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CLOSURE OF DEMILITARIZATION FURNACE NWS EARLE NJ
6/9/1994
BCM ENGINEERS, INC.

DEPARTMENT OF THE NAVY
NORTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
10 INDUSTRIAL HIGHWAY, MAIL STOP NO. 82
LESTER, PA 19113-2090

SPECIFICATION NO:
NO. 04-93-0403

CONTRACT NO:
N62472-93-C-0403

APPROPRIATION:
DERA

CLOSURE OF DEMIL FURNACE

at the

NAVAL WEAPONS STATION-EARLE

COLTS NECK, NEW JERSEY

DESIGN BY:

BCM ENGINEERS, INC

PLYMOUTH MEETING, PA 19462

SPECIFICATION PREPARED BY:

Architectural:

N/A

Civil:

JDC/TJB

Structural:

N/A

Electrical

N/A

Mechanical:

N/A

Submitted by:

JL 2 Kelly
Wiley

DATE: 9 JUNE 1994

SPECIFICATION APPROVED BY:

Russell J. Lett

DATE:

62394

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SECTION 01010

GENERAL PARAGRAPHS

PART 1 GENERAL

1.1 REFERENCE

The publication listed below form a part of this specification to the extent referenced. The publication is referred to in the text by the basic designation only.

CODE OF FEDERAL REGULATIONS (CFR)

41 CFR 60.4 Construction Contractors - Affirmative
Action Requirements

1.2 SUBMITTALS

Submit the following in accordance with Section 01300, "Submittals."

1.2.1 SD-18, Records

- a. Report of subcontracts G
- b. Work performed by Contractor G
- c. Certification of Contractor required insurance G
- d. Schedule of prices G
- e. As-built drawings G
- f. Quantity surveys G

1.2.1.1 Report of Subcontracts

Provide, for contracts greater than \$10,000, in accordance with paragraph entitled, "Affirmative Action Compliance."

1.2.1.2 Work Performed by Contractor

Provide in accordance with the paragraph entitled, "Description of Work Performed by the Contractor."

1.3 GENERAL INTENTION

It is the declared and acknowledged intention and meaning to provide and secure closure of Demil Furnace, complete and ready for use.

1.4 GENERAL DESCRIPTION

The work includes the demolition and removal of a building, air pollution control equipment, and furnace; the removal and disposal of contaminated

material; the provision of earthwork; and incidental related work.

1.5 LOCATION

The work shall be located at the Naval Weapons Station Earle, Colts Neck, New Jersey, approximately as shown. The exact location will be indicated by the Contracting Officer.

1.6 GOVERNMENT REPRESENTATIVES

- a. The work will be under the general direction of an officer of the Civil Engineer Corps, United States Navy or another officer or representative of the Government, designated in block 26 of Standard Form 1442. Except in connection with the Disputes Clause of this contract, this designated person has complete charge of and exercise full supervision over the work so far as it affects the interests of the Government.
- b. For the purposes of the Dispute Clause, the "Contracting Officer" is the Commander, Naval Facilities Engineering Command, or his representatives warranted for this purpose. Any claim submitted under the Dispute Clause shall be submitted to the Contracting Officer in care of the person designated in block 26 of Standard Form 1442 as the representative of the Contracting Officer authorized to receive the claim.
- c. The provisions of this paragraph or provisions elsewhere in this contract regarding supervision, approval, or direction by the Contracting Officer or the designated person shall not relieve the Contractor of responsibility for accomplishing the work, with regard to sufficiency or time of performance, except as other wise provided.

1.7 AFFIRMATIVE ACTION COMPLIANCE

Notice of requirement for affirmative action to ensure equal employment opportunity (Apr 1984):

(Applies when the amount of the contract is in excess of \$10,000.)

- a. The offeror's attention is called to the Equal Opportunity clause and the Affirmative Action Compliance Requirements for Construction clause of this solicitation.
- b. The goals for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Goals for minority participation for each trade	Goals for female participation for each trade
--	--

9.5 percent

6.9 percent

These goals are applicable to all the Contractor's construction work performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, the Contractor shall apply the goals established for the geographical area where the work is actually performed. Goals are published periodically in the Federal Register in notice form, and these notices may be obtained from any Office of Federal Contract Compliance Programs office.

- c. The Contractor's compliance with Executive Order 11246 as amended, and the regulations in 41 CFR 60.4 shall be based on (1) its implementation of the Equal Opportunity clause, (2) specific affirmative action obligations required by the clause entitled "Affirmative Action Compliance Requirements for Construction," and (3) its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade. The Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor, or from project to project, for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, Executive Order 11246, as amended, and the regulations in 41 CFR 60.4. Compliance with the goals will be measured against the total work hours performed.
- d. The Contractor shall provide written notification to the Director, Office of Federal Contract Compliance Programs, within 10 working days following award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the--
- (1) Name, address, and telephone number of the subcontractor;
 - (i) Employer identification number of the subcontractor;
 - (2) Estimated dollar amount of the subcontract;
 - (3) Estimated starting and completion dates of the subcontract; and
 - (4) Geographical area in which the subcontract is to be performed.
- e. As used in this Notice, and in any contract resulting from this solicitation, the "covered area" is Monmouth County, New Jersey.
(FAR 52.222-23)

1.8 ORAL MODIFICATION

No oral statement by any person other than the Contracting Officer or his representative, as provided in the Contract Clause entitled "Changes," will in any manner or degree modify or otherwise affect the terms of this contract.

1.9 INSURANCE

1.9.1 Minimum Requirements

The Contractor shall procure and maintain during the entire period of performance under this contract the following minimum insurance coverage:

- a. Comprehensive general liability: \$500,000 per occurrence
- b. Automobile liability: \$200,000 per person; \$500,000 per occurrence, \$20,000 per occurrence for property damage
- c. Workmen's compensation: As required by Federal and State workers' compensation and occupational disease laws
- d. Employer's liability coverage: \$100,000, except in States where workers compensation may not be written by private carriers
- e. Others as required by State law.

1.9.2 Insurance--Work on a Government Installation (SEP 1989)

- a. The Contractor shall, at its own expense, provide and maintain during the entire performance period of this contract at least the kinds and minimum amounts of insurance required in the Schedule or elsewhere in the contract.
- b. Before commencing work under this contract, the Contractor shall certify to the Contracting Officer in writing that the required insurance has been obtained. The policies evidencing required insurance shall contain an endorsement to the effect that any cancellation or any material change adversely affecting the Government's interest shall not be effective (1) for such period as the laws of the State in which this contract is to be performed prescribe or (2) until 30 days after the insurer or the Contractor gives written notice to the Contracting Officer, whichever period is longer.
- c. The Contractor shall insert the substance of this clause, including this paragraph (c), in subcontracts under this contract that require work on a Government installation and shall require subcontractors to provide and maintain the insurance required in the Schedule or elsewhere in the contract. The Contractor shall maintain a copy of all subcontractors' proofs of required insurance, and shall make copies available to the Contracting Officer upon request. (FAR 52.228-5)

1.10 NO WAIVER BY THE GOVERNMENT

The failure of the Government in any one or more instances to insist upon strict performance to any of the terms of this contract or to exercise any option herein conferred shall not be construed as a waiver or relinquishment to any extent of the right to assert or rely upon such terms or option on any future occasion.

1.11 SCHEDULE OF PRICES

1.11.1 Data Required

Within 5 days after award of the Contract, the Contractor shall prepare and deliver to the Officer in Charge of Construction a schedule of prices (construction contract) on the forms furnished for this purpose. The schedule of prices shall consist of a detailed breakdown of the contract price, giving the quantities for each of the various kinds of work; the unit prices; and the total prices therefore. The required schedule must be based on the actual breakdown of the bid price. The format, content, and number of copies required will be prescribed by the Officer in Charge of Construction and will be subject to his approval. The submission of the required data shall not otherwise affect the contract terms.

1.11.2 Submittal Instructions

Furnish four copies of the schedule of prices in accordance with the paragraph entitled "Data Required." Payments will not be made pursuant to the Contract Clause entitled "Payments to Contractor" until the schedule of prices has been submitted to and approved by the Contracting Officer.

1.12 PAYMENTS TO THE CONTRACTOR

Payments made in accordance with the Contract Clause entitled "Payments Under Fixed-Price Construction Contract" will be made on submission of itemized requests by the Contractor and will be subject to reduction for overpayments or increase for underpayments on preceding payments to the Contractor.

1.12.1 Payment for Materials Off-site

Pursuant to the paragraph entitled "Payments to the Contractor," payments may be made to the Contractor for materials stored off construction sites. However, the following conditions must be met:

- a. The conditions described in the paragraph entitled "Payments to the Contractor."
- b. The material must be within a distance of 50 miles by streets and roads.
- c. The materials shall be adequately insured and protected from theft and exposure.
- d. The materials shall not be susceptible to deterioration or physical damage in storage or in transit to the jobsite. Items such as steel, machinery, pipe and fittings, and electrical cable are

acceptable for progress payments; items such as gypsum wallboard, glass, insulation, and wall coverings are not. Payments will not be made for materials in transit to the jobsite or storage site.

1.12.2 Obligation of Government Payments

The obligation of the Government to make any of the payments required under any of the provisions of this contract shall, in the discretion of the Officer in Charge of Construction, be subject to:

- a. Reasonable deductions on account of defects in material or workmanship; and
- b. Any claims which the Government may have against the Contractor under or in connection with this contract. Any overpayments to the Contractor shall, unless otherwise adjusted, be repaid to the Government upon demand.

1.13 CONTRACTOR'S INVOICE AND CONTRACT PERFORMANCE STATEMENT

Requests for payment in accordance with the terms of the contract shall consist of:

- a. The Contractor's invoice on the form furnished for this purpose, which shall show, in summary form, the basis for arriving at the amount of the invoice; and
- b. The contract performance statement on the form furnished for this purpose, which shall show, in detail, the estimated cost percentage of completion and value of completed performance for each of the construction categories stated in this contract. The format, content, and number of copies required will be prescribed by the Officer in Charge of Construction and will be subject to his approval. The submission of the required data will not otherwise affect the contract terms.

1.14 EQUITABLE ADJUSTMENTS - WAIVER AND RELEASE OF CLAIMS

- a. Whenever the Contractor submits a claim for equitable adjustment under any clause of this contract which provides for equitable adjustment of the contract, such claim shall include all types of adjustments in the total amounts to which the clause entitles the Contractor, including, but not limited to, adjustments arising out of delays or disruptions or both caused by such change. Except as the parties may otherwise expressly agree, the Contractor shall be deemed to have waived: (1) any adjustments to which he otherwise might be entitled under the clause where such claim fails to request such adjustments; and (2) any increase in the amount of equitable adjustments additional to those requested in his claim.
- b. The Contractor agrees that, if required by the Contracting Officer, he shall execute a release, in form and substance satisfactory to the Contracting Officer, as part of the supplemental agreement setting forth the aforesaid equitable adjustment. The Contractor further agrees that such release shall discharge the Government,

including its officers, agents, and employees, from any further claims, including, but not limited to, further claims arising out of delays and/or disruptions caused by the aforesaid change.

1.15 AS-BUILT RECORDS

1.15.1 As-Built Drawings

Maintain at the jobsite two sets of full-size contract drawings marked to show any deviations which have been made from the contract drawings, including buried or concealed construction and utility features revealed during the course of construction. Record the horizontal and vertical location of all buried utilities that differ from the contract drawings. These drawings shall be available for review by the Contracting Officer at all times. Upon completion of the work, deliver the marked sets of prints to the Contracting Officer. Requests for partial payments will not be approved if the marked prints are not current, and request for final payment will not be approved until the marked prints are delivered to the Contracting Officer.

1.16 QUANTITY SURVEYS

- a. The Government will make original and final surveys and compute the quantities of work performed or finally in place.
- b. The Contractor shall furnish surveys and computations, as necessary, to determine the quantities of work performed or placed during each period for which a progress payment is to be made. Original field notes, computations, and other records for the purpose of layout and progress surveys shall be furnished promptly to the Contracting Officer at the site of the work and will be used by the Contracting Officer to the extent necessary in determining the proper amount of progress payments due the Contractor. The Contractor shall retain a copy of the original notes, computations, and records furnished to the Contracting Officer. Unless waived by the Contracting Officer in each specific case, the Contractor shall make quantity surveys under the direction of the Contracting Officer.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 STATION REGULATIONS

The Contractor and his employees and subcontractor shall become familiar with and obey all station regulations, including fire, traffic, and security regulations. All personnel employed on the station shall keep within the limits of the work (and avenues of ingress and egress) and shall not enter any restricted areas unless required to do so and are cleared for such entry. The Contractor's equipment shall be conspicuously marked for identification.

3.1.1 Working Hours

Regular working hours shall consist of 8 1/2-hour period established by the Contracting Officer between 7:30 a.m. and 4:00 p.m., Monday through Friday, excluding Government holidays. The Contractor shall make application for work outside regular working hours 15 calendar days prior to such work in accordance with the paragraph entitled "Work Outside Regular Hours."

3.1.2 Work Outside Regular Hours

If the Contractor desires to carry on work outside regular hours, including Saturdays, Sundays, and Government holidays, an application shall be delivered to the Officer in Charge of Construction. The Contractor shall allow ample time to enable satisfactory arrangements to be made by the Government for inspecting the work in progress. During periods of darkness, the different parts of the work shall be lighted in a manner approved by the Officer in Charge of Construction. All utility cutovers shall be made after normal working hours or on Saturdays, Sundays, and Government holidays. Anticipated costs shall be included in the bid.

3.2 ORDER OF WORK

The Contractor shall schedule his work so as to cause the least amount of interference with station operations. Work schedules shall be subject to the approval of the Officer in Charge of Construction. Permission to interrupt any station roads, railroads, and/or utility service shall be requested in writing a minimum of 15 calendar days prior to the desired date of interruption.

3.3 WORK BY THE CONTRACTOR

3.3.1 Performance of Work by the Contractor (APR 1984)

The Contractor shall perform on the site, and with its own organization, work equivalent to at least twenty (20) percent of the total amount of work to be performed under the contract. This percentage may be reduced by a supplemental agreement to this contract if, during performing the work, the Contractor requests a reduction and the Contracting Officer determines that the reduction would be to the advantage of the Government. (FAR 52.236-1)

3.3.2 Description of Work Performed by Contractor

In addition to the requirements of the paragraph entitled "Performance of Work by the Contractor (APR 1984)" and prior to the commencement of work at the site, furnish to the Contracting Officer a description of the work to be performed with the Contractor's own organization and the percentage of the total amount of work to be performed under the contract which this represents. Consider the value of materials as part of the work performed by the Contractor only if the materials are to be installed on the site by the Contractor's own organization.

3.4 EXISTING WORK

- a. The removal or altering in any way of existing work shall be carried on in such a manner as to prevent injury or damage to any

portion(s) of the existing work which remain(s).

- b. All portions of existing work which have been altered in any way during construction operations shall be repaired or replaced in kind and in a manner to match existing or adjoining work, as approved by the Contracting Officer. All work of this nature shall be performed by the Contractor at the Contractor's expense and shall be performed as directed by the Officer in Charge of Construction. At the completion of all operations, existing work shall be in a condition equal to or better than that which existed before the new work started.

3.5 SANITATION

Adequate sanitary conveniences of a type approved for the use of persons employed on the work shall be constructed, properly secluded from public observation, and maintained by the Contractor in such a manner as required or approved by the Officer in Charge of Construction. These conveniences shall be maintained at all times without nuisance. Upon completion of the work, the conveniences shall be removed by the Contractor from the premises, leaving the premises clean and free from nuisance.

