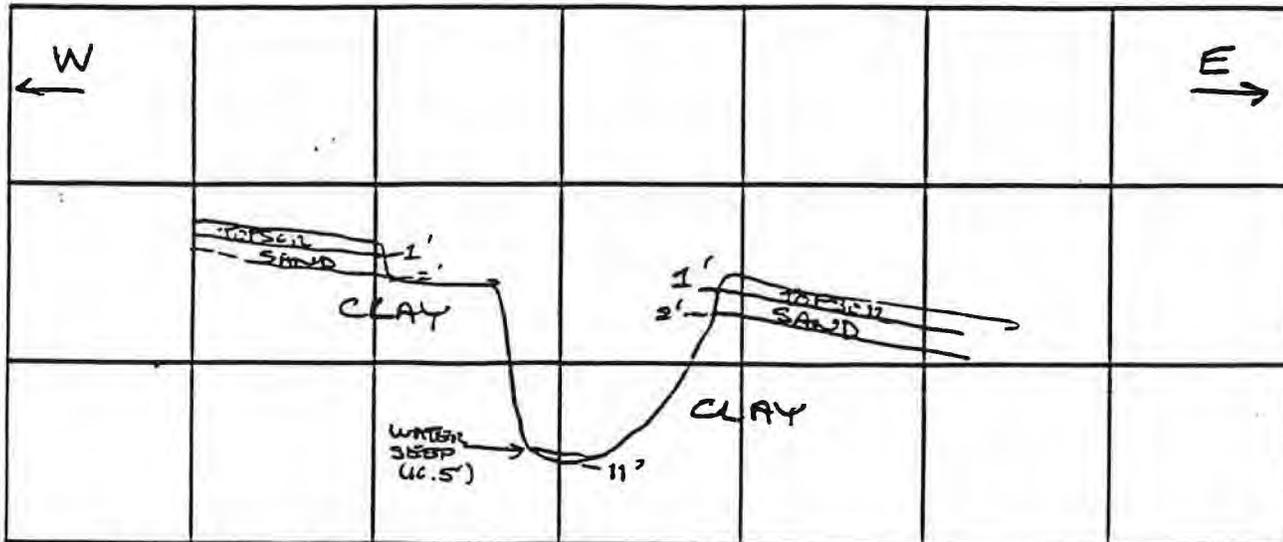
Monitor Equipment:

PI Meter	<u>Y</u>	N
Explosive Gas	Y	N
Avail. Oxygen	Y	N
OVA	Y	N
Other	_____	_____
Photographs, Roll	_____	_____
Exposure	_____	_____

Profile Along Test Pit: _____

Study Area: FT. DEVENS D-RANGE

SKETCH MAP OF TEST PIT PROFILE



SCALE 1" = 10 FT.
DEPTH (FT) _____

NOTES:

0-1' TOPSOIL ROOTS.
1-2' SAND, FINE-MEDIUM, YELLOW BROWN, DAMP, TRACE GRAVEL, NO ODOR OR STAIN.
2-11' CLAY, STIFF - SLIGHTLY PLASTIC LIGHT GRAY, LITTLE LIGHT YELLOW BROWN, DRY-DAMP, TRACE GRAVEL, NO ODOR OR STAIN. SLIGHT WATER ACCUMULATION AT 10.5 FEET.

NO FILL.

TRENCH BACKFILLED ON 10/5/94.

no.	Int. Ser. No.	Depth (Ft.)	HD. SP. VOA PPM
S-1	—	—	—
S-2	—	—	—
S-3			
S-4			
S-5			
S-6			
S-7			
S-8			

REFERENCE: FIELD BOOK, Pg 61-63

ATTACHMENTS _____

SIGNATURE: David H. Belan

FIGURE 4-1 (CONT.)
TEST PIT RECORD
PROJECT OPERATIONS PLAN
FORT DEVENS, MASSACHUSETTS

Appendix B

Project Labor Agreement

LETTER OF ASSENT

All prime Contractors and their Subcontractors (at whatever tier) shall agree to be bound by the terms and conditions of the project labor agreement by executing either the Agreement(s) directly or the following Letter of Assent:

(This Letter to be typed on the appropriate Contractor's letterhead)

Mr. Charles Sekinger
Manager, Labor Relations
Stone & Webster Construction Company, Inc.
245 Summer Street
Boston, MA 02210

date:

RE: DEVENS RESERVE FORCES TRAINING AREA LANDFILL
REMEDICATION PROJECT LABOR AGREEMENT

Dear Mr. Sekinger,

Pursuant to the terms of the bid specifications issued for the Devens Reserve Forces Training Area Landfill Project, by Stone & Webster Construction Company, Inc.; and the above-referenced Project Labor Agreement(s) with the Laborers International Union of North America Environmental Partnering Project Agreement, the International Union Of Operating Engineers, and the International Brotherhood of Teamsters National Environmental Remediation Project Agreement; the undersigned Contractor (or Subcontractor) hereby agrees that it will be bound by and comply with all terms and conditions of said labor agreement(s) originally entered into on _____, 1999, _____, 1999, and _____, 1999, respectively, and any Amendments thereto.

This Letter of Assent will remain effective for the duration of the Agreement, and for any extensions, after which this Understanding will automatically terminate.

Sincerely,

(Name of Contractor or Subcontractor)

By: _____
Title

STONE & WEBSTER ENGINEERING CORPORATION
ENVIRONMENTAL PARTNERING PROJECT AGREEMENT

with the

Laborers' International Union of North America, AFL-CIO



January 1995

LIUNA ENVIRONMENTAL PARTNERING PROJECT AGREEMENT

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ENVIRONMENTAL PARTNERING PROJECT AGREEMENT

between

STONE & WEBSTER ENGINEERING CORPORATION

and the

LABORERS' INTERNATIONAL UNION OF NORTH AMERICA, AFL-CIO

This Agreement is made and entered into this _____ day of _____, 19 ____, by and between Stone & Webster Engineering Corporation (hereinafter referred to as the "Employer") and the Laborers' International Union of North America, AFL-CIO (hereinafter referred to as the "Union") for Environmental Remediation Projects.

ARTICLE I

PURPOSE

Section 1. The purpose of this Agreement is to promote efficiency of operations on the project and provide for peaceful settlement of labor disputes without strikes or lockouts, thereby promoting the public interest in assuring the timely and economical completion of the work.

Section 2. The Employer and the Union desire to mutually establish and stabilize wages, hours and working conditions for the workers employed under this Agreement by the Employer, and further, to encourage close cooperation between the Employer and the Union to the end that a satisfactory, continuous, and harmonious relationship will exist between the parties to this Agreement.

Section 3. The Union has established environmental remediation and hazardous waste training programs which meet or exceed all of the requirements of the federal regulations.

Section 4. The Union has in its Local Union membership throughout the United States the competent, skilled, qualified and certified workers required to perform the work incidental to the effective accomplishment of this project.

ARTICLE II
SCOPE OF AGREEMENT

Section 1. It is the intent of the parties that this Agreement be utilized as a stabilization agreement for environmental remediation projects. Extensions for this Agreement shall be sought by the Employer, in writing, on an individual location basis via the completion of Addendum "A".

Section 2. The Employer recognizes the Union as the sole and exclusive bargaining representatives for all employees performing work coming within the recognized trade jurisdiction of the Union. This Agreement is between the Employer and the International Union.

Section 3. This Agreement shall not apply to executives, engineers, technicians, draftsmen, supervisors, assistant supervisors, timekeepers, messengers, office workers, guards, or other nonmanual employees.

Section 4. This Agreement represents the complete understanding of the parties; and the Employer shall not be required to sign any other agreement during the performance of the work described herein, except such participation agreements, relating to the payment of fringe benefits, which may be required by any fringe benefit trust fund.

Section 5. Both parties recognize that there may be extenuating circumstances when it is to the mutual interest of both parties to modify the terms of this Agreement. In that event, it will not be a violation of this Agreement for the parties to meet and mutually agree to make such modifications to meet a specific need on a specific project.

Section 6. This Agreement shall supersede all other agreements between the Employer and any Local of the Union for any work covered herein.

Section 7. The liability of the Employer and the liability of the Union shall be several and not joint.

ARTICLE III
UNION SECURITY

Section 1. The employees covered by this agreement shall become and remain members of the Union as a condition of employment from the seventh (7th) but not later than the eighth (8th) day of employment, or the effective date of this Agreement, whichever is later.

Section 2. It is further agreed that all Union members employed by the Employer shall maintain their membership in good standing in the Union.

Section 3. Failure of any employee to pay or tender normal initiation fees or dues as required by this Agreement shall, upon the request of the Union in writing, result in the termination of such employee.

ARTICLE IV
REFERRAL OF EMPLOYEES

Section 1. The Employer shall have the right to select and hire directly all supervisors it considers necessary and desirable. Applicants for the various classifications covered by the Agreement required by the Employer on its projects shall be referred to the Employer by the Union and/or its respective Local Unions. The Employer shall have the right to determine the competency of all employees, the right to determine the number of employees required, and the sole responsibility for selecting the employees to be laid off, discharges, suspended or disciplined for proper cause. The Employer shall also have the right to reject any applicant referred by the Union and/or its respective Local Unions.

Section 2. The Union represents that its Local Unions administer and control their referrals and it is agreed that these referrals will be made in a nondiscriminatory manner and in full compliance with federal, state and local laws and regulations which require equal employment opportunities and nondiscrimination. Referrals shall not be affected in any way by the rules, regulations, by-laws, constitutional provisions, or any other aspect or obligation of Union membership, policies or requirements.

Section 3. In the event the referral facilities maintained by the Local Unions do not refer the employees as requested by the Employer within a forty-eight (48) hour period after such requisition is made by the Employer (Saturdays, Sundays and Holidays excluded), the Employer may employ applicants from any source.

Section 4. The Employer agrees to be bound by the hiring referral rules in a local area not inconsistent with the terms of this Agreement. Where the hiring referral rules that prevail in a local area are on other than an exclusive basis, such rules shall be applicable if not in violation of either state or federal law.

Section 5. The Union and its respective Local Unions will exert their utmost efforts to recruit sufficient number of skilled and certified craftsmen to fulfill the manpower requirements of the Employer.

Section 6. The Employer shall have the right to assign key employees to the project. Key employees are defined as craft employees who possess special skills or abilities and are not readily available in the area. Key personnel shall be named and agreed to by the parties at the pre-job conference.

Section 7. Where governmental agencies impose equal employment obligations on the Employer's project, referral procedures shall be subordinate to such obligations.

Section 8. The Employer shall have the right to recall to employment within six months of layoff employees previously assigned to work covered by this Agreement.

Section 9. In referring to employees in this Agreement, the masculine gender is used for convenience only and shall refer both to males and females.

ARTICLE V
MANAGEMENT RIGHTS

Section 1. The Employer retains and shall exercise full and exclusive authority and responsibility for the management of its operations, except as expressly limited by the terms of this Agreement.

ARTICLE VI
HOURS OF WORK, OVERTIME, SHIFTS AND HOLIDAYS

Section 1. The standard work day shall consist of eight (8) hours of work between 6:00 a.m. and 6:00 p.m. with one-half hour designated as an unpaid period for lunch. The standard work week shall be five (5) consecutive days of work commencing on Monday. Nothing herein shall be construed as guaranteeing any employee eight (8) hours of work per day or forty (40) hours of work per week.

Section 2. Any employee reporting for work and for whom no work is provided, due to inclement weather or other conditions beyond the control of the Employer, shall receive two (2) hours pay at the regular straight time hourly rate. Any employee who starts to work and works beyond the two (2) hours will be paid for actual time worked. Whenever minimum reporting pay is provided for employees, they will be required to remain at the project site available for work for such time as they receive pay, unless released sooner by the Employer's principal supervisor or designated representative. The provisions of this Section are not applicable where the employee voluntarily quits or lays off, in which case the employee shall be paid for the actual time worked.

Section 3. All time before and after the established work day of eight (8) hours, Monday through Friday, and all time on Saturday shall be paid at the rate of time and one-half. All time on Sundays and the Holidays stated in Section 8 shall be paid for at the rate of double time.

Section 4. It will not be a violation of this Agreement when the Employer considers it necessary to shut down to avoid the possible loss of human life because of an emergency situation that could endanger the life and safety of an employee. In such case, employees will be compensated only for the actual time worked. In the case of a situation described above whereby the Employer requests employees to wait in a designated area available for work, the employees will be compensated for the waiting time.

Section 5. Shifts may be established when considered necessary by the Employer.

A. Shift hours and rates will be as follows:

First Shift: Eight (8) hours pay for eight (8) hours worked plus one-half (1/2) hour unpaid lunch period.

Second Shift: Eight (8) hours pay for seven and one-half (7 1/2) hours worked plus one-half (1/2) hour unpaid lunch period.

Third Shift: Eight (8) hours pay for seven (7) hours worked plus one-half (1/2) hour unpaid lunch period.

B. Shifts may be established and continue for a minimum of three (3) consecutive work days.

C. If only two shifts are to be worked, the Employer may regulate starting times of the two shift operations to permit the maximum utilization of daylight hours.

Section 6. In lieu of Section 5 above, the Employer may establish one (1) or two (2) four (4) day ten (10) hour shifts at the regular straight time hourly rate of pay, Monday through Thursday. These shifts are exclusive of a thirty (30) minute unpaid lunch period. The day shift shall start work between the hours of 6:00 a.m. and 8:00 a.m. and the second shift shall start work at a time designated by the Employer. The day shift shall work four (4) days at ten (10) hours for ten (10) hours pay. The second shift shall work four (4) days at nine and one-half (9 1/2) hours for ten (10) hours pay. Straight time is not to exceed ten (10) hours a day or forty (40) hours per week. Staggered starting times may be established for various work operations. The Employer will notify the Union at least three (3) working days prior to starting a four (4) day ten (10) hour shift.

Section 6. A. If employees lose ten (10) or more straight time hours in any given w week due to weather, or other conditions beyond the control of the Employer; the Employer, at his option, may schedule a voluntary make-up day on Friday (if a four (4) day week is scheduled).