3.6 PUBLIC RELEASE OF INFORMATION

- a. The Contractor shall not publicly disclose any information concerning any aspect of the materials or services relating to this bid, contract, or purchase order without the prior written approval of the Contracting Officer.
- b. The Contractor shall insert the substance of clause "(a)" of this paragraph in each subcontract and purchase order related to the project.

3.7 SPECIFICATIONS AND STANDARDS

The specifications and standards referenced in this project specification, including addenda, amendments, and errata listed, will govern in all cases where references thereto are made. In case of differences between these specifications or standards and this project specification or its accompanying drawings, this project specification and its accompanying drawings will govern to the extent of such differences. Otherwise, the referenced specifications and standards will apply. The requirement for packaging, packing, marking, and preparation for shipment or delivery included in the referenced specifications will apply only to materials and equipment that are furnished directly to the Government and not to materials and equipment that are to be furnished and installed by the Contractor.

3.8 OPTIONAL REQUIREMENTS

Where a choice of materials or methods, or both, is permitted in this contract, the Contractor will be given the right to exercise the option unless otherwise required by the specification.

3.9 GENERAL PROVISIONS

Any reference within this project specification to a General Provision shall be understood to be a reference to the Contract Clause(s) or the General Paragraph(s) addressing the subject matter of the particular reference.

-- End of Section --

SECTION 01011

ADDITIONAL GENERAL PARAGRAPHS

PART 1 GENERAL

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 the basic designation only.

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1926.59 Hazard Communication

CORPS OF ENGINEERS (COE)

COE EM 385-1-1 1992 Safety and Health Requirements Manual

COE 1-1-11 1985 Network Analysis Systems, October 15

1.2 PROJECT INFORMATION

1.2.1 Contract Drawings, Maps, and Specifications (SEP 1987)

- a. 5 sets of large-scale contract drawings and specifications will be furnished to the Contractor without charge except applicable publications incorporated into the technical sections by reference. Additional sets will be furnished on request at the cost of reproduction. One set of reproducibles will be furnished to the Contractor. The work shall conform to the specifications and the following contract drawings identified on the following index of drawings.
- b. Omissions from the drawings or specifications or the misdescription of details of work which are manifestly necessary to carry out the intent of the drawings and specifications, or which are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of the work but they shall be performed as if fully and correctly set forth and described in the drawings and specifications.
- c. The Contractor shall check all drawings furnished him immediately upon their receipt and shall promptly notify the Contracting Officer of any discrepancies. Figures marked on drawings shall in general be followed in preference to scale measurements. Large scale drawings shall in general govern small scale drawings. The Contractor shall compare all drawings and verify the figures before laying out the work and will be responsible for any errors which might have been avoided thereby.

(DFARS 252.236-7002)

1.2.2 Drawing Numbers

NAVFAC DRAWING NO.	TITLE
2167520	TITLE SHEET
2167521	SITE PLAN
2167522	GENERAL ELECTRICAL
2167523	SOIL EROSION & SEDIMENTATION CONTROL PLAN
2167524	SOIL EROSION & SEDIMENTATION CONTROL NOTES
2167525	SOIL EROSION & SEDIMENTATION CONTROL DETAILS
2167526	SOIL SAMPLING LOCATIONS & PROPOSED SOIL REMOVAL AREAS

1.2.3 Reference Drawings Accompanying Specification

The following reference drawings accompany this specification and are intended only to show the original construction. Drawings are the property of the Government and shall not be used for any purpose other than that intended by the specification. The drawings included with this specification are half size. Full-size drawings are available at the bidder's or Contractor's expense. Information on procuring these full-size drawings may be obtained from the Contracting Officer. Full-size drawings may be inspected during regular working hours at the office of the Contracting Officer.

NAVFAC DWG. NO.	TITLE
2013405	SITE PLAN & DETAILS
2013407	FURNACE BARRICADE & DETAILS
2013411	HEATING PLAN & DETAILS
2013413	POWER & LIGHTING
2013414	PRIMARY & SECONDARY LIGHTNING PROTECTION
2020845	FACILITY LAYOUT
2020846	FURNACE & EQUIPMENT INSTALLATION
2020852	FEED & DISCHARGE CONVEYORS
2020854	POLLUTION CONTROL EQUIPMENT

NAVFAC DWG. NO.	TITLE
2020855	POLLUTION CONTROL EQUIPMENT
2020856	POLLUTION CONTROL EQUIPMENT
2020857	POLLUTION CONTROL EQUIPMENT
2020872	COMPRESSED AIR PIPING SYSTEM

1.2.4 Subsurface Data

Subsurface data, not specified or indicated, have been obtained by the Government at the station. The data are available for examination by prospective bidders at the station.

1.3 SUBMITTALS

Submit the following in accordance with Section 01300, "Submittals."

1.3.1 SD-18, Records

- a. Construction schedule G
- b. Equipment delivery schedule G
- c. Monthly update to construction schedule and equipment delivery schedules G
- d. Accident Prevention plan G

1.3.1.1 Construction Schedule

Within 15 days after award of the Contract, prepare and submit to the Contracting Officer for approval a feasible construction schedule in accordance with the clause of the Contract Clauses entitled "Schedules for Construction Contract," except as modified in this contract.

1.3.1.2 Equipment Delivery Schedule

Within 28 days after the award of the Contract, submit to the Contracting Officer for approval, a schedule showing the procurement plans for materials and equipment. Submit in the format prescribed by the Contracting Officer, and include as a minimum the following information:

- a. Description
- b. Date of the purchase order
- c. Promised shipping date
- d. Name of the manufacturer or supplier
- e. Date delivery is expected

- f. Date the material or equipment is required, according to the current progress schedule or network.

1.3.1.3 Network Analysis System

As an alternative to the preceding construction and equipment delivery schedules, the Contractor may use the critical path method (CPM) or, subject to the approval of the Contracting Officer, some other system affording similar and equal information and control to that provided by the CPM. An example of one of the numerous acceptable types of network analysis systems is shown in Appendix A of COE 1-1-11. The use of one of these methods shall be subject to the terms of the clause of the Contract Clauses entitled "Schedules for Construction Contracts." Should the Contractor exercise the option to use a network analysis system, the Contractor also has the option of providing a schedule of prices in accordance with the paragraph of Section 01010, "General Paragraphs" entitled "Schedule of Prices" or providing a network analysis system, including costs.

1.3.1.4 Monthly Update to Schedules

Update the construction schedule and equipment delivery schedule at monthly intervals or as directed. Reflect any changes occurring since the last update. Submit copies of the purchase orders and confirmation of the delivery dates as directed. Update the construction schedules and equipment schedules with each invoice for progress payment in accordance with the clause of the Contract Clauses entitled "Schedules for Construction Contract."

1.4 ADDITIONAL INFORMATION REQUIRED OF THE CONTRACTOR

1.4.1 Subcontractors and Personnel

Reference is made to the clause of the Contract Clauses entitled "Subcontracts (Labor Standards)." In addition to the data required by that clause, provide a list of the key personnel of the Contractor and subcontractors (including addresses and telephone numbers) for use in the event of an emergency. As changes occur and additional information becomes available, correct and change the information contained in previous lists.

1.5 PROJECT SCHEDULE AND TIME CONSTRAINTS

1.5.1 Commencement, Prosecution, and Completion of Work (APR 84)

The Contractor shall be required to (a) commence work under this contract within 15 calendar days after award of the Contract, (b) prosecute the work diligently, and (c) complete the entire work ready for use not later than 270 calendar days after the required commencement of work. The time stated for completion shall include final cleanup of the premises.

(FAR 52.212-3)

1.5.1.1 Definitions

- a. The date the Contracting Officer signs the SF 1442 is the date of the award of the contract.
- b. The period of 15 days, after which contract time commences, is to allow for the mailing of the SF 1442 and the Contractor's submission and approval of the required bonds, Certificates of Insurance and Certification as to the percentage of work to be performed by the Contractor.
- c. The contract time for the purpose of fixing the completion date shall begin to run 15 days from the date of award on the SF 1442, regardless of when the performance and payment bonds are executed.

1.5.2 Liquidated Damages - Construction (APR 84)

(FAR 52.212-5(a))

1.5.2.1 Failure to Complete Work

If the Contractor fails to complete the work within the time specified in the contract, or any extension, the Contractor shall pay to the Government as liquidated damages, the sum of \$ 450 for each day of delay.

(FAR 52.212-5(a))

1.5.2.2 Contractor Liability with Government Termination

If the Government terminates the Contractor's right to proceed, the resulting damage will consist of liquidated damages until such reasonable time as may be required for final completion of the work together with any increased costs occasioned the Government in completing the work.

(FAR 52.212-5(b))

1.5.2.3 Contractor Liability Without Government Termination

If the Government does not terminate the Contractor's right to proceed, the resulting damage will consist of liquidated damages until the work is completed or accepted.

(FAR 52.212-5(c))

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 FACILITIES AND SERVICES

3.1.1 Availability of Utilities Services

Pursuant to the clause of the Contract Clauses entitled "Availability and Use of Utility Services," reasonable amounts of the following utilities will be made available to the Contractor without charge:

Electricity
Potable Water

The point at which the Government will deliver such utilities or services and the quantity available shall be as directed by the Contracting Officer. The Contractor shall pay all costs incurred in connecting, converting, and transferring the utilities to the work. The Contractor shall make connections, including providing backflow-preventing devices on connections to domestic water lines and providing transformers, and make disconnections.

3.1.2 Contractor's Storage Area

The clause of the Contract Clauses entitled "Operations and Storage Areas" and the following apply:

3.1.2.1 Storage in Existing Buildings

The Contractor shall be working around existing buildings; the storage of material will not be allowed in the buildings.

3.1.2.2 Storage Location

The open site available for storage shall be as directed by the Contracting Officer.

3.1.3 Temporary Buildings

Locate these where directed by the Contracting Officer.

3.1.3.1 Maintenance of Temporary Facilities

Suitably paint and maintain the temporary facilities. Failure to do so will be sufficient reason to require their removal.

3.2 RESTRICTIONS ON EQUIPMENT

3.2.1 Radio Transmitter Restrictions

Conform to the restrictions and procedures for the use of radio transmitting equipment, as directed. Do not use transmitters without prior approval.

3.3 RESTRICTIONS ON OPERATIONS

3.3.1 Restrictions Upon Interrupting Utility Services

The clause of the Contract Clauses entitled "Schedules for Construction Contract"; the paragraph of Section 01010, "General Paragraphs,"

entitled "Order of Work"; and the following apply:

- a. Ensure that new utility lines are complete, except for the connection, before interrupting existing service.

3.3.2 Coordination With Other Work

The clause of the Contract Clauses entitled "Other Contracts"; the paragraph of Section 01010, "General Paragraphs", entitled "Order of Work"; and the following apply:

3.3.2.1 Occupied Buildings

The Contractor shall be working around existing buildings which are occupied. Do not enter the buildings without prior approval of the Contracting Officer.

3.3.3 Security Requirements

No employee or representative of the Contractor will be admitted to the work site without satisfactory proof of United States citizenship or is specifically authorized admittance to the work site by the Officer in Charge of Construction. Refer to Section 01012, "Special Provisions."

3.3.4 Accident Prevention Plan

Submit in writing an Accident Prevention Plan in accordance with Contract Clause titled "Accident Prevention" and the current edition of the U.S. Army Corps of Engineers "Safety and Health Requirements Manual" COE EM 385-1-1 in effect on the date of the solicitation. Prepare the Accident Prevention Plan following the guidelines found in Table 1-1, page 3 of COE EM 385-1-1. The Accident Prevention Plan shall also include a hazard communication program complying with the requirements of 29 CFR 1926.59 and COE EM 385-1-1. For each major phase of the work, prepare an activity hazard analysis as required by COE EM 385-1-1, using the format and information shown in Figure 1-1, page 5 of COE EM 385-1-1. The Contractor shall meet in conference with the Contracting Officer to discuss and develop mutual understandings relative to the overall safety program. Work at the construction site will not be permitted until the Accident Prevention Plan is approved by the Contracting Officer.

3.4 ACTIONS REQUIRED OF THE CONTRACTOR

3.4.1 Location of Underground Facilities

Verify the elevations of existing piping, utilities, and any type of underground obstruction not indicated or specified to be removed but indicated in locations to be traversed by piping, ducts, and other work to be installed. Verify the elevations before the new work is laid closer than the nearest manhole or other structure at which an adjustment in grade could be made. For additional work required by reason of conflict between new and existing work, an adjustment in contract price will be made in accordance with the clause of the Contract Clauses entitled "Differing

Site Conditions."

3.4.2 Station Permits

Obtain these pursuant to the paragraph of Section 01010, "General Paragraphs," entitled "Station Regulations." Permits are required for, but are not necessarily limited to, welding, digging, and burning. Allow 7 calendar days for processing of the application.

3.4.3 Storm Protection

If a warning of gale force winds is issued, take precautions to minimize any danger to persons, and protect the work and any nearby Government property. Precautions shall include, but are not limited to, closing openings; removing loose materials, tools and equipment from exposed locations; and removing or securing scaffolding and other temporary work. Close openings in the work if storms of lesser intensity pose a threat to the work or any nearby Government property.

3.4.4 Unforeseen Hazardous Material

If material, not otherwise identified as hazardous is encountered which may be dangerous to human health if disturbed during construction operations, the Contractor shall stop that portion of the work and avoid coming in contact with the material. The Contractor shall immediately notify the Contracting Officer concerning the possible existence of hazardous material. The intent is to identify materials such as friable and non friable asbestos, polychlorinated biphenyls (PCBs) and paint containing lead. Within 14 calendar days, the Government will perform testing to determine if the material is hazardous. If the material is not hazardous or poses no danger, the Contracting Officer will direct the Contractor to proceed without change. If the material is hazardous and must be disturbed or handled to accomplish the work, the Contracting Officer will direct a change pursuant to the Contract Clauses titled "Changes" and "Differing Site Conditions".

-- End of Section --

SECTION 01012

SPECIAL PROVISIONS

PART 1 GENERAL

1.1 EXTRAORDINARY SECURITY REQUIREMENTS

The clause of contract clauses entitled "Security Requirements including Alternate II", the paragraph of Section 01011, "Additional General Paragraphs" entitled "Security Requirements", and the following shall apply.

1.1.1 Citizenship

All Contractor personnel on site shall be certified by the Contractor to be U.S. citizens and the Contractor shall provide the Contracting Officer with a list of names of all prospective on-site workers at least 96 hours in advance of their appearance on-site. Contractor employees will be required to show proof of citizenship (such as birth certificate) to obtain entry badges for on-site work. All employees, be they prime or subcontractor, shall report to the Security Office, Naval Weapons Station Earle, Colts Neck, New Jersey for photographs to be taken no less than 48 hours prior to their beginning work on the job site.

1.1.2 Badges/Passes

The government will issue badges/passes without charge to the Contractor. ALL BADGES/PASSES MUST BE RETURNED TO THE GOVERNMENT REPRESENTATIVE OR STATION SECURITY OFFICE UPON SUCCESSFUL COMPLETION OF THE CONTRACT REQUIREMENTS AND FINAL ACCEPTANCE BY THE CONTRACTING OFFICER. THE CONTRACTOR'S FINAL INVOICE SHALL INCLUDE A WRITTEN STATEMENT FROM THE GOVERNMENT REPRESENTATIVE OR STATION SECURITY OFFICE THAT ALL BADGES/PASSES HAVE BEEN RETURNED. FINAL PAYMENT WILL NOT BE MADE WITHOUT SUCH WRITTEN STATEMENT.