Section 7. It is recognized by the parties to this Agreement that the standard work week may not be desirable or cost effective for some projects, and other arrangements for hours of work could be necessary. On projects where job conditions require a change in the work day, work week, and/or shifts, the parties may change these conditions to meet the requirements of the project.

Section 8. Recognized holidays shall be as follows: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Day after Thanksgiving and Christmas Day.

Under no circumstances shall any work be performed on Labor Day except in cases of emergency involving life or property. In the event a holiday falls on a Sunday; the following day, Monday, shall be observed as such holiday. There shall be no paid holidays. If employees are required to work on a holiday, they shall receive the appropriate rate, but in no case shall such overtime rate be more than double the straight time rate.

ARTICLE VII

WAGE SCALES AND BENEFITS

Section 1. The Employer and the Union agree that only those wages, fringes and premiums incorporated in the appropriate Davis-Bacon wage determination at the time the Employer is authorized to perform work will be paid.

The Employer adopts and agrees to be bound by the written terms of the applicable International Union or Local Union trust agreements. The Employer authorizes the parties to such trust agreements to appoint trustees and successor trustees to administer the trust funds and thereby ratifies and accepts the trustees so appointed as if appointed by the Employer. Nothing contained in this Section is intended to require the Employer to become a party to or be bound by any local collective bargaining agreement except for the employee benefit fund contributions as specified therein, nor is the Employer required to become a member of any employer group or association as a condition for making such contributions.

Section 2. It is agreed and understood that in the event a subcontractor becomes delinquent on the payment of required wages or fringe benefit contributions, the Employer, upon written notice from the Union, shall become liable therefore, provided however, that:

- (1) written notice of any such delinquency is received by the Employer within two weeks of the time payment was due from the subcontractor,
- (2) the delinquency is for contributions for hours performed on the Employer's project only, and
- (3) the Employer has not yet paid the subcontractor.

Section 3. Upon presentation of a proper authorization form executed by the individual employee, the Employer agrees to deduct union dues as well as other authorized deductions from net pay after taxes and remit same to the appropriate Local Union. The Employer will transmit dues to the Local Union in the manner and at the time established by local practice.

Section 4. The Employer agrees to make fringe benefit contributions for key men to the trust funds designated by the key men as their home trust funds, and shall not be obligated to contribute for the key men to any other trust funds, provided that the trust funds so designated agree to accept the contributions and credit the key men for those contributions in accordance with the trust funds' rules. The contributions shall be at the customary rates set by the home trust funds. In accordance with this Section, the key men for whom contributions are made to their designated home trust funds shall look only to those trust funds for benefits.

Section 5. Notwithstanding the first paragraph of Section 1 of this Article, the Employer agrees to submit to the Laborers' Employers Cooperation and Education Trust ("LECET") the amount of ten cents (\$.10) per hour for all hours worked by all employees of the Employer covered by this agreement, unless the applicable local agreement requires a contribution to a Regional or Local LECET, in which case the Regional or local agreement provision shall apply.

Section 6. In the event the Davis-Bacon determination does not meet the area minimum rates of the Union, the parties shall meet and establish comparable wage rates and fringe benefits in order to utilize the trained and certified crafts on the project.

ARTICLE VIII GRIEVANCE PROCEDURE

Section 1. It is specifically agreed that in the event any disputes arise out of the interpretation or application of this Agreement, excluding questions of jurisdiction of work, the dispute(s) shall be settled by means of the procedure set forth herein. No such grievance shall be recognized unless called to the attention of the Employer by the Union or to the attention of the Union by the Employer within ten (10) calendar days after the alleged violation was committed.

Section 2. A grievance shall be settled according to the following procedure:

STEP 1: The dispute shall be referred to the Business Manager of the Local Union involved or his designated representative and the Project Superintendent and/or the Employer's representative at the project.

STEP 2: In the event that the Business Representative of the Local Union and the Project Superintendent and/or the Employer representative at the project site cannot reach agreement within ten (10) calendar days after a meeting is arranged and held, the matter shall be referred to the International Union and the Labor Relations Representative of the responsible Employer.

STEP 3: In the event that the International Representative and the Labor Relations Representative of the Employer are unable to resolve the dispute within ten (10) calendar days after completion of Step 2, it shall be referred, in writing, to the General President of the Union involved and the Home Office representative of the Employer.

STEP 4: If the dispute is not resolved within ten (10) calendar days after completion of Step 3, the Employer and the Union shall choose a mutually agreed upon Arbitrator for final and binding arbitration. The impartial Arbitrator shall be selected from a panel of arbitrators submitted by and in accordance with the rules and regulations of the American Arbitration Association. The decision of the Arbitrator shall be binding upon all parties. The Arbitrator shall have no authority to change, amend, add to, or detract from any of the provisions of this Agreement. The expense of the impartial Arbitrator shall be borne equally by the Employer and the involved Union.

Section 3. The time limits specified in any step of the Grievance Procedure may be extended by mutual agreement of the parties initiated by the written request of one party to the other, at the appropriate Step of the Grievance Procedure. However, failure to process a grievance, or failure to respond in writing within the time limits provided above, without a request for an extension of time, shall be deemed a waiver of such grievance to the other without prejudice, or without precedent to the processing of and/or resolution of like or similar grievances or disputes.

Section 4. In order to encourage the resolution of disputes and grievances at Section 1 and 2 of this Grievance Procedure, the parties agree that such settlements shall not be precedent-setting.

ARTICLE IX
JURISDICTIONAL DISPUTES

Section 1. There will be no strikes, no work stoppages or slowdowns, or other interferences with the work because of jurisdictional disputes.

Section 2. Project conditions do not always justify strict adherence to craft lines which in itself does not establish precedent or change the appropriate jurisdiction of the crafts involved. Periodic review of the work assignments shall be made for the purpose of adjusting such assignments as appropriate to take care of changing needs.

Section 3. In the event of a jurisdictional dispute, the International Unions shall promptly assign International Representatives to meet with the Employer and attempt a settlement in the event of questions of assignment.

Section 4. If the International Representatives cannot reach agreement on the dispute, they shall jointly prepare and sign a complete statement of the facts and circumstances involved in the dispute, which shall be submitted to the respective General Presidents for final resolution.

ARTICLE X
GENERAL WORKING CONDITIONS

Section 1. The selection of craft foremen and/or general foremen and the number of foremen required shall be entirely the responsibility of the Employer, it being understood that in the selection of such foremen and/or general foremen the Employer will give primary consideration to qualified individuals available in the local area. After giving such consideration, the Employer may select individuals from other areas. All foremen and/or general foremen shall take orders from the designated Employer representatives. Craft foremen shall be designated working foremen at the discretion of the Employer.

Section 2. There shall be no limit on production by workmen nor restrictions on the full use of tools or equipment. Craftsmen using tools shall perform any of the work of the trade and shall work under the direction of the craft foremen. There shall be no restrictions on efficient use of manpower other than as may be required by safety regulations.

Section 3. Workers shall be at their place of work at the starting time and shall remain at their place of work performing their assigned functions under the supervision of the Employer until quitting time. The parties reaffirm their policy of a fair day's work for a fair day's wage.

Section 4. The Employer may utilize the most efficient methods or techniques of construction, tools or other labor saving devices to accomplish work. Practices not a part of the terms and conditions of this Agreement will not be recognized.

Section 5. Neither the Union nor its Local Unions shall coerce or in any way interfere with the Owner's personnel, operation or facilities at the project site. The Owner's right to contract directly with other companies for work at the project site shall not be limited, and the Union shall cooperate and not interfere with that Employer's operations. There shall be no intermingling of Owner personnel with the Employer's Union personnel.

Section 6. Slowdowns, standby crews, and featherbedding practices will not be tolerated.

Section 7. Individual seniority shall not be recognized or applied to employees working on projects under this Agreement.

Section 8. The Employer shall establish such reasonable project rules as the Employer deems appropriate. These rules will be reviewed at the pre-job conference and posted at the project site by the Employer, and may be amended thereafter as necessary.

Section 9. In order for this Agreement to be utilized, and prior to the commencement of any project under this Agreement, the Employer agrees to make notification to the Union at International Headquarters, 905 - 16th Street, N.W., Washington, DC 20006, (202) 737-8320, Fax: (202) 737-2754. This notification will include all information as specified on the Job Notification Form (see Addendum "A"). The Union agrees to acknowledge receipt of the job notification with written approval for the project specified in said notification. Each project extension request will be reviewed and approved on an individual basis.

Section 10. Employers and representatives of the International Unions, District Councils and/or Local Unions having jurisdiction shall hold a pre-job conference so that the start and continuation of work may progress without interruption. The Employer agrees to notify the Union at International Headquarters, 905 - 16th Street, N.W., Washington, DC 20006, (202) 737-8320, Fax: (202) 737-2754, prior to commencing any work covered by this Agreement. It shall be the purpose of the pre-job conference for the Employer and the Unions to agree on such matters as the length of the work week, the number of key employees to be brought in, the number of employees employed, the method of referral, the check-off of union dues, initiation fees or agency shop fees, the applicable wage rates and fringe benefit contributions in accordance with the local agreement, as well as review the site plan, site safety and health plan, site control, air monitoring, and all other aspects pertaining to the project; provided that it is agreed that the interpretation shall be a matter for the principal parties hereto.

Section 11. Employees required to wear protective clothing will be given sufficient time to go through the required procedures for dressing, undressing and decontamination and this shall be considered time worked.

ARTICLE XI

SAFETY

Section 1. The employees covered by the terms of this Agreement shall at all times while in the employ of the Employer be bound by the safety rules and regulations as established by the Employer in accordance with the Construction Safety Act, OSHA, 29 CFR 1910.120, and any other federal and state regulations. These rules and regulations will be published and posted at conspicuous places throughout the project.

Section 2. In accordance with all federal and state regulations, it shall be the exclusive responsibility of each Employer on a project site to which this Agreement applies, to assure safe working conditions for its employees and compliance by them with any safety rules contained herein or established by the Employer. Nothing in this Agreement will make the Union or any of its locals liable to any employees or to other persons in the event that injury or accidents occur.

ARTICLE XII

WORK STOPPAGES AND LOCKOUTS

Section 1. During the term of this Agreement there shall be no strikes, picketing, work stoppages, slowdowns, or other disruptive activity for any reason by the Union, its applicable Local Unions, or by any employee and there shall be no lockout by the Employer.

Section 2. The Union and its applicable Local Union shall not sanction, aid or abet, encourage or continue any work stoppage, strike, picketing, or other disruptive activity at the Employer's project site and shall undertake all reasonable means to prevent or to terminate any such activity. No employee shall engage in activities which violate this Article. Any employee who participates in or encourages any activity which interferes with the normal operation of the project shall be subject to disciplinary action, including discharge.

Section 3. Neither the Union nor its applicable Local Unions shall be liable for acts of employees for which it has no responsibility. The International Union General President will immediately instruct, order, and use the best efforts of his office to cause the Local Union or Unions to cease any violations of this Article. The principal officer or officers of a Local Union will immediately instruct, order, and use the best efforts of their office to cause the employees the Local Union represents to cease any violations of this Article. A Local Union complying with this obligation shall not be liable for unauthorized acts of the employees it represents. The failure of the Employer to exercise its right in any instance shall not be deemed a waiver of its right in any other instance.

ARTICLE XIII

PAYMENT OF WAGES - CHECKING IN AND OUT

Section 1. Employees shall be paid in full prior to normal quitting time on the project once each week (on the same day), but in no event shall more than three (3) days (Saturday, Sunday and Holidays excluded), wages be withheld. The Employer shall make arrangements with a local bank to cash regular out-of-state payroll checks.

A. If the regular pay day falls on a holiday, the employees shall be paid on the last regular work day before the holiday.

B. If payment is not made as provided herein, the employee shall be paid for waiting time. Waiting time is to be paid at the rate of two (2) hours pay at the appropriate wage rate for each twenty-four (24) hour period.

C. An employee's pay check stub or attached statement shall contain an itemized statement showing the breakdown of straight time hours, overtime hours and all authorized deductions, and must indicate the name and address of the Employer.

D. Notwithstanding the above, if circumstances beyond the control of the Employer occur, Section 1(B) will not apply.

Section 2. Employees who quit shall be paid no later than the next regular pay period.

Section 3. When employees are laid off or discharged, they shall be paid in full immediately. In the event that the employee is not paid immediately they shall receive two (2) hours pay at the appropriate hourly wage rate for each twenty-four (24) hour period or portion thereof until said check is mailed to an address of the employee's choice. The postmark on the envelope will serve as the cutoff for any penalty.

Section 4. The Employer may utilize brassing, time clocks, or other systems to check employees in and out. Each Employee must check himself in and out. The Employer will provide adequate facilities for checking in and out in an expeditious manner.

ARTICLE XIV UNION REPRESENTATION

Section 1. Authorized representatives of the Union and its Local Unions shall have access to the project, provided they do not interfere with the work of the employees and further provided that such representatives fully comply with the visitor and security rules established for the particular project.

Section 2. The Union, or its applicable Local Union, shall have the right to designate a working journeyman as a Steward. Such designated Steward shall be a qualified worker performing the work of the craft and shall not exercise any supervisory functions. The Steward shall be concerned with the employees of the Steward's employer and not with the employees of any other employer. The Employer shall notify the Union twenty-four (24) hours prior to discharge of the Steward.

Section 3. Where the Owner's personnel may be working in close proximity to the construction activities, the Union agrees that under any and all conditions Union representatives, Stewards, and individual workmen will not interfere in any manner with the Owner's personnel or with the work which is being performed by the Owner's personnel.

ARTICLE XV
SUBCONTRACTING

Subcontractors performing work at the project shall become signatory to and be bound by the terms and conditions of this Agreement. It is understood that qualified union, competitive subcontractors may not be available. If this is the case, the Union(s) will endeavor to locate suitable, qualified, competitive union subcontractors to perform the work. If in seven (7) days the Union(s) are unable to locate such qualified, competitive union subcontractors, it is understood and agreed that the Employer may employ a non-signatory subcontractor who shall become signatory to this agreement prior to starting work.

ARTICLE XVI
GENERAL SAVINGS CLAUSE

Section 1. If any Article or provision of this Agreement shall be declared invalid, inoperative, or unenforceable by any competent authority of the executive, legislative, judicial or administrative branch of the Federal or any State government, the Employer and the Union shall suspend the operation of such Article or provision during the period of its invalidity and shall substitute by mutual consent, in its place and stead, an Article or provision which will meet the objections to its validity and which will be in accord with the intent and purpose of the Article or provisions in question.

If any Article or provision of this Agreement shall be held invalid, inoperative, or unenforceable by operation of law or by any of the above mentioned tribunals of competent jurisdiction, the remainder of this Agreement or the application of such article or provision to persons or circumstances other than those to which it has been held invalid, inoperative or unenforceable shall not be affected thereby.

ARTICLE XVII

DURATION

This Agreement shall become effective the _____ day of _____, 19 _____, and shall continue in full force and effect for the duration of each project as specified through the application of "Addendum A".

This Agreement may be amended only by written agreement signed by the parties signatory hereto.

ACCEPTANCE OF AGREEMENT

SIGNED THIS _____ DAY OF _____

LABORERS INTERNATIONAL UNION OF
NORTH AMERICA, AFL-CIO

FOR THE EMPLOYER:

General President



Signature

F. Pastor, Jr., Vice President

Name and Title

General Secretary-Treasurer

Stone & Webster Engineering Corporation
Company Name

245 Summer Street
Address

Boston, Massachusetts 02210
City State Zip

(617) 589-5111 Fax: (617) 589-1792
Telephone and Fax Numbers

INTERNATIONAL BROTHERHOOD OF TEAMSTERS

National Environmental Remediation Project Agreement



**NATIONAL
ENVIRONMENTAL
REMEDIATION
PROJECT
AGREEMENT**

NATIONAL ENVIRONMENTAL REMEDIATION PROJECT AGREEMENT

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NATIONAL ENVIRONMENTAL REMEDIATION PROJECT AGREEMENT
between
SIGNATORY CONTRACTOR
and the
INTERNATIONAL BROTHERHOOD OF TEAMSTERS

This Agreement is made and entered into this _____ day of _____, 19 ____, by and between _____ (hereinafter referred to as the "Employer") and the International Brotherhood of Teamsters, (hereinafter referred to as "Union") for Environmental Remediation Projects.

ARTICLE I
PURPOSE

Section 1. The purpose of this Agreement is to promote efficiency of operations on the project and provide for peaceful settlement of labor disputes without strikes or lockouts, thereby promoting the public interest in assuring the timely and economical completion of the work.

Section 2. The Employer and the Union desire to mutually establish and stabilize wages, hours and working conditions for the workers employed under this Agreement by the Employer and, further, to encourage close cooperation between the Employer and the Union to the end that a satisfactory, continuous, and harmonious relationship will exist between the parties to this Agreement.

Section 3. The Union has established environmental remediation and hazardous waste training programs which meet or exceed all of the requirements of the federal regulations.

Section 4. The Union has in its Local Union membership throughout the United States competent, skilled, qualified and certified workers required to perform the work incidental to the effective accomplishment of this project.

ARTICLE II
ADMINISTRATIVE PROCEDURE

Section 1. Extensions for this Agreement shall be on a location-to-location basis and shall be sought, in writing, for each location.

Section 2. This Agreement is between the Employer and the International Union only.

ARTICLE III
SCOPE OF AGREEMENT

Section 1. It is the intent of the parties that this Agreement be utilized as a stabilization agreement for environmental remediation projects.

Section 2. Employer, as used herein, refers to the signatory employer and subcontractors of any tier performing work on projects for which the signatory employer has management responsibility under its prime contract.

Section 3. This Agreement does not limit the selection or utilization of subcontractors for the performance of the work described herein; however, such subcontractors shall become signatory to this Agreement.

Section 4. The Employer recognizes the Union as the sole and exclusive bargaining representative for all employees performing work coming within the recognized trade jurisdiction of the Union.

Section 5. This Agreement shall not apply to executives, engineers, draftsmen, supervisors, assistant supervisors, timekeepers, messengers, office workers, guards, or other nonmanual employees.

Section 6. This Agreement represents the complete understanding of the parties; and the Employer shall not be required to sign any other agreement during the performance of the work described herein, except such participation agreements, relating to the payment of fringe benefits, which may be required by any fringe benefit trust fund.

Section 7. Both parties recognize that there may be extenuating circumstances when it is to the mutual interest of both parties to modify the terms of this Agreement. In that event, it will not be a violation of this Agreement for the parties to meet and mutually agree to make such modifications to meet a specific need on a specific project in the form of an addendum to this Agreement.

Section 8. This Agreement shall supersede all other agreements between the Employer and any Local of the Union for any work covered herein.

Section 9. The liability of the Employer and the liability of the Union shall be several and not joint.

Section 10. This Agreement shall have application only to work locations agreed upon between the Employer and the Unions in accordance with Article II, Section 1.

ARTICLE IV UNION SECURITY

Section 1. The Employees shall become and remain members of the Union as a condition of employment from the seventh (7th) but not later than the eighth (8th) day of employment, or the effective date of this Agreement, whichever is later.

Section 2. It is further agreed that all Union members employed by the Employer shall maintain their membership in good standing in the Union.

Section 3. Failure of any employee to pay or tender normal initiation fees or dues as required by this Agreement shall, upon the request of the Union in writing, result in the termination of such employee.

Section 4. The provisions of this Article shall not apply where and if such a requirement for continued employment is prohibited by state law; provided, however, that where an Agency Shop is lawful in any such state, conformity therewith shall be a condition of employment on the eighth day following the beginning of such employment, or the effective date of this Agreement, whichever is later.

ARTICLE V REFERRAL OF EMPLOYEES

Section 1. The Employer shall have the right to select and hire directly all supervisors it considers necessary and desirable. Applicants for the various classifications covered by the Agreement required by the Employer on its projects shall be referred to the Employer by the Union and/or its respective Local Unions. The Employer shall have the right to determine the competency of all employees, the right to determine the number of employees required, and the sole responsibility for selecting the employees to be laid off.

Section 2. The Union represents that its Local Unions administer and control their referrals and it is agreed that these referrals will be made in a nondiscriminatory manner and in full compliance with federal, state and local laws and regulations which require equal employment opportunities and nondiscrimination. Referrals shall not be affected in any way by the rules, regulations, by-laws, constitutional provisions, or any other aspect or obligation of union membership, policies or requirements.

Section 3. In the event the referral facilities maintained by the Local Unions do not refer the employees as requested by the Employer within a forty-eight (48) hour period after such request is made by the Employer (Saturdays, Sundays and Holidays excluded), the Employer may employ applicants from any source.

Section 4. The Employer agrees to be bound by the hiring referral rules in a local area not inconsistent with the terms of this Agreement. Notwithstanding Section 2 above, the hiring referral rules that prevail in a local area are on other than an exclusive basis, such rules shall be applicable if not in violation of either state or federal law.

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Section 8. In referring to employees in this Agreement, the masculine gender is used for convenience only and shall refer both to males and females.

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Section 1. The Employer retains and shall exercise full and exclusive authority and responsibility for the management of its operations, except as expressly limited by the terms of this Agreement.

ARTICLE VII HOURS OF WORK, OVERTIME, SHIFTS AND HOLIDAYS

Section 1. The standard work day shall consist of eight (8) hours of work between 6:00 a.m. and 6:00 p.m. with one-half hour designated as an unpaid period for lunch. The standard work week shall be five (5) consecutive days of work commencing on Monday. Nothing herein shall be construed as guaranteeing any employee eight (8) hours of work per day or forty (40) hours of work per week.

Section 2. Any employee reporting for work and for whom no work is provided, due to inclement weather or other conditions beyond the control of the Employer, shall receive two (2) hours pay at the regular straight time hourly rate. Any employee who starts to work and works beyond the two (2) hours will be paid for actual time worked except as provided in Section 3. Whenever minimum reporting pay is provided for employees, they will be required to remain at the project site available for work for such time as they receive pay, unless released sooner by the Employer's principal supervisor or designated representative. The provisions of this Section are not applicable where the employee voluntarily quits, in which case the employee shall be paid for the actual time worked.

Section 3. All time before and after the established work day of eight (8) hours, Monday through Friday, and all time on Saturday shall be paid at the rate of time and one-half. All time on Sundays and the Holidays stated in Section 8 shall be paid for at the rate of double time.

Section 4. It will not be a violation of this Agreement when the Employer considers it necessary to shut down to avoid the possible loss of human life because of an emergency situation that could endanger the life and safety of an employee. In such case, employees shall receive two (2) hours pay at the regular straight time hourly rate. Any employee who starts to work and works beyond the two (2) hours will be paid for actual time worked. In the case of a situation described above whereby the Employer requests employees to wait in a designated area available for work, the employees will be compensated for the waiting time.

Section 5. Shifts may be established when considered necessary by the Employer.

A. Shift hours and rates will be as follows:

- First Shift:** Eight (8) hours pay for eight (8) hours worked plus one-half (1/2) hour unpaid lunch period.
- Second Shift:** Eight (8) hours pay for seven and one-half (7 1/2) hours worked plus one-half (1/2) hour unpaid lunch period.
- Third Shift:** Eight (8) hours pay for seven (7) hours worked plus one-half (1/2) hour unpaid lunch period.

B. Shifts shall be established and continue for a minimum of three (3) consecutive work days.

C. If only two shifts are to be worked, the Employer may regulate starting times of the two shift operations to permit the maximum utilization of daylight hours.

Section 6. In lieu of Section 5 above, the Employer may establish one (1) or two (2) four (4) day, ten (10) hour shifts at the regular straight time hourly rate of pay, Monday through Thursday. These shifts are exclusive of a thirty (30) minute unpaid lunch period. The day shift shall start work between the hours of 6:00 a.m. and 8:00 a.m. and the second shift shall start work at a time designated by the Employer. The day shift shall work four (4) days at ten (10) hours for ten (10) hours pay. The second shift shall work four (4) days at nine and one-half (9 1/2) hours for ten (10) hours pay. Straight time is not to exceed ten (10) hours a day for forty (40) hours per week. Staggered starting times may be established for various work operations. The Employer will notify the Union at least three (3) working days prior to starting a four (4) day, ten (10) hour shift.

A. If employees lose ten (10) or more straight time hours in any given week due to weather or other conditions beyond the control of the Employer, the Employer may, at his option, schedule a voluntary make-up day on Friday (if a four (4) day week is scheduled).

Section 7. It is recognized by the parties to this Agreement that the standard work week may not be desirable or cost effective for some projects, and other arrangements for hours of work could be necessary. On projects where job conditions require a change in the work day, work week, and/or shifts, the parties mutually may change these conditions to meet the requirements of the project.

Section 8. Recognized holidays shall be as follows: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Day after Thanksgiving and Christmas Day. In the event a holiday falls on a Sunday, the following day, Monday, shall be observed as such holiday; if any of the above holidays fall on Saturday, Friday shall be observed as the holiday. There shall be no paid holidays. If employees are required to work on a holiday, they shall receive the appropriate rate, but in no case shall such overtime rate be more than double the straight time rate.

ARTICLE VIII WAGE SCALES AND BENEFITS

Section 1. Wage rates shall be those as set forth in the current appropriate Labor Agreement of the affiliated Local Union where such work is to be performed, unless modified pursuant to Article III, Section 7 or Article VIII, Section 3 of this Agreement. With respect to premiums, only those premiums incorporated in the appropriate Davis-Bacon wage determination at the time the Employer is authorized to perform work will be paid. Premiums so incorporated will be paid on all work.

Section 2. The Employer agrees to pay the fringe benefit contribution rates contained in the Local Agreement referenced above, and adopts and agrees to be bound by the written terms of legally established trust agreements specifying the detailed basis on which payments are to be made to such trust funds. The Employer authorizes the parties to such trust agreements to appoint trustees and successor trustees to administer the trust funds and hereby ratifies and accepts the trustees so appointed as if made by the Employer. Nothing contained in this Section is intended to require the Employer to become a member of any employer group or association as a condition for making such contributions. In addition to the contributions required by the Local Agreement, Section 5 of this Article shall apply to all work.

Section 3. In the event the Davis-Bacon determination does not meet the local negotiated wage rates and fringes of the signatory Unions for that classification of work, the parties shall meet and establish comparable wages and fringe benefits, which will be attached as Appendix "A," in order to utilize the trained and certified crafts on the project.

Section 4. Upon presentation of a proper authorization form executed by the individual employee, the Employer agrees to deduct union dues from net pay after taxes and remit same to the Union in accordance with applicable law. It is understood the Employer will remit each month the Union dues deducted in accordance with this Article on the transmittal forms used for fringe benefit contributions and that the pro-rata costs of such forms and the collection and accounting thereof will be paid by the Union to the fringe benefit administrator.

Section 5. The Employer agrees to submit to the national training fund sponsored by the International Brotherhood of Teamsters the amount of ten cents (\$.10) per hour for all hours worked by all employees of the Employer covered by this Agreement.

ARTICLE IX GRIEVANCE PROCEDURE

Section 1. It is specifically agreed that in the event any disputes arise out of the interpretation or application of this Agreement, excluding questions of jurisdiction, the same shall be settled by means of the procedure set out herein. No such grievance shall be recognized unless called to the attention of the Employer by the Union and/or its respective Local Union or to the attention of the Union and/or its respective Local Union by the Employer within ten (10) calendar days after the alleged violation was committed.