1.2 STATION REGULATIONS AFFECTING THE WORK

In addition to the requirements contained in paragraph entitled "Station Regulations" of Section 01010, "General Paragraphs" the following shall apply.

1.2.1 Use of explosives prohibited.

1.2.2 Storage of fuels on the site is prohibited. The Station Fire Department shall be present during the refueling of all equipment on site. At least a 48 hours notice shall be given prior to refueling.

1.2.3 Regular Working Hours. See paragraph entitled "Work Outside Regular Hours" of Section 01010, "General Paragraphs." Regular hours at the Naval Weapons Station Earle, Colts Neck, New Jersey are from 7:30 A.M. to 4:00 P.M.

1.2.4 No smoking is authorized except in designated areas as approved by the Contracting Officer. Where smoking is allowed, the Contractor shall provide adequate fire extinguishing equipment. A smoking permit shall be secured from the fire department and posted in the smoking area.

1.2.4.1 All vehicles entering and leaving the station will be subject to search.

1.2.4.2 Parking for privately owned vehicles will be restricted. Limited parking area for vehicles will be designated near the work site by the Officer-in-Charge.

1.2.5 All alleged delays which are in addition to those specified, shall be included in the Contractor's Daily Reports. The following information pertaining to these alleged delays shall be included.

- a. Duration
- b. Number of personnel directly affected
- c. Equipment directly affected.
- d. Brief description of the cause of the delay.

1.2.6 No alcoholic beverages are allowed on the construction site. Should alcoholic beverages be found, the employee involved shall be removed from the construction site.

1.2.7 Prior to all welding and burning on the job site, the Contractor shall obtain, on a daily basis, a burning permit from the Station Fire Department.

PART 2 2 PRODUCTS

Not Used

PART 3 3 EXECUTION

Not Used

-- End of Section --

CONTRACTOR (NAME)	SUB-CONTRACTOR (NAME)	CONTRACT No.	DATE
-------------------	-----------------------	--------------	------

TO: SECURITY OFFICER, WPNSTA EARLE

COMPLETION DATE: _____

1. It is requested that the following vehicles be issued temporary passes. The applicant represents that the information contained herein is true and correct. It is also agreed that the applicant and the drivers will be responsible for the conduct of the vehicles and driving while on the station and that vehicles will be operated in accordance with the applicable regulations.

OWNER'S LAST NAME OR COMPANY'S NAME	YEAR	MANUFACTURER	BODY TYPE	COLOR	LICENSE		INSURANCE	
					NUMBER	STATE	COMPANY • POLICY No.	EXP. DATE
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

REMARKS

SIGNATURE (CONTRACTOR)

SECTION 01090

REFERENCES

PART 1 GENERAL

1.1 REFERENCES

Reference publications are cited in other sections of the specifications along with identification of their sponsoring organizations. The addresses of the sponsoring organizations are listed below, and if the source of the publications is different from the address of the sponsoring organization, that information is also provided.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
1916 Race Street
Philadelphia, PA 19103-1187
Ph: 215-299-5400 Fax: 215-977-9679
215-299-5585 (Publications)

CODE OF FEDERAL REGULATIONS (CFR)
Superintendent of Documents
P. O. Box 371954
Pittsburg, PA 15250-7954
Ph: 202-783-3238 Fax: 202-512-2250

CORPS OF ENGINEERS (COE)
U. S. Army Engineer Waterways Experiment Station
ATTN: Technical Report Distribution Section,
Services Branch, TIC
3909 Halls Ferry Road
Vicksburg, MS 39180-6199
Ph: 601-634-2355 Fax: 601-634-2506

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section --

SECTION 01300

SUBMITTALS

PART 1 GENERAL

1.1 DEFINITIONS

1.1.1 Submittal

Shop drawings, product data, samples, and administrative submittals presented for review and approval. Contract Clauses "Material and Workmanship," paragraph (b) and "Specifications and Drawings for Construction," paragraphs (d), (e), and (f) apply to all "submittals."

1.1.2 Types of Submittals

The following four groupings of submittals into which all submittal descriptions are classified, as designated in the paragraph entitled "Schedule of Submittal Descriptions."

- a. Shop Drawings: As used in this Section, drawings, schedules, diagrams, and other data prepared specifically for this Contract, by the Contractor or through the Contractor by way of a subcontractor, manufacturer, supplier, distributor, or other lower tier contractor, to illustrate a portion of the work.
- b. Product Data: Preprinted material such as illustrations, standard schedules, performance charts, instructions, brochures, diagrams, manufacturer's descriptive literature, catalog data, and other data to illustrate a portion of the work, but not prepared exclusively for this Contract.
- c. Samples: Physical examples of products, materials, equipment, assemblies, or workmanship that are physically identical to a portion of the work, illustrating a portion of the work or establishing standards for evaluating the appearance of the finished work or both.
- d. Administrative Submittals: Data presented for reviews and approval to ensure that the administrative requirements of the project are adequately met but not to ensure directly that the work is in accordance with the design concept and in compliance with the Contract documents.

1.1.3 Approving Authority

The person authorized to approve a submittal.

1.1.4 Work

As used in this Section, on- and off-site construction required by the Contract documents, including labor necessary to produce the construction and materials, products, equipment, and systems incorporated or to be incorporated in such construction.

1.2 SUBMITTALS

Submit the following in accordance with the requirements of this section.

1.2.1 SD-18, Records

a. Submittal register G

1.2.1.1 Submittal Register

State for each submittal the Contractor's planned submittal date. Submit within 45 days after award of the Contract. Insert dates on copies of the "Submittal Register." Obtain the original from the following source:

- a. From the register with the submittal items filled in, attached.

1.3 PROCEDURES FOR SUBMITTALS

1.3.1 Reviewing, Certifying, Approving Authority

The QC organization shall be responsible for reviewing and certifying that submittals are in compliance with contract requirements. The approving authority on submittals is the QC Manager unless otherwise specified for the specific submittal. At each "Submittal" paragraph in the individual specification Sections, a notation "G," following a submittal item, indicates the Contracting Officer is the approving authority for that submittal item.

1.3.2 Constraints

- a. Submittals listed or specified in this Contract shall conform to the provisions of this Section, unless explicitly stated otherwise.
- b. Submittals shall be complete for each definable feature of work; components of the definable feature interrelated as a system shall be submitted at the same time.
- c. When acceptability of a submittal is dependent on conditions, items, or materials included in separate subsequent submittals, the submittal will be returned without review.
- d. Approval of a separate material, product, or component does not imply approval of assembly in which the item functions.

1.3.3 Scheduling

- a. Coordinate scheduling, sequencing, preparing and processing of submittals with performance of the work so that work will not be delayed by submittal processing. Allow for potential requirements to resubmit.
- b. Except as specified otherwise, allow a review period, beginning with receipt by the approving authority, that includes at least

15 working days for submittals for QC Manager approval and 20 working days for submittals for Contracting Officer approval. The period of review for submittals with Contracting Officer approval begins when the Government receives the submittal from the QC organization. The period of review for each resubmittal is the same as for the initial submittal.

- c. For submittals requiring review by the Fire Protection Engineer, allow a review period, beginning when the Government receives the submittal from the QC organization, of 30 working days for return of the submittal to the Contractor. The period of review for each resubmittal is the same as for the initial submittal.

1.3.4 Variations

Variations from contract requirements require Government approval pursuant to Contract Clause entitled "Specifications and Drawings for Construction" and will be considered where advantageous to the Government. When proposing a variation, submit a written request to the Contracting Officer, with documentation of the nature and features of the variation and why the variation is desirable and beneficial to the Government. If lower cost is a benefit, also include an estimate of the cost saving. Identify the proposed variation separately and include the documentation for the proposed variation along with the required submittal for the item. When submitting a variation for approval, the Contractor warrants the following:

1.3.4.1 Variation Is Compatible

The Contract has been reviewed to establish that the variation, if incorporated, will be compatible with other elements of the work.

1.3.4.2 Contractor Is Responsible

The Contractor shall take actions and bear the additional costs, including review costs by the Government, necessary due to the proposed variation.

1.3.4.3 Review Schedule Is Modified

In addition to the normal submittal review period, a period of 10 working days will be allowed for consideration by the Government of submittals with variations.

1.3.5 Contractor's Responsibilities

- a. Determine and verify field measurements, materials, field construction criteria; review each submittal; and check and coordinate each submittal with requirements of the work and Contract documents.
- b. Transmit submittals to the QC organization in orderly sequence, in accordance with the Submittal Register, and to prevent delays in the work, delays to the Government, or delays to separate contractors.
- c. Advise the Contracting Officer of variation, as required by the

paragraph entitled "Variations."

- d. Correct and resubmit submittal as directed by the approving authority. Direct specific attention, in writing or on resubmitted submittal, to revisions not requested by the approving authority on previous submissions.
- e. Furnish additional copies of submittals when requested by the Contracting Officer, to a limit of 20 submittals.
- f. Complete work which must be accomplished as a basis of a submittal in time to allow the submittal to occur as scheduled.
- g. Ensure no work has begun until submittals for that work have been returned as "approved," or "approved as noted", except to the extent that a portion of the work must be accomplished as a basis of the submittal.

1.3.6 QC Organization Responsibilities

- a. Note the date on which the submittal was received from the contractor on each submittal for which the QC Manager is the approving authority.
- b. Determine and verify field measurements, materials, field construction criteria; review each submittal; and check and coordinate each submittal with requirements of the work and Contract documents.
- c. Review submittals for conformance with project design concepts and compliance with the Contract documents.
- d. Act on submittals, determining the appropriate action based on the QC organization's review of the submittal.
 - (1) When the QC Manager is the approving authority, take the appropriate action on the submittal from the possible actions defined in the paragraph entitled, "Actions Possible."
 - (2) When the Contracting Officer is the approving authority or when a variation has been proposed, forward the submittal to the Government with the certifying statement or return the submittal marked "not reviewed" or "revise and resubmit" as appropriate. The QC organization's review of the submittal determines the appropriate action.
- e. Ensure that material is clearly legible.
- f. Stamp each sheet of each submittal with the QC certifying statement or approving statement, except that data submitted in bound volume or on one sheet printed on two sides may be stamped on the front of the first sheet only.
 - (1) When the approving authority is the Contracting Officer, the QC organization will certify submittals forwarded to the

Contracting Officer with the following certifying statement:

"I hereby certify that the (equipment) (material) (article) shown and marked in this submittal is that proposed to be incorporated with Contract Number N62472-93-C-0403, is in compliance with the Contract drawings and specification, can be installed in the allocated spaces, and is submitted for Government approval. Government approval of proposed variation, if any, is recommended.

Certified by Submittal Reviewer _____, Date _____
(Signature when applicable)

Certified by QC Manager _____, Date _____"
(Signature)

(2) When the approving authority is the QC Manager, the QC manager will use the following approval statement when returning submittals to the Contractor as "Approved" or "Approved as Noted."

"I hereby certify that the (material) (equipment) (article) shown and marked in this submittal and proposed to be incorporated with Contract Number N62472-93-C-0403, is in compliance with the contract drawings and specification, can be installed in the allocated spaces, and is approved for use subject to Government approval of proposed variation.

Certified by Submittal Reviewer _____, Date _____
(Signature when applicable)

Approved by QC Manager _____, Date _____"
(Signature)

- g. Sign the certifying statement or approval statement. The person signing the certifying statements shall be the QC organization member designated in the approved QC plan. The signatures shall be in original ink. Stamped signatures are not acceptable.
- h. Update the submittal register as submittal actions occur and maintain the submittal register at the project site until final acceptance of all work by the Contracting Officer.
- i. Retain a copy of approved submittals at the project site, including the Contractor's copy of approved samples.
- j. When the approving authority is the QC Manager, forward two copies of each approved submittal, except "Samples," where one set is required, to the Contracting Officer.

1.3.7 Government's Responsibilities

When the approving authority is the Contracting Officer, the Government will:

- a. Note the date on which the submittal was received from the QC

Manager, on each submittal for which the Contracting Officer is the approving authority.

- b. Review submittals for approval within the scheduling period specified and only for conformance with project design concepts and compliance with the Contract documents.
- c. Identify returned submittals with one of the actions defined in the paragraph entitled "Actions Possible" and with markings appropriate for the action indicated.
- d. Retain three copies of each submittal, except "Samples," where one copy will be retained.

1.3.8 Actions Possible

Submittals will be returned with one of the following notations:

- a. Submittals marked "not reviewed" will indicate the submittal has been previously reviewed and approved, is not required as a submittal, does not have evidence of being reviewed and approved by the Contractor, or is not complete. A submittal marked "not reviewed" will be returned with an explanation of the reason it is not reviewed. Returned submittals deemed to lack review by the Contractor or to be incomplete shall be resubmitted with appropriate action, coordination, or change.
- b. Submittals marked "approved" "approved as submitted" authorize the Contractor to proceed with the work covered.
- c. Submittals marked "approved as noted" authorize the Contractor to proceed with the work as noted provided the Contractor takes no exception to the notations.
- d. Submittals marked "revise and resubmit" or "disapproved" indicate the submittal is incomplete or does not comply with the design concept or the requirements of the Contract documents and shall be resubmitted with appropriate changes.

1.4 FORMAT OF SUBMITTALS

1.4.1 Transmittal Form

Transmit each submittal, except sample installations and sample panels, to the office of the approving authority. Transmit submittals with a transmittal form prescribed by the Contracting Officer and standard for the project. The transmittal form shall identify the Contractor, indicate the date of the submittal, and include information prescribed by the transmittal form and required in the paragraph entitled "Identifying Submittals." Process transmittal forms to record actions regarding sample panels and sample installations.

1.4.2 Identifying Submittals

Identify submittals, except sample panel and sample installation, with the following information permanently adhered to or noted on each separate component of each submittal and noted on the transmittal form. Mark each copy of each submittal identically, with the following:

- a. Project title and location.
- b. Construction Contract number.
- c. The Section number of the specification Section by which the submittal is required.
- d. The submittal description (SD) number of each component of the submittal.
- e. When a resubmission, an alphabetic suffix on the submittal description, for example, SD-10A, to indicate the resubmission.
- f. The name, address, and telephone number of the subcontractor, supplier, manufacturer and any other second tier contractor associated with the submittal.
- g. Product identification and location in project.

1.4.3 Format for Product Data

- a. Present product data submittals for each Section as a complete, bound volume. Include a table of contents listing page and catalog item numbers for product data.
- b. Indicate, by prominent notation, each product which is being submitted; indicate the specification Section number and paragraph number to which it pertains.
- c. Supplement product data with material prepared for the project to satisfy submittal requirements for which product data does not exist. Identify this material as developed specifically for the project.

1.4.4 Format for Shop Drawings

- a. Shop drawings shall not be less than 8 1/2 by 11 inches nor more than 30 x 42 inches.
- b. Present 8 1/2 x 11-sized shop drawings as a part of the bound volume for the submittals required by the Section. Present larger drawings in sets.
- c. Include on each drawing the drawing title, number, date, and revision numbers and dates, in addition to the information required in the paragraph entitled "Identifying Submittals."
- d. Dimension drawings, except diagrams and schematic drawings; prepare

drawings demonstrating interface with other trades to scale.
Identify materials and products for work shown.