Section 2. Grievances shall be settled according to the following procedure:

- STEP 1:** The dispute shall be referred to the Business Representative of the Local Union involved or his designated representative and the Project Superintendent and/or the Employer's representative at the project.
- STEP 2:** In the event that the Business Representative of the Local Union and the Project Superintendent and/or the Employer representative at the project site cannot reach agreement within ten (10) calendar days after a meeting is arranged and held, the matter shall be referred to the International Union and the Labor Relations Representative of the responsible Employer.
- STEP 3:** In the event that the International Representative and the Labor Relations Representative of the Employer are unable to resolve the dispute within ten (10) calendar days after completion of Step 2, it shall be referred, in writing, to the General President of the Union and the Home Office representative of the Employer.
- STEP 4:** If the dispute is not resolved within ten (10) calendar days after completion of Step 3, the Employer and the Union and/or its respective Local Union shall choose a mutually agreed upon Arbitrator for final and binding arbitration. The impartial Arbitrator shall be selected from a panel of arbitrators, who have knowledge and experience of the construction industry, submitted by and in accordance with the rules and regulations of the American Arbitration Association. The decision of the Arbitrator shall be binding upon all parties. The Arbitrator shall have no authority to change, amend, add to, or detract from any of the provisions of this Agreement. The expense of the impartial Arbitrator shall be borne equally by the Employer and the Union's respective Local Union.

Section 3. The time limits specified in any step of the Grievance Procedure may be extended by mutual agreement of the parties initiated by the written request of one party to the other, at the appropriate Step of the Grievance Procedure. However, failure to process a grievance, or failure to respond in writing within the time limits provided above, without a request for an extension of time, shall be deemed a waiver of such grievance to the other without prejudice, or without precedent to the processing of and/or resolution of like or similar grievances or disputes.

Section 4. In order to encourage the resolution of disputes and grievances at Section 1 and 2 of this Grievance Procedure, the parties agree that such settlements shall not be precedent-setting.

**ARTICLE X
JURISDICTIONAL DISPUTES**

Section 1. There will be no strikes, no work stoppages or slowdowns, or other interferences with the work because of jurisdictional disputes.

Section 2. The parties to this Agreement agree to the concept that craft jurisdictional lines shall be followed, and work assignments shall be made in accordance with the Procedural Rules and Regulations of the Plan for the Settlement of Jurisdictional Disputes in the Construction Industry. However, jurisdictional disputes cannot and shall not interfere with the efficient and continuous operations required in the successful application of the intent of this Agreement. Periodic review of the work assignments shall be made for the purpose of adjusting such assignments as appropriate to take care of changing needs.

Section 3. The Local Unions involved agree that the International Unions shall be requested to promptly assign International Representatives to meet and attempt a settlement in the event of questions of assignment.

Section 4. If the International Representatives cannot reach agreement on the dispute, they shall jointly prepare and sign a complete statement of the facts and circumstances involved in the dispute, which shall be submitted to the respective General Presidents for final resolution.

ARTICLE XI GENERAL WORKING CONDITIONS

Section 1. The selection of craft foremen and/or master mechanic and the number of foremen shall be entirely the responsibility of the Employer, it being understood that in the selection of such foremen and/or master mechanic the Employer will give primary consideration to the qualified individuals available in the local area. After giving such consideration, the Employer may select individuals from other areas. All foremen shall take orders from the designated Employer representatives. Craft foremen shall be designated working foremen at the request of the Employer.

Section 2. There shall be no limit on production by workmen nor restrictions on the full use of tools or equipment. Craftsmen using tools shall perform any of the work of the trade and shall work under the direction of the craft foremen. There shall be no restrictions on efficient use of manpower other than as may be required by safety regulations.

Section 3. Employees shall be at their place of work at the designated starting time and shall remain at their place during working hours until the designated quitting time. Where the employees place of work requires Employer-furnished transportation, the employees shall be transported on the Employer's time. The parties reaffirm their policy of a fair day's work for a fair day's wage.

Section 4. The Employer may utilize the most efficient methods or techniques of construction, tools or other labor-saving devices to accomplish work. Practices not a part of the terms and conditions of this Agreement will not be recognized.

Section 5. Neither the Union nor its Local Unions shall coerce or in any way interfere with the Owner's personnel, operation or facilities at the job site. The Owner's right to contract

directly with other companies for work at the job site shall not be limited, and the Union shall cooperate and not interfere with the Employer's operations. There shall be no intermingling of Owner personnel with the Employer's Union personnel.

Section 6. Due to the nature of the work covered by this Agreement, Teamsters shall be allowed to take personal relief time not to exceed ten (10) minutes once during the first half of the shift and once during the second half of the shift. The Union agrees that this will not be abused. To the extent necessary, personal protective clothing shall be changed on company time. The Employer will determine the time during the shift when relief time will be taken. Relief time will not be taken simultaneously by all employees, unless directed by the Employer.

Section 7. Slowdowns, standby crews, and featherbedding practices will not be tolerated.

Section 8. Individual seniority shall not be recognized or applied to employees working on projects under this Agreement.

Section 9. The Employer shall establish such reasonable project rules as the Employer deems appropriate. These rules will be reviewed at the prejob conference and posted at the project site by the Employer, and may be amended thereafter as necessary.

Section 10. The Employer shall notify the International Union prior to the start of a new project of any work to be performed by the Employer within the scope of this Agreement.

Section 11. Employers and representatives of the International Union, or Local Unions having jurisdiction, shall hold a prejob conference so that the start and continuation of work may progress without interruption. It shall be the purpose of the prejob conference for the Employer and the Unions to agree on such matters as work assignments in accordance with Appendix B, the proper, safe manning of equipment, the length of the work week, the number of key employees to be brought in, the number of employees employed, the method of referral, the check-off of union dues, initiation fees or agency shop fees, the applicable wage rates and fringe benefit contribution in accordance with the contract, a review of the site plan, site safety and health plan, site control, air monitoring, and all other aspects pertaining to the project, provided it is agreed that the interpretation shall be a matter for the principal parties hereto.

Section 12. Employees required to wear protective clothing will be given sufficient time to go through the required procedures for dressing, undressing and decontamination, and this shall be considered time worked.

ARTICLE XII SAFETY

Section 1. The employees covered by the terms of this Agreement shall at all times while in the employ of the Employer be bound by the safety rules and regulations as established by

the Employer in accordance with the Construction Safety Act, OSHA, 29 CFR 1910.120, and any other federal and state regulations. These rules and regulations will be published and posted at conspicuous places throughout the project.

Section 2. In accordance with all federal and state regulations, it shall be the exclusive responsibility of each Employer on a job site to which this Agreement applies, to assure safe working conditions for its employees and compliance by them with any safety rules contained herein or established by the Employer. Nothing in this Agreement will make the Union or any of its Locals liable to any employees or to other persons in the event that injury or accidents occur.

ARTICLE XIII WORK STOPPAGES AND LOCKOUTS

Section 1. During the term of this Agreement there shall be no strikes, picketing, work stoppages, slowdowns, or other disruptive activity by the Union, its applicable Local Union, or by any employee, and there shall be no lockout by the Employer.

In the event of nonpayment of wages, fringes, and workers' compensation, the Union may take any appropriate action it deems necessary and the Union will not be considered in violation of this Article should a work stoppage occur.

Section 2. The Union and its applicable Local Union shall not sanction, aid or abet, encourage or continue any work stoppage, strike, picketing, or other disruptive activity relative of Section 1 above at the Employer's project site and shall undertake all reasonable means to prevent or to terminate any such activity. No employee shall engage in activities which violate this Article. Any employee who participates in or encourages any activity which interferes with the normal operation of the project shall be subject to disciplinary action, including discharge.

Section 3. Neither the Union nor its applicable Local Union shall be liable for acts of employees for which it has no responsibility. Upon being notified that the applicable Local Union is violating this Article, the International Union General President will immediately use the best efforts of his office to cause the applicable Local Union to cease any violations of this Article. Upon being notified that employees of the Local Union are violating this Article, the principal officer or officers of a Local Union will immediately use the best efforts of their office to cause the employees the Local Union represents to cease any violations of this Article. Compliance with this obligation shall render the Union or the applicable Local Union not liable for acts of employees. The failure of the Employer to exercise its right in any instance shall not be deemed a waiver of its right in any other instance.

ARTICLE XIV PAYMENT OF WAGES—CHECKING IN AND OUT

Section 1. Wages will be paid weekly by check on a designated day during working hours and in no case shall more than three (3) days pay be held back in any one payroll week.

Section 2. The Employer may utilize brassing, time clocks, or other systems to check employees in and out. Each employee must check himself/herself in and out. The Employer will provide adequate facilities for checking in and out in an expeditious manner.

Section 3. When employees are laid off or discharged, they shall be paid in full immediately. If not paid within twenty-four (24) hours, a four (4) hour penalty shall be levied upon the Employer.

ARTICLE XV UNION REPRESENTATION

Section 1. Authorized representatives of the Union and its Local Unions shall have access to the project provided they do not interfere with the work of the employees and further provided that such representatives fully comply with the visitor and security rules established for the particular project.

Section 2. The Union, or its applicable Local Union, shall have the right to designate a working journeyman as a Steward. Such designated Steward shall be a qualified worker performing the work of the craft and shall not exercise any supervisory functions. The Steward shall be concerned with the employees of the Steward's Employer and not with the employees of any other Employer.

Section 3. Where the Owner's personnel may be working in close proximity to the construction activities, the Union agrees that under any and all conditions Union representatives, Stewards and individual workmen will not interfere in any manner with the Owner's personnel or with the work which is being performed by the Owner's personnel.

ARTICLE XVI SUBCONTRACTING

Section 1. The Employer agrees that neither the Employer nor any of its subcontractors will subcontract any work to be done on the project except to a person, firm, or corporation which agrees to become party to this Agreement. Any contractor or subcontractor working on the project shall become signatory to and perform all work under the terms of this Agreement.

ARTICLE XVII GENERAL SAVINGS CLAUSE

Section 1. If any Article or provision of this Agreement shall be declared invalid, inoperative, or unenforceable by any competent authority of the executive, legislative, judicial or administrative branch of the federal or any state government, the Employer and the Union shall suspend the operation of such Article or provision during the period of its invalidity and shall substitute by mutual consent, in its place and stead, an Article or provision which will meet the objections to its validity and which will be in accord with the intent and purpose of the Article or provisions in question.

If any Article of provision of this Agreement shall be held invalid, inoperative, or unenforceable by operation of law or by any of the above mentioned tribunals of competent jurisdiction, the remainder of this Agreement or the applications of such Article or provision to persons or circumstances other than those as to which it has been held invalid, inoperative or unenforceable shall not be affected thereby.

**ARTICLE XVIII
DURATION**

This Agreement shall become effective the _____ day of _____ 19 ____, and shall continue in full force and effect for the duration of the project.

This Agreement may be amended only by written agreement signed by the parties signatory hereto.

SIGNED THIS _____ DAY OF _____, 19__

INTERNATIONAL BROTHERHOOD
OF TEAMSTERS, AFL-CIO

FOR THE EMPLOYER:

_____ Company Name

_____ Ron Carey, General President

_____ Street Address

_____ City State Zip

_____ Area Code Phone Number

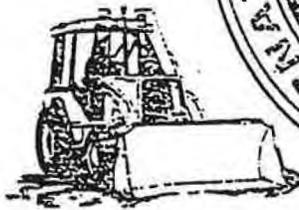
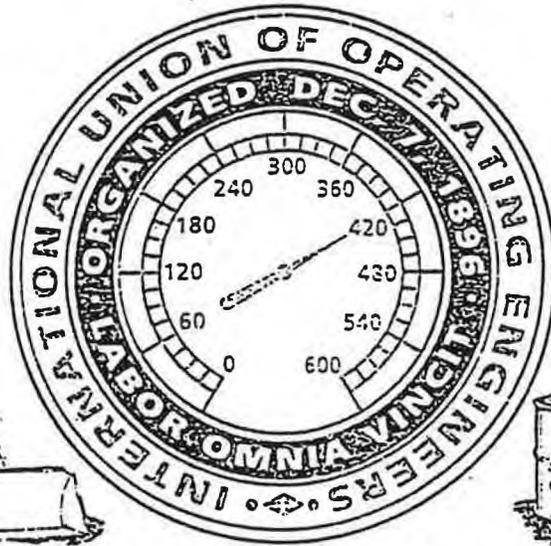
_____ Signature

_____ Name/Title Signature

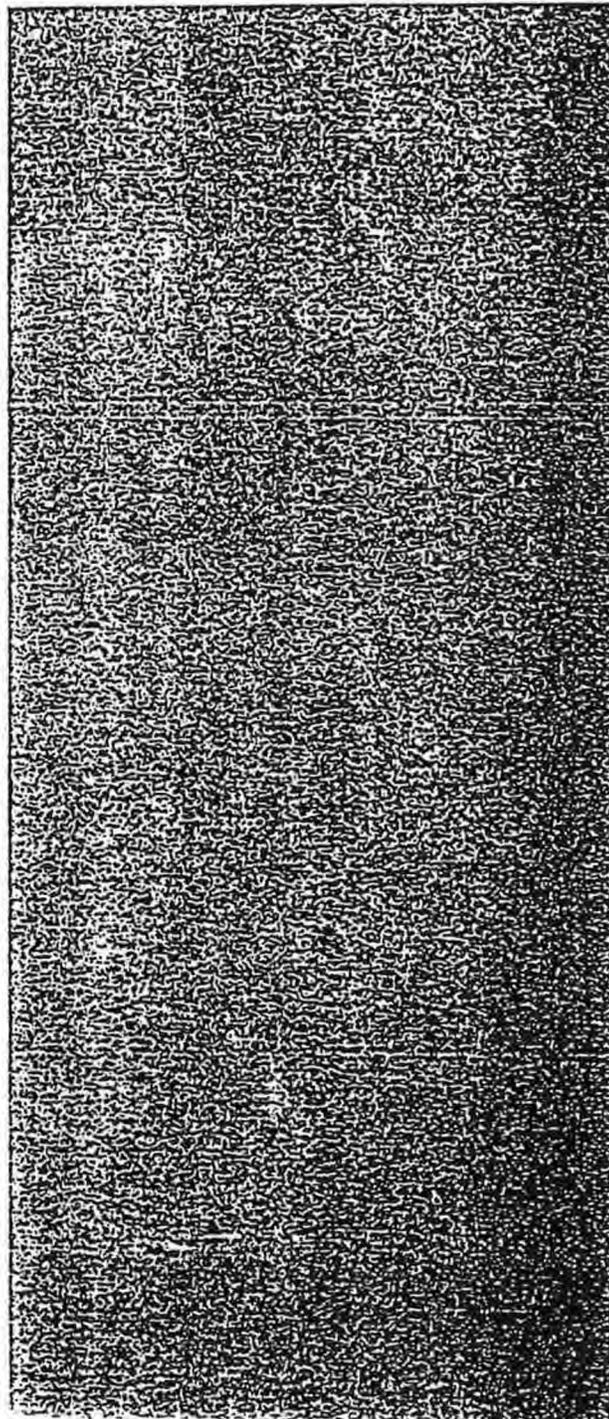
_____ Date

INTERNATIONAL UNION OF OPERATING ENGINEERS

National Environmental Remediation Project Agreement



**NATIONAL
ENVIRONMENTAL
REMEDICATION
PROJECT
AGREEMENT**



NATIONAL ENVIRONMENTAL REMEDIATION PROJECT AGREEMENT

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NATIONAL ENVIRONMENTAL REMEDIATION PROJECT AGREEMENT
between
SIGNATORY CONTRACTOR
and the
INTERNATIONAL UNION OF OPERATING ENGINEERS

This Agreement is made and entered into this _____ day of _____, 19____, by and between _____ (hereinafter referred to as the "Employer") and the International Union of Operating Engineers, (hereinafter referred to as "Union") for Environmental Remediation Projects.