1.4.5 Format of Samples

- a. Furnish samples in the sizes below, unless otherwise specified or unless the manufacturer has prepackaged samples of approximately the same size as specified:
 - (1) Sample of Equipment or Device: Full size.
 - (2) Sample of Materials Less Than 2 by 3 inches: Built up to 8 1/2 by 11 inches.
 - (3) Sample of Materials Exceeding 8 1/2 by 11 inches: Cut down to 8 1/2 by 11 inches and adequate to indicate color, texture, and material variations.
 - (4) Sample of Linear Devices or Materials: 10-inch length or length to be supplied, if less than 10 inches. Examples of linear devices or materials are conduit and handrails.
 - (5) Sample of Non-Solid Materials: Pint. Examples of non-solid materials are sand and paint.
 - (6) Color Selection Samples: 2 inches by 4 inches.
 - (7) Sample Panel: 4 feet by 4 feet.
 - (8) Sample Installation: 100 square feet.
- b. Samples Showing Range of Variation: Where variations are unavoidable due to the nature of the materials, submit sets of samples of not less than three units showing the extremes and middle of the range.
- c. Reusable Samples: Incorporate returned samples into the work only if so specified or indicated. Incorporated samples shall be in undamaged condition at the time of use.
- d. Recording of Sample Installation: Note and preserve the notation of the area constituting the sample installation but remove the notation at the final clean up of the project.
- e. When a color, texture or pattern is specified in naming a particular manufacturer and style, include one sample of that manufacturer and style, for comparison.

1.4.6 Format of Administrative Submittals

- a. When the submittal includes a document which is to be used in the project or become a part of the project record, other than as a submittal, do not apply the Contractor's approval stamp to the document, but to a separate sheet accompanying the document.

1.5 QUANTITY OF SUBMITTALS

1.5.1 Number of Copies of Product Data

- a. Submit six copies of submittals of product data requiring review and approval only by the QC organization and seven copies of product data requiring review and approval by the Contracting Officer.

1.5.2 Number of Copies of Shop Drawings

- a. For shop drawings presented on sheets larger than 8 1/2-inches by 14 inches, submit one reproducible and three prints of each shop drawing prepared for this project.
 - (1) Transmit reproducibles rolled in mailing tubes.
 - (2) After review, the approving authority will retain the prints and return only the reproducible with notation resulting from the review.
- b. For shop drawings presented on sheets 8 1/2-inches by 14 inches or less, conform to the quantity requirements for product data.

1.5.3 Number of Samples

- a. Submit two samples, or two sets of samples showing range of variation, of each required item. One approved sample or set of samples will be retained by the approving authority and one will be returned to the Contractor.
- b. Submit one sample panel. Include components listed in technical section or as directed.
- c. Submit one sample installation, where directed.
- d. Submit one sample of non-solid materials.

1.5.4 Number of Copies of Administrative Submittals

- a. Unless otherwise specified, submit administrative submittals which are 8 1/2 inches by 14 inches or smaller in size in the quantity required for product data.
- b. Unless otherwise specified, submit administrative submittals larger than 8 1/2 inches by 14 inches in size in the quantities required for shop drawings.

1.6 SCHEDULE OF SUBMITTAL DESCRIPTIONS (SD)

SD-04, Drawings

Submittals which graphically show relationship of various components of the work, schematic diagrams of systems, detail of fabrications, layout of particular elements, connections, and other relational aspects of the work.

A type of shop drawing.

SD-05, Design Data

Design calculations, mix designs, analyses, or other data, written in nature and pertaining to a part of the work. A type of shop drawing.

SD-08, Statements

A document, required of the Contractor, or through the Contractor by way of a supplier, installer, manufacturer, or other lower tier contractor, the purpose of which is to further the quality or orderly progression of a portion of the work by documenting procedures, acceptability of methods or personnel, qualifications, or other verification of quality. A type of shop drawing.

SD-09, Reports

Reports of inspection and laboratory test, including analysis and interpretation of test results. Each report shall be properly identified. Test methods used and compliance with recognized test standards shall be described.

SD-12, Field Test Reports

A written report which includes the findings of a test made at the job site, in the vicinity of the job site, or on a sample taken from the job site, on a portion of the work, during or after installation. The report must be signed by an authorized official of a testing laboratory or agency and must state the test was performed in accordance with the test requirements; state the test results; and indicate whether the material, product, or system has passed or failed the test. A type of shop drawing.

SD-14, Samples

Samples, including both fabricated and unfabricated physical examples of materials, products, and units of work as complete units or as portions of units of work. A type of sample.

SD-18, Records

Documentation to ensure compliance with an administrative requirement or to establish an administrative mechanism. A type of administrative submittal.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section --

SUBMITTAL REGISTER
INSTRUCTIONS

1. Use submittal register form for the project's Submittal Register and to track progress of submittals as they are processed. Users may arrange Parts "A" and "B" side-by-side in a 3-ring notebook.

2. The Government will supply submittal register forms, with columns (a) through (e) completed to the extent that will be required by the Government. Consider these forms as being for convenience only. Correct variations from requirements shown in specification sections; ensure Submittal Register conforms to specification sections.

- a. Column (a): Lists each specification section in which a submittal is required.
- b. Column (b): Lists each submittal description (SD No. and type, e.g. SD-04, Drawings) required in each specification section. Follow each submittal description with the list of material or products to be addressed in each submittal description.
- c. Column (c): Lists one principal paragraph in specification section where a material or product is specified. This listing is only to facilitate submittal reviews. Do not consider entries in column (c) as limiting project requirements; do not consider that a blank must be filled in by Contractor or the Government.
- d. Column (d): Indicates approving authority for each submittal. A "G" indicates approval by Contracting Officer; a blank indicates approval by QC Manager.
- e. Column (e): Indicates, for submittals to be approved by Contracting Officer, specific reviewers other than QC organization. This column may or may not be filled out on the copy supplied by the Government.

3. Column (f) through column (i) will be used by Contractor, QC organization and the Government on their own copies to record data established by the Contractor.

- a. Column (f): As submittals are processed, list a consecutive number assigned by Contractor for each group of submittals. Place this same number in the appropriate block of "Submittal Transmittal Form". For a resubmission, repeat transmittal control number of the original submittal with a suffix; e.g. No. "100B" is second resubmission of material originally transmitted under No. "100."
- b. Column (g): List dates scheduled for approving authority to receive submittals. These dates are the scheduled beginnings of submittal review period. The Contractor proposes these dates and the Contracting Officer approves them to establish the approved Submittal Register.
- c. Columns (h) and (i): Use to record Contractor's review when

forwarding submittals to the QC organization.

4. Column (j) through column (o) will be used by Contractor, QC organization, and the Government on their own copies, in the following manner:

Contractor

- a. Column (j): Enter date submittal is delivered to QC organization if QC Manager is approving authority or to the Government via QC organization if Contracting Officer is approving authority.
- b. Columns (k) and (l): No entries are required on Contractor's copy.
- c. Columns (m) and (n): Enter action and date of action by approving authority as shown on returned submittal.
- d. Column (o): Enter date Contractor receives an acted-on submittal.

QC organization

- a. Column (j): Enter date QC organization receives submittal from Contractor.
- b. Columns (k) and (l): If approving authority is Contracting Officer, enter date QC organization forwards certified submittal to Contracting Officer.
- c. Columns (m) and (n): If approving authority is Contracting Officer, enter the Government action and date of action as shown on returned submittal. If approving authority is QC Manager, enter QC action and date of action.
- d. Column (o): Enter date QC organization returns submittal to Contractor, regardless of who is approving authority. If QC Manager is approving authority, it is also the date the information copy is forwarded to the Government.

Government

- a. Column (j): When Contracting Officer is approving authority, enter date submittal is received from QC organization.
- b. Columns (k) and (l): When Contracting Officer is approving authority, enter date submittal is routed or received from specialized reviewer, such as fire protection engineer, architect-engineer, etc.
- c. Columns (m) and (n): When approving authority is Contracting Officer, enter the Government action and date of action. When approving authority is QC organization, enter QC Manager action and date of action, as indicated on information copy forwarded by QC organization.
- d. Column (o): When Contracting Officer is approving authority, enter

Closure of Demil Furnace, Naval Weapons Station, Earle, New Jersey 04930403

date submittal is returned to Contractor via QC organization.

Contract Number: N62472-93-C-0403 | Project Title: Closure of Demil Furnace, Naval Weapons St

SPEC SECTION NO.	SD NO, AND TYPE OF SUBMITTAL MATERIAL OR PRODUCT	SPEC PARA NO.	CLASSIF/ APPR BY CO *	GOVT OR A/E REVIEWER	TRANS CONTROL NO.	PLANNED SUBMITTAL DATE
(a)	(b)	(c)	(d)	(e)	(f)	(g)
1) 01010	SD-18, Records	1.2.1				
2)	Report of subcontracts	1.2.1.1	G	ROICC		
3)	Work performed by Contractor	3.3.2	G	ROICC		
4)	required insurance	1.9.2	G	ROICC		
5)	Schedule of prices	1.11	G	ROICC		
6)	As-built drawings	1.15.1	G	ROICC		
7)	Quantity surveys	1.16	G	ROICC		
8) 01011	SD-18, Records	1.3.1				
9)	Construction schedule	1.3.1.1	G	ROICC		
10)	Equipment delivery schedule	1.3.1.2	G	ROICC		
11)	Monthly update	1.3.1.4	G	ROICC		
12)	Accident Prevention plan	3.3.4	G	ROICC		
13) 01300	SD-18, Records	1.2.1				
14)	Submittal register	1.2.1.1	G	ROICC		
15) 01400	SD-18, Records	1.2.1				
16)	QC plan	1.6	G	ROICC		
17) 01560	SD-18, Records	1.4.1				
18)	Solid waste disposal permit	1.4.1.1	G	ROICC		
19)	Disposal permit for hazardous	1.4.1.2	G	ROICC		
20)	waste					

* Navy Notes:
 Approved by:
 G: Contracting Officer
 Blank: QC Manager

* NASA Notes:
 Approved by:
 Blank: Contracting Officer

* Army Notes:
 Classification:
 GA: Gov't Approval
 FIO: For Information Only

Contract Number: N62472-93-C-0403 | Project Title: Closure of Demil Furnace, Naval Weapons St

SPEC SECTION NO.	SD NO, AND TYPE OF SUBMITTAL MATERIAL OR PRODUCT	SPEC PARA NO.	CLASSIF/ APPR BY CO *	GOVT OR A/E REVIEWER	TRANS CONTROL NO.	PLANNED SUBMITTAL DATE
(a)	(b)	(c)	(d)	(e)	(f)	(g)
1) 02050	SD-08, Statements	1.2.1				
2)	Demolition plan	1.2.1.1	G	ROICC		
3) 02220	SD-04, Drawings	1.3.1				
4)	drawings	1.3.1.1	G	A/E		
5) 02220	SD-05, Design Data	1.3.2				
6)	calculations	1.3.2.1	G	A/E		
7) 02220	SD-08, Statements	1.3.3				
8)	Supporting systems	3.2.1				
9)	Dewatering	3.2.2.2				
10) 02220	SD-12, Field Test Reports	1.3.4				
11)	Fill and backfill	3.10.2.1				
12)	Density tests	3.10.2.2				
13) 02990	SD-08, Statements	1.4.1				
14)	Site safety and health plan	1.4.1.1	G	A/E		
15)	Work Plan	1.4.1.2	G	A/E		
16)	Work Plan Requirements	1.4.1.3	G	A/E		
17)	Field sampling and laboratory	1.4.1.4	G	A/E		
18)	testing plan					
19)	Qualification	1.8	G	A/E		
20)	Spill and discharge control plan	3.3	G			

* Navy Notes:

Approved by:

G: Contracting Officer

Blank: QC Manager

* NASA Notes:

Approved by:

Blank: Contracting Officer

* Army Notes:

Classification:

GA: Gov't Approval

FIO: For Information Only

Contract Number: N62472-93-C-0403 | Project Title: Closure of Demil Furnace, Naval Weapons St

SPEC SECTION NO.	SD NO, AND TYPE OF SUBMITTAL MATERIAL OR PRODUCT	SPEC PARA NO.	CLASSIF/ APPR BY CO *	GOVT OR A/E REVIEWER	TRANS CONTROL NO.	PLANNED SUBMITTAL DATE
(a)	(b)	(c)	(d)	(e)	(f)	(g)
1) 02990	SD-09, Reports	1.4.2				
2)	Starting and ending dates of reporting period	3.22	G	A/E		
3)						
4)	Closure report	3.22	G	A/E		
5)	Laboratory testing reports	3.22	G	A/E		
6)	Cumulative quantities of soil excavated	3.22	G	A/E		
7)						
8)	Closure Report	3.22	G	A/E		
9) 02990	SD-14, Samples	1.4.3				
10)	Verification Sampling	3.1.8	G	A/E		
11) 02990	SD-18, Records	1.4.4				
12)	Building permit, inspection permits, and other permits and notifications	3.22	G	A/E		
13)						
14)	Results of excavation	3.22	G	A/E		
15)	Rental Equipment	1.4.4	G	A/E		
16)	Contaminated soil disposal paperwork	3.22	G	A/E		
17)						
18)	Contaminated water disposal paperwork	3.22	G	A/E		
19)						

* Navy Notes:
 Approved by:
 G: Contracting Officer
 Blank: QC Manager

* NASA Notes:
 Approved by:
 Blank: Contracting Officer

* Army Notes:
 Classification:
 GA: Gov't Approval
 FIO: For Information Only

Location: _____ Contractor: _____

CONTRACTOR ACTION			APPROVING AUTHORITY ACTION				CONTR	REMARKS
ACT. CODE	DATE OF ACTION	DATE FWD TO APPR AUTH / DATE RECD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RECD FROM OTH REVIEWER	ACT. CODE	DATE OF ACTION	MAILED TO CONTR / RECD FROM APPR AUTH	
(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)
								1)
								2)
								3)
								4)
								5)
								6)
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								15)
								16)
								17)
								18)
								19)
								20)

ACTION CODES: NR: Not Reviewed AN: Approved as Noted
A: Approved RR: Disapproved; Revise and Resubmit
(Others may be prescribed by the Transmittal Form)

SECTION 01400

QUALITY CONTROL

PART 1 GENERAL

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 the basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- | | |
|-------------|--|
| ASTM D 3740 | 1988 Evaluation of Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction |
| ASTM E 543 | 1989 (Rev. A) Determining the Qualification of Nondestructive Testing Agencies |

1.2 SUBMITTALS

Submit the following in accordance with Section 01300, "Submittals."

1.2.1 SD-18, Records

a. QC plan G

Submit a QC plan within 30 calendar days after award of the Contract.

1.3 INFORMATION FOR THE CONTRACTING OFFICER

Deliver the following to the Contracting Officer:

- a. Combined Contractor Production Report/Contractor Quality Control Report (1 sheet): Original and 1 copy, by 10:00 AM the next working day after each day that work is performed;
- b. Testing Plan and Log, 1 copy, at the end of each month;
- c. Monthly Summary Report of Field Tests: Original and 1 copy attached to Contractor Quality Control Report at the end of each month;
- d. QC Meeting Minutes: 1 copy, within 2 calendar days of the meeting;
- e. Rework Items List: 1 copy, by the last working day of the month and;
- f. QC Certifications: As required by the paragraph entitled "QC Certifications".

1.4 QC PROGRAM REQUIREMENTS

Establish and maintain a QC program as described in this section. The QC program consists of a QC Organization, a QC Plan, a QC Plan meeting, a Coordination and Mutual Understanding Meeting, QC meetings, three phases of control, submittal review and approval except those designated for Contracting Officer approval, testing, and QC certifications and documentation necessary to provide materials, equipment, workmanship, fabrication, construction and operations which comply with the requirements of this Contract. The QC program shall cover construction operations on-site and off-site and shall be keyed to the proposed construction sequence.

1.5 QC ORGANIZATION

1.5.1 QC Manager

1.5.1.1 Duties

Provide a QC Manager at the work site to manage and implement the QC program. The QC Manager is required to attend the QC Plan meeting, attend the Coordination and Mutual Understanding Meeting, conduct the QC meetings, perform the three phases of control, perform submittal review and approval except those designated for Contracting Officer approval, ensure testing is performed and prepare QC certifications and documentation required in this Contract. In addition to managing and implementing the QC program, the QC Manager may perform the duties of project superintendent. No work or testing may be performed unless the QC Manager is on the work site.

1.5.1.2 Qualifications

A graduate of a four year accredited college program in one of the following disciplines: Engineering, Architecture, Construction Management, Engineering Technology, Building Construction or Building Science with a minimum of 10 years experience as a superintendent, inspector, QC Manager, project manager, or construction manager on similar size and type construction contracts which included the major trades that are part of this Contract.

1.5.2 Alternate QC Manager Duties and Qualifications

Designate an alternate for the QC Manager at the work site to serve in the event of the designated QC Manager's absence. The period of absence may not exceed two weeks at one time, and not more than 30 workdays during a calendar year. The qualification requirements for the Alternate QC Manager shall be the same as for the QC manager.

1.6 QC PLAN

1.6.1 Requirements

Provide for approval by the Contracting Officer, a QC plan that covers, both on-site and off-site work and includes, the following:

Closure of Demil Furnace, Naval Weapons Station, Earle, New Jersey 04930403

- a. A chart showing the QC organizational structure and its relationship to the production side of the organization.
- b. Names and qualifications, in resume format, for each person in the QC organization.
- c. Duties, responsibilities and authorities of each person in the QC organization.
- d. A listing of outside organizations such as, architectural and consulting engineering firms that will be employed by the Contractor and a description of the services these firms will provide.
- e. A letter signed by an officer of the firm appointing the QC Manager and stating that he/she is responsible for managing and implementing the QC program as described in this contract. Include in this letter the QC Manager's authority to direct the removal and replacement of non-conforming work.
- f. Procedures for reviewing, approving and managing submittals. Provide the names of the persons in the QC organization authorized to review and certify submittals prior to approval.
- g. Testing laboratory information required by the paragraphs entitled "Accredited Laboratories" or "Testing Laboratory Requirements", as applicable.
- h. A Testing Plan and Log that includes the tests required, referenced by the specification paragraph number requiring the test, the frequency, and the person responsible for each test.
- i. Procedures to identify, record, track and complete rework items.
- j. Documentation procedures, including proposed report formats.
- k. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks and requires separate control requirements. As a minimum, if approved by the Contracting Officer, consider each division of the specifications as a definable feature of work. However, at times, there may be more than one definable feature of work in each division of the specifications.

1.6.2 Preliminary Work Authorized Prior to Approval

The only work that is authorized to proceed prior to the approval of the QC plan is mobilization of storage and office trailers and surveying.

1.6.3 Approval

Approval of the QC plan is required prior to the start of construction. The Contracting Officer reserves the right to require changes in the QC plan and operations as necessary to ensure the specified quality of work. The Contracting Officer reserves the right to interview any member of the

QC organization at any time in order to verify his/her submitted qualifications.

1.6.4 Notification of Changes

Notify the Contracting Officer, in writing, of any proposed change, including changes in the QC organization personnel, a minimum of seven calendar days prior to a proposed change. Proposed changes must be approved by the Contracting Officer.

1.7 QC PLAN MEETING

Prior to submission of the QC plan, meet with the Contracting Officer to discuss the QC plan requirements of this Contract. The purpose of this meeting is to develop a mutual understanding of the QC plan requirements prior to plan development and submission.

1.8 COORDINATION AND MUTUAL UNDERSTANDING MEETING

After submission of the QC Plan, but prior to the start of construction, meet with the Contracting Officer to discuss the QC program required by this Contract. The purpose of this meeting is to develop a mutual understanding of the QC details, including forms to be used for documentation, administration for on-site and off-site work, and the coordination of the Contractor's management, production and QC personnel with the Contracting Officer. As a minimum, the Contractor's personnel required to attend shall include the project manager, project superintendent and QC Manager. Minutes of the meeting shall be prepared by the QC Manager and signed by both the Contractor and the Contracting Officer.

1.9 QC MEETINGS

After the start of construction, the QC Manager shall conduct QC meetings weekly at the work site with the project superintendent. The QC Manager shall prepare the minutes of the meeting and provide a copy to the Contracting Officer within 2 working days after the meeting. The Contracting Officer may attend these meetings. The QC Manager shall notify the Contracting Officer at least 48 hours in advance of each meeting. As a minimum, the following shall be accomplished at each meeting:

- a. Review the minutes of the previous meeting;
- b. Review the schedule and the status of work:
 - Work or testing accomplished since last meeting
 - Rework items identified since last meeting
 - Rework items completed since last meeting;
- c. Review the status of submittals:
 - Submittals reviewed and approved since last meeting
 - Submittals required in the near future;
- d. Review the work to be accomplished in the next 2 weeks and

documentation required. Schedule the three phases of control and testing:

- Establish completion dates for rework items
- Preparatory phases required
- Initial phases required
- Follow-up phases required
- Testing required
- Status of off-site work or testing
- Documentation required;

e. Resolve QC and production problems; and

f. Address items that may require revising the QC plan:

- Changes in QC organization personnel
- Changes in procedures.

1.10 THREE PHASES OF CONTROL

The QC Manager shall perform the three phases of control to ensure that work complies with Contract requirements. The Three Phases of Control shall adequately cover both on-site and off-site work and shall include the following for each definable features of work: A definable feature of work is a task which is separate and distinct from other tasks and requires separate control requirements.

1.10.1 Preparatory Phase

Notify the Contracting Officer at least 2 work days in advance of each preparatory phase. Conduct the preparatory phase with the superintendent, and the foreman responsible for the definable feature. Document the results of the preparatory phase actions in the daily Contractor Quality Control Report. Perform the following prior to beginning work on each definable feature of work:

- a. Review each paragraph of the applicable specification sections;
- b. Review the Contract drawings;
- c. Verify that appropriate shop drawings and submittals for materials and equipment have been submitted and approved. Verify receipt of approved factory test results, when required;
- d. Review the testing plan and ensure that provisions have been made to provide the required QC testing;
- e. Examine the work area to ensure that the required preliminary work has been completed;
- f. Examine the required materials, equipment and sample work to ensure that they are on hand and conform to the approved shop drawings and submitted data;
- g. Review the safety plan and appropriate activity hazard analysis to

ensure that applicable safety requirements are met, and that required Material Safety Data Sheets (MSDS) are submitted; and

- h. Discuss construction methods;

1.10.2 Initial Phase

Notify the Contracting Officer at least 2 work days in advance of each initial phase. When construction crews are ready to start work on a definable feature of work, conduct the initial phase with, the superintendent, and the foreman responsible for that definable feature of work. Observe the initial segment of the definable feature of work to ensure that the work complies with Contract requirements. Document the results of the initial phase in the daily Contractor Quality Control Report. Repeat the initial phase for each new crew to work on-site, or when acceptable levels of specified quality are not being met. Perform the following for each definable feature of work:

- a. Establish the quality of workmanship required;
- b. Resolve conflicts;
- c. Review the Safety Plan and the appropriate activity hazard analysis to ensure that applicable safety requirements are met; and
- d. Ensure that testing is performed by the approved laboratory.

1.10.3 Follow-Up Phase

Perform the following for on-going work daily, or more frequently as necessary until the completion of each definable feature of work and document in the daily Contractor Quality Control Report:

- a. Ensure the work is in compliance with Contract requirements;
- b. Maintain the quality of workmanship required;
- c. Ensure that testing is performed by the approved laboratory; and
- d. Ensure that rework items are being corrected.

1.10.4 Notification of Three Phases of Control for Off-Site Work

Notify the Contracting Officer at least two weeks prior to the start of the preparatory and initial phases.

1.11 SUBMITTAL REVIEW AND APPROVAL

Procedures for submission, review and approval of submittals are described in Section 01300, "Submittals."

1.12 TESTING

Except as stated otherwise in the specification sections, perform sampling and testing required under this Contract.

1.12.1 Testing Laboratory Requirements

Provide an independent testing laboratory qualified to perform sampling and tests required by this Contract. When the proposed testing laboratory is not accredited by an acceptable accreditation program as described by the paragraph entitled "Accredited Laboratories", submit to the Contracting Officer for approval, certified statements signed by an official of the testing laboratory attesting that the proposed laboratory meets or conforms to the following requirements:

- a. Sampling and testing shall be under the technical direction of a Registered Professional Engineer (P.E) with at least 5 years of experience in construction material testing.
- b. Laboratories engaged in testing of soil and rock, as used in engineering design and construction, shall meet the requirements of ASTM D 3740.
- c. Laboratories engaged in nondestructive testing (NDT) shall meet the requirements of ASTM E 543.

1.12.2 Accredited Laboratories

Acceptable accreditation programs are the National Institute of Standards and Technology (NIST) National Voluntary Laboratory Accreditation Program (NVLAP), the American Association of State Highway and Transportation Officials (AASHTO) program and the American Association for Laboratory Accreditation (A2LA) program. Furnish to the Contracting Officer, a copy of the Certificate of Accreditation, Scope of Accreditation and latest directory of the accrediting organization for accredited laboratories. The scope of the laboratory's accreditation shall include the test methods required by the Contract.

1.12.3 Inspection of Testing Laboratories

Prior to approval of non-accredited laboratories, the proposed testing laboratory facilities and records may be subject to inspection by the Contracting Officer. Records subject to inspection include equipment inventory, equipment calibration dates and procedures, library of test procedures, audit and inspection reports by agencies conducting laboratory evaluations and certifications, testing and management personnel qualifications, test report forms, and the internal QC procedures.

1.12.4 Capability Check

The Contracting Officer retains the right to check laboratory equipment in the proposed laboratory and the laboratory technician's testing procedures, techniques, and other items pertinent to testing, for compliance with the standards set forth in this Contract.

1.12.5 Test Results

Cite applicable Contract requirements, tests or analytical procedures used. Provide actual results and include a statement that the item tested or

analyzed conforms or fails to conform to specified requirements. Conspicuously stamp the cover sheet for each report in large red letters "CONFORMS" or "DOES NOT CONFORM" to the specification requirements, whichever is applicable. Test results shall be signed by a testing laboratory representative authorized to sign certified test reports. Furnish the signed reports, certifications, and other documentation to the Contracting Officer via the QC Manager. Furnish a summary report of field tests at the end of each month. Attach a copy of the summary report to the last daily Contractor Quality Control Report of each month.

1.13 QC CERTIFICATIONS

1.13.1 Contractor Quality Control Report Certification

Each Contractor Quality Control Report shall contain the following statement: "On behalf of the Contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge, except as noted in this report".

1.13.2 Invoice Certification

Furnish a certificate to the Contracting Officer with each payment request, signed by the QC Manager, attesting that as-built drawings are current and attesting that the work for which payment is requested, including stored material, is in compliance with contract requirements.

1.13.3 Completion Certification

Upon completion of work under this Contract, the QC Manager shall furnish a certificate to the Contracting Officer attesting that "the work has been completed, inspected, tested and is in compliance with the Contract".

1.14 DOCUMENTATION

Maintain current and complete records of on-site and off-site QC program operations and activities.

1.14.1 Contractor Production Report

Reports are required for each day that work is performed and shall be attached to the Contractor Quality Control Report prepared for the same day. Account for each calendar day throughout the life of the Contract. The reporting of work shall be identified by terminology consistent with the construction schedule. Contractor Production Reports are to be prepared, signed and dated by the project superintendent and shall contain the following information:

- a. Date of report, report number, name of contractor, Contract number, title and location of Contract and superintendent present.
- b. Weather conditions in the morning and in the afternoon including maximum and minimum temperatures.

- c. A list of Contractor and subcontractor personnel on the work site, their trades, employer, work location, description of work performed and hours worked.
- d. A list of job safety actions taken and safety inspections conducted. Indicate that safety requirements have been met including the results on the following:
 - Was a job safety meeting held? (If YES attach a copy of the meeting minutes)
 - Were there any lost time accidents? (If YES attach a copy of the completed OSHA report)
 - Was trenching/scaffold/high voltage electrical/high work done? (If YES attach a statement or checklist showing inspection performed)
 - Was hazardous material/waste released into the environment? meetings held and accidents that happened.
- e. A list of equipment/material received each day that is incorporated into the job.
- f. A list of construction and plant equipment on the work site including the number of hours used, idle and down for repair.
- g. Include a "remarks" section in this report which will contain pertinent information including directions received, problems encountered during construction, work progress and delays, conflicts or errors in the drawings or specifications, field changes, safety hazards encountered, instructions given and corrective actions taken, delays encountered and a record of visitors to the work site.

1.14.2 Contractor Quality Control Report

Reports are required for each day that work is performed and for every seven consecutive calendar days of no-work and on the last day of a no-work period. Account for each calendar day throughout the life of the Contract. The reporting of work shall be identified by terminology consistent with the construction schedule. Contractor Quality Control Reports are to be prepared, signed and dated by the QC Manager and shall contain the following information:

- a. Identify the control phase and the definable feature of work.
- b. Results of the Preparatory Phase meetings held including the location of the definable feature of work and a list of personnel present at the meeting. Indicate in the report that for this definable feature of work, the drawings and specifications have been reviewed, submittals have been approved, materials comply with approved submittals, materials are stored properly, preliminary work was done correctly, the testing plan has been reviewed, and work methods and schedule have been discussed.
- c. Results of the Initial Phase meetings held including the location of the definable feature of work and a list of personnel present at the meeting. Indicate in the report that for this definable

feature of work the preliminary work was done correctly, samples have been prepared and approved, the workmanship is satisfactory, test results are acceptable, work is in compliance with the Contract, and the required testing has been performed and include a list of who performed the tests.

- d. Results of the Follow-up Phase inspections held including the location of the definable feature of work. Indicate in the report for this definable feature of work that the work complies with the Contract as approved in the Initial Phase, and that required testing has been performed and include a list of who performed the tests.
- e. Results of the three phases of control for off-site work, if applicable, including actions taken.
- f. List the rework items identified, but not corrected by close of business.
- g. List the rework items corrected from the rework items list along with the corrective action taken.
- h. Include a "remarks" section in this report which will contain pertinent information including directions received, quality control problem areas, deviations from the QC plan, construction deficiencies encountered, QC meetings held, acknowledgement that as-built drawings have been updated, corrective direction given by the QC Organization and corrective action taken by the Contractor.
- i. Contractor Quality Control Report certification.

1.14.3 Testing Plan and Log

As tests are performed, the QC Manager shall record on the "Testing Plan and Log" the date the test was conducted, the date the test results were forwarded to the Contracting Officer, remarks and acknowledgement that an accredited or Contracting Officer approved testing laboratory was used. Attach a copy of the updated "Testing Plan and Log" to the last daily Contractor Quality Control Report of each month.