ARTICLE I
PURPOSE

Section 1. The purpose of this Agreement is to promote efficiency of operations on the project and provide for peaceful settlement of labor disputes without strikes or lockouts, thereby promoting the public interest in assuring the timely and economical completion of the work.

Section 2. The Employer and the Union desire to mutually establish and stabilize wages, hours and working conditions for the workers employed under this Agreement by the Employer and, further, to encourage close cooperation between the Employer and the Union to the end that a satisfactory, continuous, and harmonious relationship will exist between the parties to this Agreement.

Section 3. The Union has established environmental remediation and hazardous waste training programs which meet or exceed all of the requirements of the federal regulations.

Section 4. The Union has in its Local Union membership throughout the United States competent, skilled, qualified and certified workers required to perform the work incidental to the effective accomplishment of this project.

ARTICLE II
ADMINISTRATIVE PROCEDURE

Section 1. Extensions for this Agreement shall be on a location-to-location basis and shall be sought, in writing, for each location.

Section 2. This Agreement is between the Employer and the International Union only.

ARTICLE III
SCOPE OF AGREEMENT

Section 1. It is the intent of the parties that this Agreement be utilized as a stabilization agreement for environmental remediation projects.

Section 2. Employer, as used herein, refers to the signatory employer and subcontractors of any tier performing work on projects for which the signatory employer has management responsibility under its prime contract.

Section 3. This Agreement does not limit the selection or utilization of subcontractors for the performance of the work described herein; however, such subcontractors shall become signatory to this Agreement.

Section 4. The Employer recognizes the Union as the sole and exclusive bargaining representative for all employees performing work coming within the recognized trade jurisdiction of the Union.

Section 5. This Agreement shall not apply to executives, engineers, draftsmen, supervisors, assistant supervisors, timekeepers, messengers, office workers, guards, or other nonmanual employees.

Section 6. This Agreement represents the complete understanding of the parties; and the Employer shall not be required to sign any other agreement during the performance of the work described herein, except such participation agreements, relating to the payment of fringe benefits, which may be required by any fringe benefit trust fund.

Section 7. Both parties recognize that there may be extenuating circumstances when it is to the mutual interest of both parties to modify the terms of this Agreement. In that event, it will not be a violation of this Agreement for the parties to meet and mutually agree to make such modifications to meet a specific need on a specific project in the form of an addendum to this Agreement.

Section 8. This Agreement shall supersede all other agreements between the Employer and any Local of the Union for any work covered herein.

Section 9. The liability of the Employer and the liability of the Union shall be several and not joint.

Section 10. This Agreement shall have application only to work locations agreed upon between the Employer and the Unions in accordance with Article II, Section 1.

ARTICLE IV UNION SECURITY

Section 1. The Employees shall become and remain members of the Union as a condition of employment from the seventh (7th) but not later than the eighth (8th) day of employment, or the effective date of this Agreement, whichever is later.

Section 2. It is further agreed that all Union members employed by the Employer shall maintain their membership in good standing in the Union.

Section 3. Failure of any employee to pay or tender normal initiation fees or dues as required by this Agreement shall, upon the request of the Union in writing, result in the termination of such employee.

Section 4. The provisions of this Article shall not apply where and if such a requirement for continued employment is prohibited by state law; provided, however, that where an Agency Shop is lawful in any such state, conformity therewith shall be a condition of employment on the eighth day following the beginning of such employment, or the effective date of this Agreement, whichever is later.

ARTICLE V REFERRAL OF EMPLOYEES

Section 1. The Employer shall have the right to select and hire directly all supervisors it considers necessary and desirable. Applicants for the various classifications covered by the Agreement required by the Employer on its projects shall be referred to the Employer by the Union and/or its respective Local Unions. The Employer shall have the right to determine

the competency of all employees, the right to determine the number of employees required, and the sole responsibility for selecting the employees to be laid off.

Section 2. The Union represents that its Local Unions administer and control their referrals and it is agreed that these referrals will be made in a nondiscriminatory manner and in full compliance with federal, state and local laws and regulations which require equal employment opportunities and nondiscrimination. Referrals shall not be affected in any way by the rules, regulations, by-laws, constitutional provisions, or any other aspect or obligation of union membership, policies or requirements.

Section 3. In the event the referral facilities maintained by the Local Unions do not refer the employees as requested by the Employer within a forty-eight (48) hour period after such request is made by the Employer (Saturdays, Sundays and Holidays excluded), the Employer may employ applicants from any source.

Section 4. The Employer agrees to be bound by the hiring referral rules in a local area not inconsistent with the terms of this Agreement. Notwithstanding Section 2 above, the hiring referral rules that prevail in a local area are on other than an exclusive basis, such rules shall be applicable if not in violation of either state or federal law.

Section 5. The Union and its respective Local Unions will exert their utmost efforts to recruit sufficient number of skilled and certified craftsmen to fulfill the manpower requirements of the Employer.

Section 6. The Employer shall have the right to assign key employees to the project. Key employees are defined as craft employees who possess special skills or abilities and are not readily available in the area. Key personnel shall be named and agreed to at the pre-job conference.

Section 7. Where governmental agencies impose equal employment obligations on the Employer's project, referral procedures shall be subordinate to such obligations.

Section 8. In referring to employees in this Agreement, the masculine gender is used for convenience only and shall refer both to males and females.

ARTICLE VI MANAGEMENT RIGHTS

Section 1. The Employer retains and shall exercise full and exclusive authority and responsibility for the management of its operations, except as expressly limited by the terms of this Agreement.

ARTICLE VII HOURS OF WORK, OVERTIME, SHIFTS AND HOLIDAYS

Section 1. The standard work day shall consist of eight (8) hours of work between 6:00 a.m. and 6:00 p.m. with one-half hour designated as an unpaid period for lunch. The standard work week shall be five (5) consecutive days of work commencing on Monday. Nothing herein shall be construed as guaranteeing any employee eight (8) hours of work per day or forty (40) hours of work per week.

Section 2. Any employee reporting for work and for whom no work is provided, due to inclement weather or other conditions beyond the control of the Employer, shall receive two (2) hours pay at the regular straight time hourly rate. Any employee who starts to work and works beyond the two (2) hours will be paid for actual time worked except as provided in

Section 3. Whenever minimum reporting pay is provided for employees, they will be required to remain at the project site available for work for such time as they receive pay, unless released sooner by the Employer's principal supervisor or designated representative. The provisions of this Section are not applicable where the employee voluntarily quits, in which case the employee shall be paid for the actual time worked.

Section 3. All time before and after the established work day of eight (8) hours, Monday through Friday, and all time on Saturday shall be paid at the rate of time and one-half. All time on Sundays and the Holidays stated in Section 8 shall be paid for at the rate of double time.

Section 4. It will not be a violation of this Agreement when the Employer considers it necessary to shut down to avoid the possible loss of human life because of an emergency situation that could endanger the life and safety of an employee. In such case, employees shall receive two (2) hours pay at the regular straight time hourly rate. Any employee who starts to work and works beyond the two (2) hours will be paid for actual time worked. In the case of a situation described above whereby the Employer requests employees to wait in a designated area available for work, the employees will be compensated for the waiting time.

Section 5. Shifts may be established when considered necessary by the Employer.

A. Shift hours and rates will be as follows:

First Shift: Eight (8) hours pay for eight (8) hours worked plus one-half (1/2) hour unpaid lunch period.

Second Shift: Eight (8) hours pay for seven and one-half (7 1/2) hours worked plus one-half (1/2) hour unpaid lunch period.

Third Shift: Eight (8) hours pay for seven (7) hours worked plus one-half (1/2) hour unpaid lunch period.

B. Shifts shall be established and continue for a minimum of three (3) consecutive work days.

C. If only two shifts are to be worked, the Employer may regulate starting times of the two shift operations to permit the maximum utilization of daylight hours.

Section 6. In lieu of Section 5 above, the Employer may establish one (1) or two (2) four (4) day, ten (10) hour shifts at the regular straight time hourly rate of pay, Monday through Thursday. These shifts are exclusive of a thirty (30) minute unpaid lunch period. The day shift shall start work between the hours of 6:00 a.m. and 8:00 a.m. and the second shift shall start work at a time designated by the Employer. The day shift shall work four (4) days at ten (10) hours for ten (10) hours pay. The second shift shall work four (4) days at nine and one-half (9 1/2) hours for ten (10) hours pay. Straight time is not to exceed ten (10) hours a day for forty (40) hours per week. Staggered starting times may be established for various work operations. The Employer will notify the Union at least three (3) working days prior to starting a four (4) day, ten (10) hour shift.

A. If employees lose ten (10) or more straight time hours in any given week due to weather or other conditions beyond the control of the Employer, the Employer may, at his option, schedule a voluntary make-up day on Friday (if a four (4) day week is scheduled).

Section 7. It is recognized by the parties to this Agreement that the standard work week may not be desirable or cost effective for some projects, and other arrangements for hours of work could be necessary. On projects where job conditions require a change in the work day, work

week, and/or shifts, the parties mutually may change these conditions to meet the requirements of the project.

Section 8. Recognized holidays shall be as follows: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Day after Thanksgiving and Christmas Day. In the event a holiday falls on a Sunday, the following day, Monday, shall be observed as such holiday; if any of the above holidays fall on Saturday, Friday shall be observed as the holiday. There shall be no paid holidays. If employees are required to work on a holiday, they shall receive the appropriate rate, but in no case shall such overtime rate be more than double the straight time rate.

ARTICLE VIII WAGE SCALES AND BENEFITS

Section 1. Wage rates shall be those as set forth in the current appropriate Labor Agreement of the affiliated Local Union where such work is to be performed, unless modified pursuant to Article III, Section 7 or Article VIII, Section 3 of this Agreement. With respect to premiums, only those premiums incorporated in the appropriate Davis-Bacon wage determination at the time the Employer is authorized to perform work will be paid. Premiums so incorporated will be paid on all work.

Section 2. The Employer agrees to pay the fringe benefit contribution rates contained in the Local Agreement referenced above, and adopts and agrees to be bound by the written terms of legally established trust agreements specifying the detailed basis on which payments are to be made to such trust funds. The Employer authorizes the parties to such trust agreements to appoint trustees and successor trustees to administer the trust funds and hereby ratifies and accepts the trustees so appointed as if made by the Employer. Nothing contained in this Section is intended to require the Employer to become a member of any employer group or association as a condition for making such contributions. In addition to the contributions required by the Local Agreement, Section 5 of this Article shall apply to all work.

Section 3. In the event the Davis-Bacon determination does not meet the local negotiated wage rates and fringes of the signatory Unions for that classification of work, the parties shall meet and establish comparable wages and fringe benefits, which will be attached as Appendix "A," in order to utilize the trained and certified crafts on the project.

Section 4. Upon presentation of a proper authorization form executed by the individual employee, the Employer agrees to deduct union dues from net pay after taxes and remit same to the Union in accordance with applicable law. It is understood the Employer will remit each month the Union dues deducted in accordance with this Article on the transmittal forms used for fringe benefit contributions and that the pro-rata costs of such forms and the collection and accounting thereof will be paid by the Union to the fringe benefit administrator.

Section 5. The Employer agrees to submit to the national training fund sponsored by the International Union of Operating Engineers the amount of ten cents (\$.10) per hour for all hours worked by all employees of the Employer covered by this Agreement.

ARTICLE IX GRIEVANCE PROCEDURE

Section 1. It is specifically agreed that in the event any disputes arise out of the interpretation or application of this Agreement, excluding questions of jurisdiction, the same shall be settled by means of the procedure set out herein. No such grievance shall be recognized unless

called to the attention of the Employer by the Union and/or its respective Local Union or to the attention of the Union and/or its respective Local Union by the Employer within ten (10) calendar days after the alleged violation was committed.

Section 2. Grievances shall be settled according to the following procedure:

STEP 1: The dispute shall be referred to the Business Representative of the Local Union involved or his designated representative and the Project Superintendent and/or the Employer's representative at the project.

STEP 2: In the event that the Business Representative of the Local Union and the Project Superintendent and/or the Employer representative at the project site cannot reach agreement within ten (10) calendar days after a meeting is arranged and held, the matter shall be referred to the International Union and the Labor Relations Representative of the responsible Employer.

STEP 3: In the event that the International Representative and the Labor Relations Representative of the Employer are unable to resolve the dispute within ten (10) calendar days after completion of Step 2, it shall be referred, in writing, to the General President of the Union and the Home Office representative of the Employer.

STEP 4: If the dispute is not resolved within ten (10) calendar days after completion of Step 3, the Employer and the Union and/or its respective Local Union shall choose a mutually agreed upon Arbitrator for final and binding arbitration. The impartial Arbitrator shall be selected from a panel of arbitrators, who have knowledge and experience of the construction industry, submitted by and in accordance with the rules and regulations of the American Arbitration Association. The decision of the Arbitrator shall be binding upon all parties. The Arbitrator shall have no authority to change, amend, add to, or detract from any of the provisions of this Agreement. The expense of the impartial Arbitrator shall be borne equally by the Employer and the Union's respective Local Union.