1.14.4 Rework Items List

The QC Manager shall maintain a list of work that does not comply with the Contract, identifying what items need to be reworked, the date the item was originally discovered, and the date the item was corrected. There is no requirement to report a rework item that is corrected the same day it is discovered. Attach a copy of the "Contractor Rework Items List" to the last daily Contractor Quality Control Report of each month. The Contractor shall be responsible for including on this list items needing rework including those identified by the Contracting Officer.

1.14.5 As-Built Drawings

The QC Manager is required to review the as-built drawings required by Section 01010, "General Paragraphs", to ensure that as-built drawings

are kept current on a daily basis and marked to show deviations which have been made from the Contract drawings. The QC Manager shall initial each deviation and each revision. Upon completion of work, the QC Manager shall furnish a certificate attesting to the accuracy of the as-built drawings prior to submission to the Contracting Officer.

1.14.6 Report Forms

The following forms, which are attached at the end of this section, are acceptable for providing the information required by the paragraph entitled "Documentation". While use of these specific formats are not required, any other format used shall contain the same information:

- a. Combined Contractor Production Report and Contractor Quality Control Report (1 sheet), with separate continuation sheet
- b. Testing Plan and Log
- c. Rework Items List

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section --

CONTRACTOR QUALITY CONTROL REPORT

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE _____

BASE

Y - YES; N - NO; SEE REMARKS;
BLANK - NOT APPLICABLE

IDENTIFY DEFINABLE FEATURE OF WORK, LOCATION AND LIST PERSONNEL PRESENT

PREPARATORY

	THE PLANS AND SPECS HAVE BEEN REVIEWED	
	THE SUBMITTALS HAVE BEEN APPROVED	
	MATERIALS COMPLY WITH APPROVED SUBMITTALS	
	MATERIALS ARE STORED PROPERLY	
	PRELIMINARY WORK WAS DONE CORRECTLY	
	TESTING PLAN HAS BEEN REVIEWED	
	WORK METHOD AND SCHEDULE DISCUSSED	

INITIAL

	PRELIMINARY WORK WAS DONE CORRECTLY	
	SAMPLE HAS BEEN PREPARED/APPROVED	
	WORKMANSHIP IS SATISFACTORY	
	TEST RESULTS ARE ACCEPTABLE	
	WORK IS IN COMPLIANCE WITH THE CONTRACT	

TESTING PERFORMED & WHO PERFORMED TEST

FOLLOW-UP

	WORK COMPLIES WITH CONTRACT AS APPROVED IN INITIAL PHASE	
--	--	--

TESTING PERFORMED & WHO PERFORMED TEST

REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)

REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)

REMARKS

On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

AUTHORIZED QC MANAGER AT SITE

DATE

GOVERNMENT QUALITY ASSURANCE REPORT

DATE _____

QUALITY ASSURANCE REPRESENTATIVE'S REMARKS AND/OR EXCEPTIONS TO THE REPORT

GOVERNMENT QUALITY CONTROL MANAGER

DATE

CONTRACTOR QUALITY CONTROL REPORT CONTINUATION SHEET

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

DATE

CONTRACT NO.

REPORT NO.

PHASE Y - YES; N - NO; SEE REMARKS;
BLANK - NOT APPLICABLE

IDENTIFY DEFINABLE FEATURE OF WORK, LOCATION AND LIST PERSONNEL PRESENT

WORK COMPLIES WITH
CONTRACT AS APPROVED
IN INITIAL PHASE.

TESTING PERFORMED &
WHO PERFORMED TEST

FOLLOW-UP

REWORK ITEMS LIST

Contract No. and Title: _____

Contractor: _____

NUMBER	DATE IDENTIFIED	DESCRIPTION	CONTRACT REQUIREMENT (Spec. Section and Par. No., Drawing No. and Detail No., etc.)	ACTION TAKEN BY QC MANAGER	RESOLUTION	DATE COMPLETED

SECTION 01560

ENVIRONMENTAL PROTECTION

PART 1 GENERAL

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 the basic designation only.

CODE OF FEDERAL REGULATIONS (CFR)

40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Generator Standards
40 CFR 263	Transporter Standards
40 CFR 264	Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
49 CFR 178	Shipping Container Specification

1.2 CONTAMINATED MATERIAL

Remove, handle, and dispose of contaminated material in accordance with Section 02990, "Excavation, Handling and Disposal of Contaminated Materials."

1.3 DEFINITIONS

1.3.1 Sediment

Soil and other debris that have eroded and have been transported by runoff water or wind.

1.3.2 Solid Waste

Rubbish, debris, garbage, and other discarded solid materials, except hazardous waste as defined in paragraph entitled "Hazardous Waste," resulting from industrial, commercial, and agricultural operations and from community activities.

1.3.3 Rubbish

Combustible and noncombustible wastes such as paper, boxes, glass, crockery, metal, lumber, cans, and bones.

1.3.4 Debris

Combustible and noncombustible wastes such as ashes and waste materials resulting from construction or maintenance and repair work, leaves, and tree trimmings.

1.3.5 Chemical Wastes

This includes salts, acids, alkalies, herbicides, pesticides, organic chemicals, and spent products which serve no purpose.

1.3.6 Sanitary Wastes

1.3.6.1 Sewage

Wastes characterized as domestic sanitary sewage.

1.3.6.2 Garbage

Refuse and scraps resulting from preparation, cooking, dispensing, and consumption of food.

1.3.7 Hazardous Waste

Hazardous substances as defined in 40 CFR 261 or as defined by applicable state and local regulations.

1.3.8 Oily Waste

Petroleum products and bituminous materials.

1.4 SUBMITTALS

Submit the following in accordance with Section 01300, "Submittals."

1.4.1 SD-18, Records

- a. Solid waste disposal permit G
- b. Disposal permit for hazardous waste G

1.4.1.1 Solid Waste Disposal Permit

Submit one copy of a state and local permit or license showing such agencies' approval of the disposal plan.

1.4.1.2 Disposal Permit for Hazardous Waste

Submit a copy of the applicable EPA and state permits or licenses for transportation, treatment, storage, and disposal of hazardous waste by permitted facilities.

1.5 ENVIRONMENTAL PROTECTION REQUIREMENTS

Provide and maintain, during the life of the contract, environmental protection as defined. Plan for and provide environmental protective measures to control pollution that develops during normal construction practice. Plan for and provide environmental protective measures required to correct conditions that develop during the construction of permanent or temporary environmental features associated with the project. Comply with Federal, state, and local regulations pertaining to the environment, including but not limited to water, air, and noise pollution.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 PROTECTION OF NATURAL RESOURCES

Preserve the natural resources within the project boundaries and outside the limits of permanent work. Restore to an equivalent or improved condition upon completion of work. Confine construction activities to within the limits of the work indicated or specified.

3.1.1 Land Resources

Except in areas to be cleared, do not remove, cut, deface, injure, or destroy trees or shrubs without the Contracting Officers permission. Do not fasten or attach ropes, cables, or guys to existing nearby trees for anchorages unless authorized by the Contracting Officer. Where such use of attach ropes, cables, or guys is authorized, the Contractor shall be responsible for any resultant damage.

3.1.1.1 Protection

Protect existing trees which are to remain and which may be injured, bruised, defaced, or otherwise damaged by construction operations. Remove displaced rocks from uncleared areas. By approved excavation, remove trees with 30 percent or more of their root systems destroyed.

3.1.1.2 Replacement

Remove trees and other landscape features scarred or damaged by equipment operations, and replace with equivalent, undamaged trees and landscape features. Obtain Contracting Officer's approval before replacement.

3.1.1.3 Temporary Construction

Remove traces of temporary construction facilities such as haul roads, work areas, structures, foundations of temporary structures, stockpiles of excess or waste materials, and other signs of construction. Grade temporary roads, parking areas, and similar temporarily used areas to conform with surrounding contours.

3.1.2 Water Resources

3.1.2.1 Oily Wastes

Prevent oily or other hazardous substances from entering the ground, drainage areas, or local bodies of water. Surround all temporary fuel oil or petroleum storage tanks with a temporary earth berm of sufficient size and strength to contain the contents of the tanks in the event of leakage or spillage.

3.1.3 Fish and Wildlife Resources

Do not disturb fish and wildlife. Do not alter water flows or otherwise significantly disturb the native habitat adjacent to the project and critical to the survival of fish and wildlife, except as indicated or specified.

3.2 HISTORICAL AND ARCHAEOLOGICAL RESOURCES

Carefully protect in-place and report immediately to the Contracting Officer historical and archaeological items or human skeletal remains discovered in the course of work. Stop work in the immediate area of the discovery until directed by the Contracting Officer to resume work.

3.3 EROSION AND SEDIMENT CONTROL MEASURES

3.3.1 Burnoff

Burnoff of the ground cover is not permitted.

3.3.2 Protection of Erodible Soils

Immediately finish the earthwork brought to a final grade, as indicated or specified. Immediately protect the side slopes and back slopes upon completion of rough grading. Plan and conduct earthwork to minimize the duration of exposure of unprotected soils.

3.3.3 Temporary Protection of Erodible Soils

Use the following methods to prevent erosion and control sedimentation:

3.3.3.1 Mechanical Retardation and Control of Runoff

Mechanically retard and control the rate of runoff from the construction site. This includes construction of diversion ditches, benches, and berms to retard and divert runoff to protected drainage courses.

3.3.3.2 Borrow

Permit only in areas where suitable environmental controls are possible.

3.3.3.3 Vegetation and Mulch

Provide temporary protection on sides and back slopes as soon as rough grading is completed or sufficient soil is exposed to require erosion protection. Protect slopes by accelerated growth of permanent vegetation, temporary vegetation, mulching, or netting. Stabilize slopes by hydroseeding, anchoring mulch in place, covering with anchored netting, sodding, or such combination of these and other methods necessary for effective erosion control.

a. Seeding: Provide new seeding where ground is disturbed. Include topsoil or nutriment during the seeding operation necessary to establish and reestablish a suitable stand of grass. The seeding operation shall be as specified in Section 02220, "General Excavation, Filling and Backfilling".

3.4 CONTROL AND DISPOSAL OF SOLID AND SANITARY WASTES

Pick up solid wastes, and place in containers which are regularly emptied. Do not prepare, cook, or dispose of food on the project site. Prevent contamination of the site of other areas when handling and disposing of wastes. On completion, leave the areas clean. Control and dispose of waste.

3.4.1 Disposal of Rubbish, Garbage, and Debris

Remove and dispose rubbish, garbage, and debris from Government property.

3.4.2 Sewage, Odor, and Pest Control

Dispose of sewage through connection to station sanitary sewage system. Where such system is not available, use chemical toilets or comparably effective units, and periodically empty wastes into station sanitary sewage system, or construct and maintain an approved type of adequate sanitary convenience for the use of persons employed on the work in accordance with the General Paragraphs titled, "SANITATION." Include provisions for pest control and elimination of odors.

3.5 CONTROL AND DISPOSAL OF HAZARDOUS WASTE

3.5.1 Hazardous Type Waste

Store hazardous waste in approved containers (49 CFR 178) properly labeled to identify the type of waste and the date the container was filled. Remove the containers from the project site, and store and dispose of hazardous waste in accordance with 40 CFR 263 and 40 CFR 264. For oil and hazardous material spills, notify the Contracting Officer immediately.

3.5.2 Petroleum Products

Conduct the fueling and lubricating of equipment and motor vehicles to protect against spills and evaporation. Dispose of lubricants to be discarded and all excess oil.

3.5.3 Lead-Acid Battery Electrolyte

Dispose of electrolyte solution from lead-acid batteries. Do not dump electrolyte onto the ground or into storm drains or sanitary sewers. Use one of the following alternatives for disposal of waste electrolyte:

- a. An industrial waste treatment plant, if available and approved by the Contracting Officer for neutralizing and disposing of battery acid electrolyte.
- b. Transport the electrolyte to a state-approved hazardous waste disposal site. The method of transportation and equipment shall comply with applicable Federal and state regulations.

3.6 DUST CONTROL

Keep dust down at all times, including during nonworking periods. Sprinkle or treat, with dust suppressants, the soil at the site, haul roads, and other areas disturbed by operations. Dry power brooming will not be permitted. Instead, use vacuuming, wet mopping, wet sweeping, or wet power brooming. Air blowing will be permitted only for cleaning nonparticulate debris such as steel reinforcing bars except as otherwise specified. Only wet cutting will be permitted for cutting concrete blocks, concrete, and bituminous concrete. Do not unnecessarily shake bags of cement, concrete mortar, or plaster.

3.7 NOISE

Make the maximum use of low-noise emission equipment. Blasting or use of explosives will not be permitted.

3.8 HAZARDOUS WASTE GENERATION

Handle generated hazardous waste in accordance with 40 CFR 262.

3.9 HAZARDOUS WASTE DISPOSAL

Dispose of hazardous waste in accordance with 40 CFR 263 and 40 CFR 264.

-- End of Section --

SECTION 02050

DEMOLITION AND REMOVAL

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

Do not begin demolition until authorization is received from the Contracting Officer. Remove rubbish and debris from the station daily; do not allow accumulations inside or outside the buildings. Store materials that cannot be removed daily in areas specified by the Contracting Officer.

1.2 SUBMITTALS

Submit the following in accordance with Section 01300, "Submittals."

1.2.1 SD-08, Statements

a. Demolition plan G

Submit proposed demolition and removal procedures to the Contracting Officer for approval before work is started.

1.2.1.1 Demolition Plan

Demolition plan shall include procedures for coordination with other work in progress, a disconnection schedule of utility services, a detailed description of methods and equipment to be used for each operation and of the sequence of operations.

1.3 REGULATORY AND SAFETY REQUIREMENTS

Comply with federal, state, and local hauling and disposal regulations.

1.4 DUST AND DEBRIS CONTROL

Prevent the spread of dust and debris to avoid the creation of a nuisance or hazard in the surrounding area. Do not use water if it results in hazardous or objectionable conditions such as, but not limited to, ice, flooding, or pollution.

1.5 PROTECTION

1.5.1 Traffic Control Signs

Where pedestrian and driver safety is endangered in the area of removal work, use traffic barricades with flashing lights. Notify the Contracting Officer prior to beginning such work.

1.5.2 Existing Work

Protect existing work which is to remain in place, be reused, or remain the property of the Government. Repair items which are to remain and which are

damaged during performance of the work to their original condition, or replace with new. Do not overload structural elements and pavements to remain. Provide new supports and reinforcement for existing construction weakened by demolition or removal work. Repairs, reinforcement, or structural replacement must have Contracting Officer approval.

1.5.3 Weather Protection

For portions of the building to remain, protect building interior and materials and equipment from the weather at all times. Where removal of existing roofing is necessary to accomplish work, have materials and workmen ready to provide adequate and temporary covering of exposed areas so as to ensure effectiveness and to prevent displacement.

1.5.4 Trees

Conform to Section 01560, "Environmental Protection," for protection of natural resources.

1.5.5 Facilities

Protect electrical and mechanical services and utilities. Where removal of existing utilities and pavement is specified or indicated, provide approved barricades, temporary covering of exposed areas, and temporary services or connections for electrical and mechanical utilities.

1.6 BURNING

Burning will not be permitted.

1.7 RELOCATIONS

Perform the removal and reinstallation of relocated items as indicated with workmen skilled in the trades involved. Repair items to be relocated which are damaged or replace damaged items with new undamaged items as approved by the Contracting Officer.

1.8 SPECIAL RESTRICTIONS

1.8.1 NOTICE REGARDING THE USE OF OZONE DEPLETING SUBSTANCES

Class I Ozone Depleting Substances as defined in Section 602(a) of The Clean Air Act as listed below shall not be used in any manner in the performance of this contract. This prohibition against the use of Class I Ozone Depleting Substances shall be considered to prevail over any other documents incorporated by reference, or any other term and condition of this contract whatsoever which might otherwise authorize or appear to authorize the use of Class I Ozone Depleting Substances in the performance of this contract. Further, this prohibition against the use of Class I Ozone Depleting Substances shall not relieve the Contractor from fulfilling its obligations under this contract and the Contractor shall not be entitled to any equitable adjustment in the contract price or time as a result of not being able to use these substances to perform the work under this contract.

Class I Ozone Depleting Substances are as follows:

chlorofluorocarbon-11 (CFC-11)
chlorofluorocarbon-12 (CFC-12)
chlorofluorocarbon-13 (CFC-13)
chlorofluorocarbon-111 (CFC-111)
chlorofluorocarbon-112 (CFC-112)
chlorofluorocarbon-113 (CFC-113)
chlorofluorocarbon-114 (CFC-114)
chlorofluorocarbon-115 (CFC-115)
chlorofluorocarbon-211 (CFC-211)
chlorofluorocarbon-212 (CFC-212)
chlorofluorocarbon-213 (CFC-213)
chlorofluorocarbon-214 (CFC-214)
chlorofluorocarbon-215 (CFC-215)
chlorofluorocarbon-216 (CFC-216)
chlorofluorocarbon-217 (CFC-217)
halon-1211
halon-1301
halon-2402
carbon tetrachloride
methyl chloroform

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 EXISTING FACILITIES TO BE REMOVED

3.1.1 Structures

Remove indicated existing structures to top of foundation walls. Remove interior walls and partitions to top of concrete slab on ground.

3.1.2 Utilities and Related Equipment

Remove existing utilities uncovered by work and terminate in a manner conforming to the nationally recognized code covering the specific utility and approved by the Contracting Officer. If utility lines are encountered that are not shown on drawings, contact the Contracting Officer for further instructions.

3.1.3 Roofing

Remove existing roof system and associated components in their entirety. The existing deck and support structure is such that ability to support foot traffic and construction loads is unknown. Make provision for worker safety during demolition as described in paragraphs entitled "Statements" and "Regulatory and Safety Requirements." Sequence the work to minimize hazard to workers.

3.1.4 Masonry

Sawcut and remove masonry so as to prevent damage to surfaces to remain.

3.1.5 Concrete

Saw concrete along straight lines to a depth of not less than 2 inches. Make each cut in walls perpendicular to the face and in alignment with the cut in the opposite face. Break out the remainder of the concrete provided that the broken area is concealed in the finished work, and the remaining concrete is sound. At locations where the broken face cannot be concealed, grind smooth or saw cut entirely through the concrete.

3.1.6 Patching

Where removals leave holes and damaged surfaces exposed in the finished work, patch and repair these holes and damaged surfaces to match adjacent finished surfaces. Finished surfaces of patched area shall be flush with the adjacent existing surface and shall match the existing adjacent surface as closely as possible as to texture and finish.

3.2 DISPOSITION OF MATERIAL

3.2.1 Title to Materials

Except where specified in other sections, all materials and equipment removed, and not reused, shall become the property of the Contractor and shall be removed from Government property. Title to materials resulting from demolition, and materials and equipment to be removed, is vested in the Contractor upon approval by the Contracting Officer of the Contractor's demolition and removal procedures, and authorization by the Contracting Officer to begin demolition. The Government will not be responsible for the condition or loss of, or damage to, such property after notice to proceed. Materials and equipment shall not be viewed by prospective purchasers or sold on the site.

3.2.2 Reuse of Materials and Equipment

Remove and store materials and equipment indicated to be reused or relocated to prevent damage, and reinstall as the work progresses.

3.2.3 Disposal of Demolished Materials

Disposal of demolished materials shall be as non-hazardous construction debris unless tests conducted by the Contractor indicate otherwise. The Contractor shall be responsible for conducting all tests required to determine disposal method. The Contractor must notify the Contracting Officer in writing within 14 days of the method of disposal. Soil laboratory analysis results around the Demil Furnace conducted by Halliburton NUS as part of the Incinerator Cleanup Plan (dated Aug 1993) and BCM's soil and groundwater analysis are included at the end of Section 02990 entitled "Excavation, Handling and Disposal of Contaminated Material" and Drawing Sheet No. 7 of the Drawings.

3.2.4 Disposal of Water, Sludge, Product, and Residue

Equipment and piping shall be inspected and emptied of any waters, sludge, product or residue. Disposal of the waters, sludge product and any other residue is assumed to be hazardous unless tests conducted by the Contractor indicate otherwise. The Contractor shall be responsible for conducting all tests required to determine disposal method. The contaminants of concern are listed in Tables 3-1, 3-2 and Tables 1 through 7 that are at the end of Section 02990.

3.3 CLEANUP

3.3.1 Debris and Rubbish

Remove and transport debris and rubbish in a manner that will prevent spillage on pavements, streets or adjacent areas. Clean up spillage from pavements, streets and adjacent areas. Conform to other applicable requirements under Section 01560, "Environmental Protection."

-- End of Section --

SECTION 02220

GENERAL EXCAVATION, FILLING, AND BACKFILLING

PART 1 GENERAL

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 the basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 136	1992 Sieve Analysis of Fine and Coarse Aggregates
ASTM D 698	1991 Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft (600 kN-m/m))
ASTM D 1140	1992 Amount of Material in Soils Finer Than the No. 200 (75-Micrometer) Sieve
ASTM D 1556	1990 Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D 1557	1991 Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft (2,700 kN-m/m))
ASTM D 2487	1992 Classification of Soils for Engineering Purposes
ASTM D 2922	1991 Density of Soil and Soil-Aggregate
ASTM D 3017	1988 Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth)
ASTM D 4318	1984 Liquid Limit, Plastic Limit, and Plasticity Index of Soils

CORPS OF ENGINEERS (COE)

COE EM-385-1-1	1992 Safety and Health Requirements Manual
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1.2 DEFINITIONS

1.2.1 Hard Materials

Weathered rock, dense consolidated deposits, or conglomerate materials which are not included in the definition of "rock" but which usually require the use of heavy excavation equipment, ripper teeth, or jack

hammers for removal.

1.2.2 Rock

Solid homogeneous interlocking crystalline material with firmly cemented, laminated, or foliated masses or conglomerate deposits, neither of which can be removed without systematic drilling and blasting, drilling and the use of expansion jacks or feather wedges, or the use of backhoe-mounted pneumatic hole punchers or rock breakers; also large boulders, buried masonry, or concrete other than pavement exceeding 1/2 cubic yard in volume. Removal of hard material will not be considered rock excavation because of intermittent drilling and blasting that is performed merely to increase production.

1.2.3 Cohesive Materials

Materials classified as GC, SC, ML, CL, MH, and CH. Materials classified as GM and SM will be identified as cohesive only when the fines have a plasticity index greater than zero.

1.2.4 Cohesionless Materials

Materials classified as GW, GP, SW, and SP. Materials classified as GM and SM will be identified as cohesionless only when the fines have a plasticity index of zero.

1.2.5 Pile Supported Structure

As used herein, a structure where both the foundation and floor slab are pile supported.

1.3 SUBMITTALS

Submit the following in accordance with Section 01300, "Submittals."

1.3.1 SD-04, Drawings

- a. Supporting system drawings G

1.3.1.1 Required Drawings

Submit drawings and calculations by a registered professional engineer. Drawings shall include material sizes and types, arrangement of members, and the sequence and method of installation and removal.

1.3.2 SD-05, Design Data

- a. Supporting system calculations G

1.3.2.1 Required Data

Submit drawings and calculations by a registered professional engineer. Calculations shall include data and references used.

1.3.3 SD-08, Statements

- a. Supporting systems work plan
- b. Dewatering work plan

Submit before starting work.

1.3.4 SD-12, Field Test Reports

- a. Fill and backfill test
- b. Density tests

1.4 DELIVERY, STORAGE, AND HANDLING

Perform in a manner to prevent contamination or segregation of materials.

1.5 CRITERIA FOR BIDDING

Base bids on the following criteria:

- a. Surface elevations are as indicated.
- b. Pipes or other artificial obstructions, except those indicated, will not be encountered.
- c. Ground water elevation is 8 feet below existing surface elevation.
- d. Blasting will not be permitted. Remove material in an approved manner.

1.6 SPECIAL RESTRICTIONS

1.6.1 NOTICE REGARDING THE USE OF OZONE DEPLETING SUBSTANCES

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Class I Ozone Depleting Substances are as follows:

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chlorofluorocarbon-111 (CFC-111)
chlorofluorocarbon-112 (CFC-112)
chlorofluorocarbon-113 (CFC-113)
chlorofluorocarbon-114 (CFC-114)
chlorofluorocarbon-115 (CFC-115)
chlorofluorocarbon-211 (CFC-211)
chlorofluorocarbon-212 (CFC-212)
chlorofluorocarbon-213 (CFC-213)
chlorofluorocarbon-214 (CFC-214)
chlorofluorocarbon-215 (CFC-215)
chlorofluorocarbon-216 (CFC-216)
chlorofluorocarbon-217 (CFC-217)
halon-1211
halon-1301
halon-2402
carbon tetrachloride
methyl chloroform

PART 2 PRODUCTS

2.1 SOIL MATERIALS

Free of debris, roots, wood, scrap material, vegetation, refuse, soft unsound particles, and frozen, deleterious, or objectionable materials. Unless specified otherwise, the maximum particle diameter shall be one-half the lift thickness at the intended location.

2.1.1 Backfill and Fill Material

ASTM D 2487, classification GW, GP, GM, GC, SW, SP, SM, SC with a maximum ASTM D 4318 liquid limit of 35, maximum ASTM D 4318 plasticity index of 12, and a maximum of 25 percent by weight passing ASTM D 1140, No. 200 sieve.

2.1.2 Topsoil

Natural, friable soil representative of productive, well-drained soils in the area, free of subsoil, stumps, rocks larger than one inch diameter, brush, weeds, toxic substances, and other material detrimental to plant growth. Amend topsoil pH range to obtain a pH of 5.5 to 7.

2.2 BORROW

Obtain borrow materials required in excess of those furnished from excavations from sources outside of Government property.

2.3 BURIED WARNING AND IDENTIFICATION TAPE

Polyethylene plastic and metallic core or metallic-faced, acid- and alkali-resistant, polyethylene plastic warning tape manufactured specifically for warning and identification of buried utility lines. Provide tape on rolls, 3-inch-minimum width, color coded as specified below for the intended utility with warning and identification imprinted in bold black letters continuously over the entire tape length. Warning and

identification to read, "CAUTION, BURIED (intended service) LINE BELOW" or similar wording. Color and printing shall be permanent, unaffected by moisture or soil.

Warning Tape Color Codes

Yellow:	Electric
Yellow:	Gas, Oil; Dangerous Materials
Orange:	Telephone and Other Communications
Blue:	Water Systems
Green:	Sewer Systems
White:	Steam Systems
Gray:	Compressed Air

2.3.1 Warning Tape for Metallic Piping

Acid and alkali-resistant polyethylene plastic tape conforming to the width, color, and printing requirements specified above. Minimum thickness of tape shall be 0.003 inch. Tape shall have a minimum strength of 1500 psi otherwise, and 1250 psi crosswise, with a maximum 350 percent elongation.

2.3.2 Detectable Warning Tape for Non-Metallic Piping

Polyethylene plastic tape conforming to the width, color, and printing requirements specified above. Minimum thickness of the tape shall be 0.004 inch. Tape shall have a minimum strength of 1500 psi lengthwise and 1250 psi crosswise. Tape shall be manufactured with integral wires, foil backing, or other means of enabling detection by a metal detector when tape is buried up to 3 feet deep. Encase metallic element of the tape in a protective jacket or provide with other means of corrosion protection.

2.4 DETECTION WIRE FOR NON-METALLIC PIPING

Detection wire shall be insulated single strand, solid copper with a minimum of 12 AWG.

PART 3 EXECUTION

3.1 SURFACE PREPARATION

3.2 PROTECTION

3.2.1 Protection Systems

Provide shoring, bracing, cribbing, underpinning, and sheeting in accordance with COE EM-385-1-1, except that banks may be sloped only when approved by the Contracting Officer. Provide additional supporting systems where indicated.

3.2.2 Site Drainage

Provide for the collection and disposal of surface and subsurface water encountered during construction. Stormwater collected in the excavations prior to verification sampling and approval for backfilling shall be considered contaminated and shall be handled, tested and disposed of as specified in Section 02990, Paragraph 3.1.5, "Excavation Methods".

3.2.2.1 Surface Drainage

So that construction operations progress successfully, completely drain construction site during periods of construction to keep soil materials sufficiently dry. Provide temporary ditches, swales, and other drainage features and equipment as required to maintain dry soils. When unsuitable working platforms for equipment operation and unsuitable soil support for subsequent construction features develop, remove unsuitable material and provide new soil material as specified herein.

3.2.2.2 Subsurface Drainage

Base on site surface and subsurface conditions, available soil, and hydrological data. Remove water by pumping or other methods to prevent softening of surfaces exposed by excavation. Use filters on dewatering devices to prevent removal of fines from soil. Provide erosion control at outlet of piping to prevent erosion. Operate dewatering system continuously until construction work below existing water levels is complete. After placement of backfill, water level may be allowed to rise, but never above one foot below the prevailing level of excavation or backfill. Submit performance records weekly. Measure and record performance of dewatering system at same time each day by use of observation wells or piezometers installed in conjunction with the dewatering system. Relieve hydrostatic head in previous zones below subgrade elevation in layered soils to prevent uplift.

3.2.3 Underground Utilities

Location of the existing utilities indicated is approximate. The Contractor shall physically verify the location and elevation of the existing utilities indicated prior to starting construction. The Contractor shall contact the Naval Weapons Station Earle, Public Works Department for assistance in locating existing utilities.

3.2.4 Machinery and Equipment

Movement of construction machinery and equipment over pipes during construction shall be at the Contractor's risk. Repair, or remove and provide new pipe for existing or newly installed pipe that has been displaced or damaged.

3.3 EXCAVATION

Excavate to contours, elevation, and dimensions indicated. Keep excavations free from water. Excavate soil disturbed or weakened by Contractor's operations, soils softened or made unsuitable for subsequent construction due to exposure to weather. Refill with backfill and fill

material and compact to 95 percent of ASTM D 698 maximum density. Unless specified otherwise, refill excavations cut below indicated depth with backfill and fill material and compact to 95 percent of ASTM D 698 maximum density.

3.4 FILLING AND BACKFILLING

Fill and backfill to contours, elevations, and dimensions indicated. Compact each lift before placing overlaying lift.

3.4.1 Backfill and Fill Material Placement

Place in 6-inch lifts.

3.4.2 Topsoil Placement

Place in 6-inch lifts.

3.5 BURIED WARNING AND IDENTIFICATION TAPE

Provide buried utility lines with utility identification tape. Bury tape 12 inches below finished grade; under pavements and slabs, bury tape 6 inches below top of subgrade.