Section 3. The time limits specified in any step of the Grievance Procedure may be extended by mutual agreement of the parties initiated by the written request of one party to the other, at the appropriate Step of the Grievance Procedure. However, failure to process a grievance, or failure to respond in writing within the time limits provided above, without a request for an extension of time, shall be deemed a waiver of such grievance to the other without prejudice, or without precedent to the processing of and/or resolution of like or similar grievances or disputes.

Section 4. In order to encourage the resolution of disputes and grievances at Section 1 and 2 of this Grievance Procedure, the parties agree that such settlements shall not be precedent-setting.

ARTICLE X JURISDICTIONAL DISPUTES

Section 1. There will be no strikes, no work stoppages or slowdowns, or other interferences with the work because of jurisdictional disputes.

Section 2. The parties to this Agreement agree to the concept that craft jurisdictional lines shall be followed, and work assignments shall be made in accordance with the Procedural Rules and Regulations of the Plan for the Settlement of Jurisdictional Disputes in the

Construction Industry. However, jurisdictional disputes cannot and shall not interfere with the efficient and continuous operations required in the successful application of the intent of this Agreement. Periodic review of the work assignments shall be made for the purpose of adjusting such assignments as appropriate to take care of changing needs.

Section 3. The Local Unions involved agree that the International Unions shall be requested to promptly assign International Representatives to meet and attempt a settlement in the event of questions of assignment.

Section 4. If the International Representatives cannot reach agreement on the dispute, they shall jointly prepare and sign a complete statement of the facts and circumstances involved in the dispute, which shall be submitted to the respective General Presidents for final resolution.

ARTICLE XI GENERAL WORKING CONDITIONS

Section 1. The selection of craft foremen and/or master mechanic and the number of foremen shall be entirely the responsibility of the Employer, it being understood that in the selection of such foremen and/or master mechanic the Employer will give primary consideration to the qualified individuals available in the local area. After giving such consideration, the Employer may select individuals from other areas. All foremen shall take orders from the designated Employer representatives. Craft foremen shall be designated working foremen at the request of the Employer.

Section 2. There shall be no limit on production by workmen nor restrictions on the full use of tools or equipment. Craftsmen using tools shall perform any of the work of the trade and shall work under the direction of the craft foremen. There shall be no restrictions on efficient use of manpower other than as may be required by safety regulations.

Section 3. Employees shall be at their place of work at the designated starting time and shall remain at their place during working hours until the designated quitting time. Where the employees place of work requires Employer-furnished transportation, the employees shall be transported on the Employer's time. The parties reaffirm their policy of a fair day's work for a fair day's wage.

Section 4. The Employer may utilize the most efficient methods or techniques of construction, tools or other labor-saving devices to accomplish work. Practices not a part of the terms and conditions of this Agreement will not be recognized.

Section 5. Neither the Union nor its Local Unions shall coerce or in any way interfere with the Owner's personnel, operation or facilities at the jobsite. The Owner's right to contract directly with other companies for work at the jobsite shall not be limited, and the Union shall cooperate and not interfere with the Employer's operations. There shall be no intermingling of Owner personnel with the Employer's Union personnel.

Section 6. Due to the nature of the work covered by this Agreement. Operating Engineers shall be allowed to take personal relief time not to exceed ten (10) minutes once during the first half of the shift and once during the second half of the shift. The Union agrees that this will not be abused. To the extent necessary, personal protective clothing shall be changed on company time. The Employer will determine the time during the shift when relief time will be taken. Relief time will not be taken simultaneously by all employees, unless directed by the Employer.

Section 7. Slowdowns, standby crews, and featherbedding practices will not be tolerated.

Section 8. Individual seniority shall not be recognized or applied to employees working on projects under this Agreement.

Section 9. The Employer shall establish such reasonable project rules as the Employer deems appropriate. These rules will be reviewed at the pre-job conference and posted at the project site by the Employer, and may be amended thereafter as necessary.

Section 10. The Employer shall notify the International Union prior to the start of a new project of any work to be performed by the Employer within the scope of this Agreement.

Section 11. Employers and representatives of the International Union, or Local Unions having jurisdiction, shall hold a pre-job conference so that the start and continuation of work may progress without interruption. It shall be the purpose of the pre-job conference for the Employer and the Unions to agree on such matters as work assignments in accordance with Appendix B, the proper, safe manning of equipment, the length of the work week, the number of key employees to be brought in, the number of employees employed, the method of referral, the check-off of union dues, initiation fees or agency shop fees, the applicable wage rates and fringe benefit contribution in accordance with the contract, a review of the site plan, site safety and health plan, site control, air monitoring, and all other aspects pertaining to the project, provided it is agreed that the interpretation shall be a matter for the principal parties hereto.

Section 12. Employees required to wear protective clothing will be given sufficient time to go through the required procedures for dressing, undressing and decontamination, and this shall be considered time worked.

ARTICLE XII SAFETY

Section 1. The employees covered by the terms of this Agreement shall at all times while in the employ of the Employer be bound by the safety rules and regulations as established by the Employer in accordance with the Construction Safety Act, OSHA, 29 CFR 1910.120, and any other federal and state regulations. These rules and regulations will be published and posted at conspicuous places throughout the project.

Section 2. In accordance with all federal and state regulations, it shall be the exclusive responsibility of each Employer on a job site to which this Agreement applies, to assure safe working conditions for its employees and compliance by them with any safety rules contained herein or established by the Employer. Nothing in this Agreement will make the Union or any of its Locals liable to any employees or to other persons in the event that injury or accidents occur.

ARTICLE XIII WORK STOPPAGES AND LOCKOUTS

Section 1. During the term of this Agreement there shall be no strikes, picketing, work stoppages, slowdowns, or other disruptive activity by the Union, its applicable Local Union, or by any employee, and there shall be no lockout by the Employer.

In the event of nonpayment of wages, fringes, and workers' compensation, the Union may take any appropriate action it deems necessary and the Union will not be considered in violation of this Article should a work stoppage occur.

Section 2. The Union and its applicable Local Union shall not sanction, aid or abet, encourage or continue any work stoppage, strike, picketing, or other disruptive activity relative of Section 1 above at the Employer's project site and shall undertake all reasonable means to prevent or to terminate any such activity. No employee shall engage in activities which violate this Article. Any employee who participates in or encourages any activity which interferes with the normal operation of the project shall be subject to disciplinary action, including discharge.

Section 3. Neither the Union nor its applicable Local Union shall be liable for acts of employees for which it has no responsibility. Upon being notified that the applicable Local Union is violating this Article, the International Union General President will immediately use the best efforts of his office to cause the applicable Local Union to cease any violations of this Article. Upon being notified that employees of the Local Union are violating this Article, the principal officer or officers of a Local Union will immediately use the best efforts of their office to cause the employees the Local Union represents to cease any violations of this Article. Compliance with this obligation shall render the Union or the applicable Local Union not liable for acts of employees. The failure of the Employer to exercise its right in any instance shall not be deemed a waiver of its right in any other instance.

ARTICLE XIV PAYMENT OF WAGES — CHECKING IN AND OUT

Section 1. Wages will be paid weekly by check on a designated day during working hours and in no case shall more than three (3) days pay be held back in any one payroll week.

Section 2. The Employer may utilize brassing, time clocks, or other systems to check employees in and out. Each employee must check himself/herself in and out. The Employer will provide adequate facilities for checking in and out in an expeditious manner.

Section 3. When employees are laid off or discharged, they shall be paid in full immediately. If not paid within twenty-four (24) hours, a four (4) hour penalty shall be levied upon the Employer.

ARTICLE XV UNION REPRESENTATION

Section 1. Authorized representatives of the Union and its Local Unions shall have access to the project provided they do not interfere with the work of the employees and further provided that such representatives fully comply with the visitor and security rules established for the particular project.

Section 2. The Union, or its applicable Local Union, shall have the right to designate a working journeyman as a Steward. Such designated Steward shall be a qualified worker performing the work of the craft and shall not exercise any supervisory functions. The Steward shall be concerned with the employees of the Steward's Employer and not with the employees of any other Employer.

Section 3. Where the Owner's personnel may be working in close proximity to the construction activities, the Union agrees that under any and all conditions Union representatives, Stewards and individual workmen will not interfere in any manner with the Owner's personnel or with the work which is being performed by the Owner's personnel.

**ARTICLE XVI
SUBCONTRACTING**

Section 1. The Employer agrees that neither the Employer nor any of its subcontractors will subcontract any work to be done on the project except to a person, firm, or corporation which agrees to become party to this Agreement. Any contractor or subcontractor working on the project shall become signatory to and perform all work under the terms of this Agreement.

**ARTICLE XVII
GENERAL SAVINGS CLAUSE**

Section 1. If any Article or provision of this Agreement shall be declared invalid, inoperative, or unenforceable by any competent authority of the executive, legislative, judicial or administrative branch of the federal or any state government, the Employer and the Union shall suspend the operation of such Article or provision during the period of its invalidity and shall substitute by mutual consent, in its place and stead, an Article or provision which will meet the objections to its validity and which will be in accord with the intent and purpose of the Article or provisions in question.

If any Article or provision of this Agreement shall be held invalid, inoperative, or unenforceable by operation of law or by any of the above mentioned tribunals of competent jurisdiction, the remainder of this Agreement or the applications of such Article or provision to persons or circumstances other than those as to which it has been held invalid, inoperative or unenforceable shall not be affected thereby.

**ARTICLE XVIII
DURATION**

This Agreement shall become effective the _____ day of _____, 19____, and shall continue in full force and effect for the duration of the project.

This Agreement may be amended only by written agreement signed by the parties signatory hereto.

SIGNED THIS _____ DAY OF _____ 19____.

INTERNATIONAL UNION OF OPERATING
ENGINEERS, AFL-CIO

FOR THE EMPLOYER:

_____ Company Name _____

Frank Hanley-General President

_____ Street Address _____

City _____ State _____ Zip _____

Area Code _____ Phone Number _____

_____ Signature _____

_____ Name/Title _____ Signature _____

_____ Date _____

APPENDIX 'B' EQUIPMENT LIST

The following power equipment and machinery is recognized as within the jurisdiction of the International Union of Operating Engineers. The International Union of Operating Engineers claims jurisdiction of all equipment as granted by the AFL Convention, November 11-23, 1907, Resolution No. 124, and also claims jurisdiction of any new equipment introduced to the industry. This listing is not to be considered exclusive.

Air Compressor	Incinerators (different)
Associated Monitoring Instruments	Loader
Backhoe	Mechanic
Barrel Grapppler Devices (all)	Pugmill
Batchplant	Pump & Treat Systems
Bobcats	Pumpcrete Machine
Boom Truck	Power Shovel
Clamshell	Robotic Equipment (all)
Concrete Breaker	Roller
Concrete Pump	Scraper (Self-propelled or tractor drawn)
Concrete Saw	Side Boom Tractor
Cranes (all)	Skid Steer Loader
Crusher	Slip Form Paver
Dozer	Sloper Paver
Dragline	Stationary Central Compressed Air Plant
Elevating Grader	Sweeper
Elevator	Tractor
Endloader	Trencher
Farm Tractor	Vertical Lifting Hoists
Filter Press	Vibrating Compaction Equipment—Self Propelled
Forklift	Welder
Generator	Welding Machine
Gradall	Well Drilling Rig
Grader	
Heater	



LABORERS' INTERNATIONAL UNION OF NORTH AMERICA

October 22, 1999

ARTHUR A. COIA
General President

CARL E. BOOKER
General Secretary-Treasurer

Vice Presidents:

MASON M. WARREN

VERE O. HAYNES

CHUCK BARNES

GEORGE R. GUDGER

MIKE QUEVEDO, JR.

ARMAND E. SABITONI

PETER J. FOSCO

TERRENCE M. HEALY

RAYMOND M. POCINO

EDWARD M. SMITH

JAMES C. HALE

TERENCE M. O'SULLIVAN
Assistant to the
General President

JOSEPH S. MANCINELLI

WILLIAM H. QUINN

MICHAEL S. BEARSE
General Counsel

Stone & Webster Engineering Corporation
Mr. Chuck J. Sekinger, Manager Labor Relations
245 Summer Street
Boston, MA 02110

RE: Environmental Partnering Project Agreement
Stone & Webster Engineering Corporation, Boston, MA
Devens Reserve Forces Training Facility, Ayers, Littleton, Shirley, MA

Dear Mr. Sekinger:

Please be advised that your Addendum A dated October 14, 1999, regarding the above-referenced project that has been approved on behalf of this International Union. Please contact the Regional Office specified below in order to schedule a mutually convenient time and location to conduct a pre-job conference.

Mr. Armand E. Sabitoni
Vice President
226 South Main Street
Providence, RI 02903
(401) 751-8010

Your time and attention to this matter are appreciated.

With kind regards, I am

Sincerely yours,

Arthur A. Coia
ARTHUR A. COIA
General President

pej

cc: New England Regional Office

HEADQUARTERS:
905-16th Street, NW
Washington, D.C.
20006-1765
(202) 737-8320
Fax: (202) 737-2754

Post-It® Fax Note	7671	Date	10/22	# of pages	1
To	Chuck Sekinger	From	Art Coia		
Co./Dept.	Stone + Webster	Co.	IBO		
Phone #		Phone #			
Fax #	617 589-1153	Fax #			

November 10, 1999

To All Bidders/Offerors

Re: Addendum No.1 to RFP No. 068511000-01

PROVIDE TRANSPORTATION & DISPOSAL SERVICES OF CONSTRUCTION DEBRIS

AT THE

LANDFILL REMEDIATION PROJECT
DEVENS, MASSACHUSETTS

Enclosed in this addendum are the following items:

- 1) Addendum No.1 changes to the RFP
- 2) Questions & Answers that precipitated from the pre-bid open forum on 11/3/99.
- 3) A copy of the attendance sheet from the pre-bid open forum.

If you have further questions regarding the commercial aspects of this RFP, please call Don Fournier at 617-589-7057.

If you have technical questions please call Bruce Mc Campbell at 617-589-2626.

Sincerely
Stone & Webster



Don Fournier,
Senior Contracts Administrator

Addendum No. 1

Provide Transportation & Disposal Services of Construction Debris

at the

Landfill Remediation Project Devens, Massachusetts

Request for Proposal:

Please note the following address and solicitation change:

The RFP is for services for Stone & Webster Construction Company, Inc. (SWCC) located at 245 Summer Street, Boston, Massachusetts 02210. All proposals shall be addressed to SWCC. The contacts for proposal/solicitation and technical questions remain the same.

Proposal Instructions:

Page 2, Instruction No. 5, second sentence, change the word "in" to "is."

Page 2, Instruction No. 5, add to end of paragraph the following:

All contractors and subcontractors (at whatever tier) shall agree to be bound by the terms and conditions of the Project Labor Agreement (PLA) for the duration of the project. The PLA is applicable for all on-site construction activities, including transport operations from site-to-site at the project locale, if applicable.

Page 2, Instruction No. 7, replace entire paragraph with the following:

"Personnel shall be trained in accordance with Specification Sections 01351 and 02120."

Page 2, Instruction No. 8, add to the end of the paragraph the following:

"Should the contract be subdivided, or the proposal quantities change, the unit costs presented as add/deduct costs on the Pricing Form will be used to adjust the appropriate costs.

Pricing Form

Replace Pricing Form with attached Addendum No.1 Pricing Form

General Conditions for Subcontractors for Government Funded Contracts

Page 6, add the following article:

1.20 Invoicing and Payment Terms

Subcontractor will submit invoices on a monthly basis. Subcontractor will invoice only for work performed and approved. Approved invoices will be paid in Net 30 Terms.

Page 9, add the following article:

- 4.9 Subcontractor shall be signatory to the Project Labor Agreement (PLA) for the duration of the project. The subcontractor shall agree to be bound by the terms and conditions of the PLA by executing either the Individual Agreement(s) directly or by submitting the Letter of Assent provided in the Request for Proposal documents.

Scope of Work

Page 5, Figure 1, add Figure 2 (attached) following Figure 1. Figure 2 shows the hauling restrictions for travel on the South Post during removal of debris to be loaded at SA-12.

Page 6, Item 3.1, second sentence, revise as follows:

"...located near each of the disposal areas, except at AOC-41 which will be loaded from the same area as SA-12."

Page 6, Item 3.1, add to end of paragraph the following:

"Transportation routes on the South Post, for area SA-12, must comply with the Base road restrictions as shown on Figure 2."

Page 6, Item 3.3, add to end of paragraph the following:

"No analytical summaries are available at this time. For cost evaluation, it should be considered that this material does not exceed the applicable Massachusetts "Landfill Reuse Levels" in accordance with Table 1 of MA DEP's Policy No. COMM-97-001."

Page 7, Item 3.4, revise entire content to the following:

"The fixed price bid provided for this Scope of Work is based on the following Pay Items:

Pay Item 1- Debris Handling and Disposal in Off-Site Landfill

<u>Pay Item</u>	<u>Unit</u>	<u>Quantity</u>
1.1 AOC - 9	Ton	180,000
1.2 AOC - 11	Ton	42,000
1.3 SA - 12	Ton	10,400
1.4 SA - 13	Ton	12,000
1.5 AOC - 40	Ton	175,000
1.6 AOC - 41	Ton	1,800
1.7 Daily Cover Material	Ton	26,500

The schedule for when material is anticipated to be loaded for transport is provided in Section 13.

Payment for the above items will be an all-inclusive unit cost for the acceptance, transport, disposal and associated support required to complete the project tasks. The above quantities are estimates only; actual amounts will be based on certified weight receipts from the approved disposal/recycling facilities. Due to the size of the project, the contract may be allocated to more than one subcontractor. Add/deduct unit costs will be used to adjust actual quantities above or below the estimate quantity provided.

Payment Item 2 - Truck Demurrage

Truck demurrage costs shall be provided for non-scheduled delays in loading of debris greater than 1-hour which are caused solely by the Company or the Client. Delays caused by improper notice,

scheduling or acts of God are not reimbursable. Demurrage slips must be verified in the field by a S&W Superintendent and be delivered to the S&W Site Construction Manager by 9AM the next day. Demurrage will be paid on an hourly basis per truck impacted.

Payment Item 3 - Truck Cancellation

Truck cancellation costs shall be provided for cancellation of a truck by S&W when less than 24-hours notice is given."

Page 7, Item 3, add after item 3.4 the following item:

"3.5 Disposal material will be sized to contain debris no larger than three feet in size/diameter. Stockpiled disposal material will have passed the Paint Filter Test prior to loading for disposal."

Page 7, Item 4, add before "Landfill Selection" section the following:

"Debris material shall be disposed at the appropriate disposal, recycling or incineration facilities in accordance with all federal, state and local laws, rules, regulations and guidelines. The following criteria shall be used for evaluation of landfill based disposal options."

Page 6, Item 7.1, number 3, revise the first sentence as follows:

"Sampling and chemical analysis of the disposal material to be transported will consist of 1 sample per 500cy stockpile."

Page 9, Item 8.2, add the following to the end of the sentence:

"Subcontractor is responsible for any additional sampling and/or testing that may be required beyond that performed by others in Section 7.1.3."

Page 9, Item 8, add after 8.2 the following:

"8.3 Subcontractor must comply with Post/Base Regulations for work on the South Post. Personnel working on the Base shall become familiar with and obey Base regulations such as, but not limited to, the following:

- Keep within the limits of work and avenues of ingress and egress;
- Do not enter into restricted areas unless required to do so and until cleared for such entry;
- Permission to interrupt any Base roads, railways, or utility services shall be requested in writing a minimum of 15 calendar days prior to the desired date of interruption; and
- Subcontractor's equipment shall be conspicuously marked for identification."

Page 10, Item 13.2, replace schedule with the following schedule:

Remedial Site	Approx. Volume (cy)	Approximate Production		Draft Schedule			
		Excavation (cy/day)	Transport & Disposal (cy/day)	Excavation		Transportation/Disposal	
				Early Start	Early Finish	Early Start	Early Finish
AOC-9	121,000	2,400	1,500	09-Jun-00	18-Aug-00	19-Jun-00	06-Nov-00
AOC-11	35,000	2,250	1,500	28-Aug-00	18-Sep-00	05-Sep-00	06-Oct-00
SA-13	10,000	1,300	1,500	25-Sep-00	04-Oct-00	02-Oct-00	11-Oct-00
Daily Cover	20,000	1,500	1,500	NA	NA	10-Oct-00	27-Oct-00
AOC-40	125,400	2,100	1,500	04-Jun-01	24-Aug-01	18-Jun-01	19-Oct-01
SA-12	8,700	1,100	1,500	03-Sep-01	12-Sep-01	10-Sep-01	17-Sep-01
AOC-41	1,500	1,500	1,500	13-Sep-01	14-Sep-01	18-Sep-01	18-Sep-01

Page 10, Item 13, add after item 13.3 the following item:

"13.4 Normal work hours are from 7AM through 4PM, Monday through Friday. Work beyond these hours will not be permitted without authorization from the S&W Site Construction Manager. The following legal holidays are observed: January 1st, 3rd Monday in January, 3rd Monday in February, last Monday of May, July 4th, 1st Monday of September, 2nd Monday of October, 11th of November, 4th Thursday of November and 25th of December. Any additional holidays as presented in the Project Labor Agreement will also be observed during this Project."

Page 10, Item 15.1, 4th sentence, replace with the following:

"However, Subcontractor's personnel, and any lower tier subcontractors, must comply with specification Sections 01351 and 02120 (Appendix A) for work on the Devens Project."

Page 11, add the following after item 16.2 as follows:

"16.3 Access to the South Post for transport from area SA-12 must follow the haul route as depicted on Figure 2."

Page 11, Item 17.1, add to end of paragraph the following:

"All equipment shall be in good working order, free of defects and must comply with the applicable federal, state, and local regulations, including US DOT and OSHA operating standards."

**PRICING FORM
TRANSPORTATION AND OFFSITE DISPOSAL**

<u>Pav Item</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>	<u>Add</u>	<u>Deduct</u>
1. Debris Handling and Disposal in Offsite Landfill						
1.1 AOC - 9	Ton	180,000	_____	_____	_____	_____
1.2 AOC - 11	Ton	42,000	_____	_____	_____	_____
1.3 Study Area - 12	Ton	6,300	_____	_____	_____	_____
1.4 Study Area - 13	Ton	6,700	_____	_____	_____	_____
1.5 AOC - 40	Ton	175,000	_____	_____	_____	_____
1.6 AOC - 41	Ton	900	_____	_____	_____	_____
1.7 Daily Cover Pile	Ton	26,500	_____	_____	_____	_____
Total Proposed Price				_____		

- 2. Truck Demurrage cost for unscheduled loading waits in excess of 1-hour _____ per hour
- 3. Truck Cancellation cost for unscheduled changes less than 24-hour notice _____ each

Bidders' Checklist

Have the following been included with the proposal:

	Yes	No
1. Schedule	<input type="checkbox"/>	<input type="checkbox"/>
2. Solid Waste Transportation and Management Plan	<input type="checkbox"/>	<input type="checkbox"/>
3. Contractor Statement of Qualifications	<input type="checkbox"/>	<input type="checkbox"/>
4. TSD Facility Statement of Qualifications	<input type="checkbox"/>	<input type="checkbox"/>
5. Notices of Non-compliance and Notices of Violations	<input type="checkbox"/>	<input type="checkbox"/>
6. Resume of Transportation and Disposal Coordinator	<input type="checkbox"/>	<input type="checkbox"/>
7. Small Business Documentation (includes WOSB, SDB, and SBA)	<input type="checkbox"/>	<input type="checkbox"/>
8. Representations & Certifications	<input type="checkbox"/>	<input type="checkbox"/>
9. Project Labor Agreement (PLA) Letter of Assent	<input type="checkbox"/>	<input type="checkbox"/>

Bidder's Company Name

Bidder's Authorized Representative (Print)

Bidder's Authorized Representative (Signature)

Date Signed

ATTENDANCE LOG
 TRANSPORTATION AND OFFSITE DISPOSAL OF DEBRIS
 DEVENS RESERVE TRAINING AREA
 NOVEMBER 3, 1999 PUBLIC FORUM

Name	Company	Address	Telephone No.	Fax no.	Is a set of bid documents requested Yes/No
Tom Wagman	SK Services	6 Salem NH	603 870 5657	870 5660	(Y)
Tom Pisanelli	Maximillian Technologies	One McKim St Dorset, MA	617/5576077	617 557 6088	Y
Tim Burbank	Global Remediation	1 Westinghouse Plaza Boston	617 364-0002	617-361-5088	(X)
Peter Hudrick	Ecoborn Operating	134 Kim St Saugus, MA	978-521-6759	978-521-1297	N
Garry Balboni	E.T. & L Corp.	873 Cedar Rd. Stow MA.	978-897-4353	978-897-0179	(Y)
Steve Gurnea	Ch Corp	Fall River, MA			
Ellen Bellio	Waste Management	PO Box 7065 Rochester NH 03839	603 330 2170	2130	Y
Dennis Quereck	EWT	1039 Chestnut St Newton, MA	(617) 332-2877	(617) 332-8712	
Steven Chandler	EWT	1039 Chestnut St Newton, MA	"	"	
Joyce Tomaso	WSI	4 Elm St/PO Box 387 Auburn MA 01531	508-832-2622	508 832 4397	(Y)
Mike McInerney	Waste Mgmt	PO Box 7065 Rochester, NH 03839	603 330 2198	603 330-2188	
James P. Byrne	USEPA Region I	1 Cowley St. Boston, MA 02114	(617) 910-1389	(617) 910-1391	N
AL MARCELLO	EARTHWATCH	4 Service Drive Bellingham, RI 02806	401 524 7951	401-247-2298	N

Sent to Robert M

ATTENDANCE LOG
 TRANSPORTATION AND OFFSITE DISPOSAL OF DEBRIS
 DEVENS RESERVE TRAINING AREA
 NOVEMBER 3, 1999 PUBLIC FORUM

Name	Company	Address	Telephone No.	Fax no.	Is a set of bid documents requested Yes/No
AL MARILLI	WRIGHTWORTH	4450 Germantown Rd	508 338 4797	716 681 6165	Yes
George Urbanek	Coastal Environmental	P.O. Box 1269 Bangor, ME 04416	207-848-4304	207-848-4392	Yes
Tim Cady	GZA	350 HARVEY RD MANCHESTER NH	603-623-3600	603-624-0463	No
Dave Ciruli	Franklin Env.	PO 617 185 Ind. Rd Wrentham	508 384-6157	508 384-6028	No
DON JOHNSON	FRANKLIN ENVISYS	PO BOX 617 WRENTHAM, MA	508 384-6151	508 384-6028	NO
Steven Tucci	CYN ENV.	570 High St 110 Tosta Drive	1-800-272-5818	781-341-6298	NO
B. COLETT	TECHNITEL	CONCORD, MA.	978-371-4000	978-371-2468	NO
D. Berkeley	TRI-S	29 Pinney ST	860-871-7123	508 861-0684	NO
J. Begley	Safety-Kleen	24 Sutton St Wrentham	978 683 1002	978 682 3821	NO
L. McHissick	ChicHou City TRANS	PO Box 324 Chicheston City, MA 11 Green Hill Rd	508-248-6464	508-832-9706	Yes
P. Spooner	ALCHEMY INC	23 ORIOLE RD WINDHAM, NH	603-432-4155	603-421-0790	YES
J. McLaughlin	LABORERS UNION	Fitchburg 434 Water St	978 342 9061	---	NO
Jim McCarthy	MPSI	10 Kimball Lyndrick	781 555-0264	555-7507	
Eugene Lunny	DFI	220 Chergent Ave	781 289-0500	781 289-9793	No
John Mantini	ENPRO	12 MILLIKENWAY	978-935-1595	978-935-2070	Y
Steve Kelly	Waste Management	PO Box 550 99 Barre Depot Rd Barre, MA 01025	978 355 6821	355-6317	yes

Set the
list up.

ATTENDANCE LOG
 TRANSPORTATION AND OFFSITE DISPOSAL OF DEBRIS
 DEVENS RESERVE TRAINING AREA
 NOVEMBER 3, 1999 PUBLIC FORUM

Name	Company	Address	Telephone No.	Fax no.	Is a set of bid documents requested Yes/No
William Gray	Allied/ELC ON.	660 Main Street Hambden NY	914 793-2455	337-6492 914- 793	
Daniel Lynch	Site Remediation	E. Windsor CT 10 Starbuck Rd	860-623-8179	860-627-5719	NO
Scott Harding	Lois Engineering	1 Grit Hill Road Methuen, MA 01844	978-683-0891	978-683-0966	NO
Ken Knosiewicz	"	P.O. Box 2890 Concord MA 03301	603-224-4182	603-224-2507	NO
Charles Wilder	Advanced Env (90 online ENV.)	71 Elm St Worcester, MA 01607	508-363-2344	508-363-2346	YES
Robert Routhick	James Waters	275 S. State Ave Johnston RI 02819	401-943-5302	401-943-5714	YES
Mike Rattu	LRS ENVIRONMENTAL SERV	5 BATHURST RD SEABROOK NH	603-474-8336	603-475-5344	YES
Ronald Everett	BOTTOMLINE ENTERPRISES	221 WOOD ST WOODVILLE MA 01784	508-435-0494		YES
Robert Parnie	Envia. Chemicals	70 W. Main St WELLESLEY MA 02157	781-239-8202	781-239-7596	NO
Deborah Brown	Site Remed. Serv	10 Starbuck Rd E. Windsor CT	860-623-8179	860-627-5719	NO
Crosby Martin	McConnell Enterprises	60 Garden Park Braintree MA 01905	781-848-8070	781-848-2870	NO
Chris McGowan	R. BENTON & SONS	517 CAMPBELL ST CLINTON MA 01510	978-365-4602	978-365-6847	NO
Austin Cannon	McConnell Env + AGGREGATE RECYCLING	60 Garden Park Braintree	781-848-8449	781-848-2870	NO
Michael McKen	ARC CORPORATION	485 BROTHMAN PKWY MILDEN MA 01864	617-696-3387	617-696-3816	NO
Steven Downs	TRI-3	25 Pinney St. ELLINGTON CT 06029	860/875-2110	860/875-8587	YES
Tom Han	MEA	100 STURTEVANT Seymour CT 06488	617-541-8220	617-666-4057	NO

QUESTIONS (Q) & ANSWERS (A) DERIVED FROM PRE-BID OPEN FORUM AT THE DEVENS CONFERENCE CENTER FOR THE TRANSPORTATION & DISPOSAL RFP FOR THE DEVENS LANDFILL CONSOLIDATION PROJECT PRESENTED BY STONE & WEBSTER CONSTRUCTION COMPANY, INC. (SWCCI) ON WEDNESDAY, 11/03/99.

- 1) Q. WILL THE SIGN-IN SHEET BE SENT TO ALL ATTENDEES?
A. Yes.
- 2) Q. WILL THE EXCAVATION BE A SEPARATE CONTRACT?
A. No, SWCCI will perform all excavation and loading services.
- 3) Q. WHAT ARE THE PAYMENT TERMS?
A. Subcontractor will submit invoices on a monthly basis. Subcontractor will invoice only for work performed and approved. Approved invoices will be paid in Net 30 Terms.
- 4) Q. HOW WILL RCRA WASTE MATERIAL BE SEGREGATED?
A. As stated in the RFP, materials will be tested under the criteria set forth in the RFP and staged in 500 cy stockpiles. Any RCRA material will be segregated and handled by SWCCI.
- 5) Q. WILL THERE BE A PUBLIC BID OPENING?
A. No. This is not a sealed bid scenario. This is a negotiated proposal scenario.
- 6) Q. WHAT ABOUT MEDICAL MONITORING?
A. Personnel working at the site shall comply with the requirements of specification section 01351. Medical monitoring refers only to 40 hour Hazwoper trained personnel under 29 CFR 1910, as necessary.
- 7) Q. WILL THE WORK SCHEDULE BE MONDAY THROUGH FRIDAY?
A. Normal work hours are from 7AM through 4PM, Monday through Friday. Work beyond these hours will not be permitted without authorization from the SWCCI Site Construction Manager. The following legal holidays are observed: January 1st, 3rd Monday in January, 3rd Monday in February, last Monday of May, July 4th, 1st Monday of September, 2nd Monday of October, 11th of November, 4th Thursday of November and 25th of December. Any additional holidays as presented in the PLA will also be observed during this Project.
- 8) Q. HOW WILL THE AWARDS BE SPLIT?
A. Dependent on the proposals received, there may be up to 4 or 6 awards made.
- 9) Q. WILL THE SOUTH POST SIGN-IN / CHECK-IN BE AN ISSUE FOR THE TRUCKS?
A. Transportation routes on the South Post, for area SA-12, must comply with the Base road restrictions as shown on Figure 2. No delays are expected. This will be coordinated with Base Range Control.
- 10) Q. WHAT SIC CODE WILL THIS PROJECT OPERATE UNDER?
A. That is not an issue. The issue will be what SIC Codes you as a subcontractor operate under. If you can not determine your SIC Code, you can call Arvind Patel at the SBA at 781-377-2737.
- 11) Q. WHAT IS PAST SIMILAR EXPERIENCE?
A. Work involving hauling large quantities of material, landfill/recycling disposal, ability to handle transport/disposal paperwork and scheduling issues, landfill approval process, etc.
- 12) Q. WHAT DO I DO WITH THE SF1413 FORM ENCLOSED WITH THE RFP?
A. Do nothing at this time. Completion of this form will only be required if work is awarded to you.

- 13) Q. HOW DO I SUBMIT MY COMPLETED PRICING FORM?
A. Please complete your Pricing Form. Type your Company Name on the form and have an authorized person sign and date the form.
- 14) Q. WHAT ABOUT PIPE CONTAINING ASBESTOS?
A. Any material potentially containing asbestos will be segregated, tested and handled accordingly by SWCCI.
- 15) Q. IF ON-SITE OPTION IS CHOSEN IS TRANSPORTATION & DISPOSAL OPTION NULL AND VOID?
A. Yes.
- 16) Q. HOW MUCH NOTICE WILL BE GIVEN TO SCHEDULE TRUCKS?
A. Contractually, 72 hours notice will be given for scheduling with cancellations up to 24 hours before work at no cost. A line item for truck cancellations has been added to the Price Form.
- 17) Q. WHAT ABOUT WEIGHT LIMITS ON BRIDGES? HOW DO WE GO AROUND THEM?
A. You are required to determine your haul routes based on the project loading locations. Note that the South Post is restricted to one route as shown on Figure 2 of Addendum No. 1. Material from AOC-41 will be loaded from the SA-12 Area.
- 18) Q. MUST WE BID ON TOTAL CAPACITY OF WORK?
A. Add/Deducts have been added to the Price Form. If the total capacity can not be handled, the bidder must so state in their proposal. The add/deduct unit costs will be used to adjust the contract costs accordingly.
- 19) Q. WHAT IS THE BID DEADLINE FOR THE ON-SITE OPTION?
A. Same as the Off-site Option - December 6, 1999.
- 20.) Q. CAN ANYONE BID THE ON-SITE DISPOSAL OPTION?
A. No.
- 21) Q. WHAT WILL THE CONSISTENCY OF THE CONSTRUCTION DEBRIS BE?
A. Test pit logs have been provided in the RFP packages describing typical debris makeup. SWCCI will size the material to no greater than three foot diameter. Material will pass the Paint Filter Test prior to being transported.
- 22) Q. WHAT IS THE COMMUNITY CREDIT?
A. A credit of \$5.6M on behalf of the community will be given to the total cost of the Off-site Disposal Option in comparison to the total cost of the On-site Disposal Option during evaluation.

Stone & Webster Construction Co., Inc.

245 SUMMER STREET
BOSTON, MA 02210-1127

FAX LETTER/COVER SHEET

Date: November 19, 1999

To: _____

Company: _____

Telephone: _____

Fax: _____

From: Don Fournier

Company: Stone & Webster

Telephone: 617-589-7057

Fax: 617-589-1200

Pages: 4

Message: RE: RFP NO. 068511000-01 FOR T&D OF CONSTRUCTION
DEBRIS AT THE LANDFILL REMEDIATION PROJECT,
DEVENS, MA. – ADDITIONAL QUESTIONS & ANSWERS
REGARDING RFP.

THE PURPOSE OF THIS FAX LETTER IS TO PROVIDE
ALL BIDDERS WITH A COPY OF THE ADDITIONAL
QUESTIONS AND ANSWERS REGARDING THE
SUBJECT RFP . (ATTACHED)

IF YOU HAVE ANY QUESTIONS REGARDING THIS FAX
LETTER PLEASE CALL ME AT 617-589-7057.

SINCERELY,

STONE & WEBSTER

DON FOURNIER

QUESTIONS (Q) & ANSWERS (A) DERIVED FROM SUBCONTRACTOR CORRESPONDENCE FOR THE TRANSPORTATION & DISPOSAL RFP FOR THE DEVENS LANDFILL CONSOLIDATION PROJECT PREPARED BY STONE & WEBSTER CONSTRUCTION COMPANY, INC. (SWCCI).

- 23) Q. IS ANY MATERIAL CURRENTLY STOCKPILED ON-SITE FOR EXAMINATION?
A. No.
- 24) Q. DOES THE TRANSPORTATION AND DISPOSAL (T&D) SUBCONTRACTOR NEED TO SUPPLY ALL THE PERSONNEL (SUPT., SH MGR., SSSH, OP, ETC.) LISTED IN SPECIFICATION SECTION 01351?
A. Refer to item 15.1 of the Scope of Work. Subcontractor must comply with SWCCI's Health & Safety Plan and personnel. Subcontractor to supply a Transportation & Disposal Coordinator.
- 25) Q. WHAT SPECIFIC INFORMATION NEEDS TO BE SUBMITTED WITH THE BID PROPOSAL FOR THE SMALL BUSINESS DOCUMENTATION, AND ARE THERE SPECIFIC REQUIREMENTS FOR THIS PROJECT?
A. Information and requirements for the Representations and Certifications as provided in the RFP.
- 26) Q. ARE THERE SPECIFIC MINORITY/FEMALE BUSINESS REQUIREMENTS FOR THIS PROJECT?
A. Yes, but they are not applicable to your lower tier subcontractors.
- 27) Q. IS THE T&D SUBCONTRACTOR RESPONSIBLE FOR SETTING UP WORK ZONES?
A. No.
- 28) Q. IS THE T&D SUBCONTRACTOR RESPONSIBLE FOR SUBMITTING AN EMERGENCY RESPONSE PLAN?
A. No.
- 29) Q. CAN BID PROPOSAL BE SUBMITTED PRIOR TO DECEMBER 6TH, EXCLUDING THE PRICING FORM, AND THE PRICING FORM SUBMITTED VIA FAX ON DECEMBER 6TH?
A. The entire proposal package must be delivered before 4pm on December 6, 1999. Should the Subcontractor choose to revise the pricing form and submit it via fax by the RFP deadline as an addendum to an original proposal submitted earlier, this process would be acceptable. However, the addendum must be specific in reference to what items are being revised, or the proposal will be considered non-compliant.
- 30) Q. WILL ALTERNATE BIDS BE ACCEPTED FOR CONSIDERATION?
A. Proposals must be prepared in accordance with the instructions and RFP documentation provided. The RFP requests that the Subcontractor describe the means and methods used to accomplish this Project.

- 31) Q. WHAT PERCENTAGE OF SOIL ACCOUNTS FOR THE TOTAL VOLUME IN EACH INDIVIDUAL AREA?
- A. Refer to the test pit logs provided in Appendix A of the Scope of Work.
- 32) Q. SINCE THE PROJECT MAY BE AWARDED TO SEVERAL BIDDERS, WHAT IS THE REQUIREMENT FOR THE TOTAL BOND AMOUNT?
- A. The bond amount should cover 100% of the Proposal amount being submitted. Bonding price level changes are discussed in the RFP.
- 33) Q. HAS STONE & WEBSTER PREPARED A HEALTH & SAFETY PLAN FOR THIS PROJECT AND WILL THEY SUPPLY BIDDERS WITH A COPY?
- A. SWCCI is responsible for preparing a Health & Safety Plan for the entire Project. All Subcontractors will be required to comply with this plan by certifying in writing that they have reviewed the plan and understand the measures to be implemented regarding the activities they are involved with. A copy of the an approved Health & Safety Plan will be provided to the awarded Subcontractor(s) prior to any work commencing on Site.
- 34) Q. BECAUSE THE HEALTH & SAFETY PLAN IS SO BROAD, WILL THE T&D SUBCONTRACTOR BE RESPONSIBLE FOR DEVELOPING A HEALTH & SAFETY PLAN FOR THE TRANSPORTATION PORTION OF THE WORK?
- A. See No. 33. T&D Subcontractor will not have to provide a separate Health & Safety Plan.
- 35) Q. WHAT IS THE PURPOSE OF THE HAZWOPER TRAINING FOR TRUCK DRIVERS?
- A. See Addendum No. 1 regarding the revised training information.
- 36) Q. WHAT LEVEL OF TRAINING IS REQUIRED FOR THE TRUCK DRIVERS?
- A. See No. 35.

NOTE:

FINAL QUESTIONS MUST BE RECEIVED BY 2PM ON NOVEMBER 24, 1999. SWCCI WILL RESPOND TO THESE QUESTIONS BY NOVEMBER 30TH TO ALLOW ADEQUATE TIME FOR YOUR REVIEW BEFORE THE PROPOSAL DEADLINE ON DECEMBER 6TH.