3.6 BURIED DETECTION WIRE

Bury detection wire directly above non-metallic piping at a distance not to exceed 12 inches above the top of pipe. The wire shall extend continuously and unbroken, from manhole to manhole. The ends of the wire shall terminate inside the manholes at each end of the pipe, with a minimum of 3 feet of wire, coiled, remaining accessible in each manhole. The wire shall remain insulated over its entire length. The wire shall enter manholes between the top of the corbel and the frame, and extend up through the chimney seal between the frame and the chimney seal. For force mains, the wire shall terminate in the valve pit at the pump station end of the pipe.

3.7 COMPACTION

Expressed as a percentage of maximum density. Determine in-place density of existing subgrade; if required density exists, no compaction of existing subgrade will be required. Density requirements specified herein are for cohesionless materials. When cohesive materials are encountered or used, density requirements may be reduced by 5 percent.

3.7.1 General Site

Compact underneath areas designated for vegetation to 85 percent of ASTM D 698.

3.8 FINISH OPERATIONS

3.8.1 Grading

Finish grades as indicated within one-tenth of one foot. Grade areas to drain water away from structures. For existing grades that will remain but which were disturbed by Contractor's operations, grade as directed.

3.8.2 Seed

Scarify existing subgrade. Provide 6 inches of topsoil for newly graded finish earth surfaces and areas disturbed by the Contractor. Seed shall be as specified in the Drawing entitled "Soil Erosion and Sedimentation Control Notes", Sheet 5 or 7.

3.8.3 Protection of Surfaces

Protect newly graded areas from traffic, erosion, and settlements that may occur. Repair or reestablish damaged grades, elevations, or slopes.

3.9 DISPOSITION OF SURPLUS MATERIAL

Remove from Government property surplus or other soil material not required or suitable for filling or backfilling, and brush, refuse, stumps, roots, and timber.

3.10 FIELD QUALITY CONTROL

3.10.1 Sampling

Take the number and size of samples required to perform the following tests.

3.10.2 Testing

Perform one of each of the following tests for each material used. Provide additional tests for each source change.

3.10.2.1 Fill and Backfill Material Testing

Test fill and backfill material in accordance with ASTM C 136 for conformance to ASTM D 2487 gradation limits; ASTM D 1140 for material finer than the No. 200 sieve; ASTM D 4318 for liquid limit and for plastic limit; ASTM D 698 or ASTM D 1557 for moisture density relations, as applicable.

3.10.2.2 Density Tests

Test density in accordance with ASTM D 1556, or ASTM D 2922 and ASTM D 3017. When ASTM D 2922 and ASTM D 3017 density tests are used, verify density test results by performing an ASTM D 1556 density test at a location already ASTM D 2922 and ASTM D 3017 tested as specified herein. Perform an ASTM D 1556 density test at the start of the job, and for every 10 ASTM D 2922 and ASTM D 3017 density tests thereafter. Test each lift at randomly selected locations every 2000 square feet of existing grade in fills for structures and concrete slabs, and every 2500 square feet for other fill areas and

Closure of Demil Furnace, Naval Weapons Station, Earle, New Jersey 04930403

every 2000 square feet of subgrade in cut.

-- End of Section --

SECTION 02990

EXCAVATION, HANDLING AND DISPOSAL OF CONTAMINATED MATERIAL

PART 1 GENERAL

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 the basic designation only.

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND ENERGY
(NJDEPE)

N.J.A.C 7:26E	Technical Requirements for Site Remediation
N.J.A.C. 7:26 - 9.8	General Closure Requirements

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1910.120	Hazardous Waste Operations and Emergency Response
40 CFR 262	Generator Standards
40 CFR 263	Transporter Standards
29 CFR 1910.1200	Hazard Communication Standard

CORPS OF ENGINEERS (COE)

COE EM-385-1-1	1992 Safety and Health Requirements Manual
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ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA SW-846	1986 Evaluating Solid Waste
EPA 600-4-79-20	1976 Contaminant Monitoring
EPA 540/2-85/003	Dust Control at Hazardous Waste Sites (dated November 1985)

1.2 SCOPE OF WORK

This specification covers the Contractor's requirements for management of the materials, equipment, and personnel associated with the excavation,

handling, and disposal of contaminated materials. All activities conducted under this section shall be in strict accordance with the paragraph Site Safety and Health Plan of this section, as well as with other appropriate specification sections and the Contract Drawings.

1.2.1 Materials to be Encountered

Contaminants of concern with their maximum concentrations and the NJDEPE Residential Soil Cleanup Standards (Cleanup Standards) are in Table 1 at the end of this section.

1.3 DEFINITIONS

1.3.1 Contaminated Materials Staging/Stockpile Area

A secure area within the limits of the Exclusion Zone used for storage of contaminated materials prior to removal of same from the project site.

1.3.2 Staging/Stockpile Area

The area of the site in which the Contractor stockpiles or stages materials.

1.3.3 Contaminated Materials

For purposes of this specification contaminated materials shall include groundwater and contaminated soil. Contaminated material shall also include any unexpected hazardous materials encountered during excavation.

1.3.4 Hazardous Waste Manifest

A legal document used to track the generation, transport, and disposal of RCRA-hazardous waste materials in accordance with regulations specified in 40 CFR 262 and 40 CFR 263. The Hazardous waste manifest to be used shall be the Uniform Hazardous Waste manifest (EPA Form 8700-22, Rev. 9-88) or a New Jersey Department of Environmental Protection and Energy (NJDEPE) approved State hazardous waste manifest.

1.3.5 NJDEPE

New Jersey Department of Environmental Protection and Energy

1.4 SUBMITTALS

Submit the following in accordance with Section 01300, "Submittals."

1.4.1 SD-08, Statements

- a. Site safety and health plan G
- b. Work Plan G
- c. Work Plan Requirements G
- d. Field sampling and laboratory testing plan G

e. Qualification G

f. Spill and discharge control plan G

1.4.1.1 Site Safety and Health Plan (SSHP)

Describe safety and health plan and procedures as related to soil excavation, removal and disposal; and as related to operations associated with contaminated soils and water; and as related to building and equipment demolition and disposal. Furnish the name and qualifications based on education, training, and work experience of the proposed Site Safety and Health Officer. The SSHP shall incorporate the requirements of 29 CFR 1910 and COE EM-385-1-1. Site work shall not start until the SSHP is approved by the Contracting Officer.

1.4.1.2 Work Plan

Describe methods, means, equipment, sequence of operations and schedule to be employed in demolition of buildings and equipment, soil excavation, transport, disposal, handling, and stockpiling or staging of soil during removal. Fifteen days before work, submit to the Contracting Officer for approval a material handling plan that describes phases of dealing with the contaminated soil and water including methods of excavating, a material handling plan for the contaminated material, soil testing requirements, safety precautions and requirements, and water pumping and collection requirements. G

1.4.1.3 Work Plan Requirements,

The Work Plan Requirements shall address at a minimum:

- a. Methods proposed for contaminated soil excavation
- b. Methods for proposed removal, loading, and handling of excavated materials
- c. Storage provisions for excavated materials
- d. Security provisions for excavated materials storage
- e. Waste identification methods (e.g., labeling, marking containers)
- f. Methods for disposal of groundwater encountered during excavation and dewatering operations, as necessary.
- g. Location of waste staging and storage areas
- h. Provisions for minimizing off-site contamination associated with temporary storage of contaminated materials on-site
- i. Methods proposed for decontamination of equipment and vehicles
- j. Location and construction of decontamination pad and facilities

- k. Provisions for breaking of construction rubble and debris
- l. Manifesting procedures
- m. Special Safety Precautions

The Work Plan shall be developed in strict adherence with other Contractor-generated plans and with all relevant and appropriate Federal, state, and local regulations associated with contaminated materials handling and disposal.

1.4.1.4 Field Sampling and Laboratory Testing Plan

Describe field sampling methods and quality control procedures. Identify laboratory and laboratory methods to be used for contamination testing. Sample reports shall show sample identification for location, date, time, sample method, contamination level, name of individual sampler, identification of laboratory, and quality control procedures.

1.4.2 SD-09, Reports

- a. Starting and ending dates of reporting period G
- b. Closure report. Incorporate reports, records, and data into a single binder with the title "SITE ASSESSMENT REPORT" on the cover of the binder G
- c. Laboratory testing reports, including location of soil excavated and associated TCLP (toxicity characteristic leaching procedure) sampling and test results. G
- d. Cumulative quantities of soil excavated G
- e. Closure Report G

1.4.3 SD-14, Samples

- a. Verification Sampling G

1.4.4 SD-18, Records

- a. Building permit, inspection permits, and other permits and notifications required. G
- b. Results of excavation including sketch showing sampling locations, and extent of excavations G
- c. Rental Equipment, providing copies of the written notification to all rental companies concerning the intended use of rental equipment and the possibility of contamination of the equipment. G
- d. Contaminated soil disposal paperwork, such as laboratory testing reports G

- e. Contaminated water disposal paperwork, such as laboratory testing results G

1.5 TITLE TO MATERIALS

All materials resulting from excavation and demolition work, except as specified otherwise, shall become the property of the Contractor and shall be disposed of as specified in applicable local, state, and Federal regulations.

1.6 DUST CONTROL

1.6.1 Dust Control at Hazardous Sites

Provisions shall be taken during all construction activities. Dust control shall be in accordance with EPA 540/2-85/003 - "Dust Control at Hazardous Sites", dated November 1985.

1.6.2 Dust Protection

Review of the Incinerator Cleanup Plan, Halliburton NUS (August 1993), provided by Northern Division, NAVFACENCOM, shows that exposure to dust generated from the site will potentially cause risk to on-site workers. Dermal and respiratory protection shall be worn during all soil moving and dust generating activities. The minimum air monitoring equipment to be used and their frequency of use is as follows:

- a. Air Monitoring Equipment

- PDM-3 Personal aerosol monitor (continuous monitoring)
 - Personal pumps with filters to be sent to a laboratory for metal scan analysis (daily)

- b. Action Level for Air Monitoring Instruments

- The action level shall be 0.12 mg/m³ for air (total dust) monitoring instruments. The permissible exposure limits for the TAL metals are outlined in 29 CFR 1910.1200.

1.7 AREAS OF CONTAMINATION

Assume for bidding purposes that soil, bituminous pavement, concrete slabs, and water encountered during the excavation are contaminated with the contaminants shown in Tables 1 through 7, 3-1 and 3-2 of this section and Sheet 7 of the Drawings and shall be handled as specified herein. Bituminous pavement and concrete slabs shall be washed and disposed of as demolition debris. Wash water shall be collected and stored.

1.8 QUALIFICATION (CONTRACTOR EXPERIENCE)

Prior to start of work, submit data for approval showing that the Contractor, subcontractors, and personnel employed on the project have been engaged in removal, transportation, and disposal of contaminated soil; demolition of buildings and structural equipment and are familiar with and shall abide with the following:

- a. State and local regulations and procedures.
- b. Applicable safety rules and regulations.
- c. Excavation, testing, and disposal of contaminated soils and liquids.

In addition, furnish data proving experience on at least three prior projects which included types of activities similar to those in this project. Provide project titles, dates of projects, owners of projects, point of contact for each project, and phone numbers of each point of contact.

1.9 COMPLIANCE

Comply with applicable local, State, and Federal regulations and procedures.

1.10 SPECIAL RESTRICTIONS

1.10.1 NOTICE REGARDING THE USE OF OZONE DEPLETING SUBSTANCES

Class I Ozone Depleting Substances as defined in Section 602(a) of The Clean Air Act as listed below shall not be used in any manner in the performance of this contract. This prohibition against the use of Class I Ozone Depleting Substances shall be considered to prevail over any other documents incorporated by reference, or any other term and condition of this contract whatsoever which might otherwise authorize or appear to authorize the use of Class I Ozone Depleting Substances in the performance of this contract. Further, this prohibition against the use of Class I Ozone Depleting Substances shall not relieve the Contractor from fulfilling its obligations under this contract and the Contractor shall not be entitled to any equitable adjustment in the contract price or time as a result of not being able to use these substances to perform the work under this contract.

Class I Ozone Depleting Substances are as follows:

chlorofluorocarbon-11 (CFC-11)
chlorofluorocarbon-12 (CFC-12)
chlorofluorocarbon-13 (CFC-13)
chlorofluorocarbon-111 (CFC-111)
chlorofluorocarbon-112 (CFC-112)
chlorofluorocarbon-113 (CFC-113)
chlorofluorocarbon-114 (CFC-114)
chlorofluorocarbon-115 (CFC-115)
chlorofluorocarbon-211 (CFC-211)
chlorofluorocarbon-212 (CFC-212)
chlorofluorocarbon-213 (CFC-213)
chlorofluorocarbon-214 (CFC-214)
chlorofluorocarbon-215 (CFC-215)
chlorofluorocarbon-216 (CFC-216)
chlorofluorocarbon-217 (CFC-217)
halon-1211

halon-1301
halon-2402
carbon tetrachloride
methyl chloroform

PART 2 PRODUCTS

2.1 EQUIPMENT

2.1.1 Respirators

Select respirators from those approved by the Mine Safety and Health Administration (MSHA) Department of Labor, or the National Institute for Occupational Safety and Health (NIOSH), Department of Health and Human Services.

2.1.2 Tools

Remove all residual dust and dirt from reusable tools prior to storage or reuse.

PART 3 EXECUTION

3.1 EXCAVATION AND HANDLING PROCEDURES

3.1.1 General Requirements

No on-site construction activities within the Exclusion Zone shall be permitted to start until the Contractor has received approval from the Contracting Officer on the Site Safety and Health Plan. Take all necessary precautions, to adequately protect personnel and public and private property in the areas of work. Eating, smoking, or drinking shall not be permitted in the Exclusion and Contamination Reduction Zones as defined in 29 CFR 1910.120. Site work zones shall be clearly marked. If a contaminated material spill occurs outside of the Exclusion Zone, stop work immediately, notify the Contracting Officer immediately, and correct the condition prior to resumption of work.

3.1.2 TEMPORARY CONTAINMENT OF EXCAVATED SOIL

Provide temporary containment area near the excavated area as required prior to loading into roll-off containers. Cover containment area with 30 mil polyethylene sheeting. Place excavated soil on the impervious barrier and cover with 6 mil polyethylene sheeting. Provide straw bale berm around the outer limits of the containment area and cover with polyethylene sheets. Secure edges of sheets to keep the polyethylene sheeting in place.

3.1.3 EXCAVATION

Provide Contracting Officer with written documentation, no later than 30 days before work begins, that proper State or local authorities have been notified. Notify the Contracting Officer at least 48 hours prior to start of work. Provide protection measures around the excavation area to prevent

water runoff and to contain the soil within the excavation area.

3.1.4 Excavation Procedures

Excavate as required. Place soil removed from the excavation in a temporary containment area as necessary or load directly into roll-off containers. Collect and temporarily store water runoff from stockpiled soils.

3.1.5 Excavation Methods

Select methods and equipment to remove soil to minimize disturbance to areas beyond the limits of the excavation area. Material that becomes contaminated as a result of the Contractor's operations shall be removed and disposed of at no additional cost to the Government. Where excavation extends into groundwater levels, dewatering methods shall be employed on a localized basis to facilitate excavation operations. Water generated by dewatering during excavation, surface water and storm water collected in open excavation, or water used for washing equipment or existing concrete or bituminous surfaces, shall be collected and tested in accordance with EPA SW-846 and EPA 600-4-79-20 and state or locally required analyses. Water that contains contaminants above locally acceptable levels shall be disposed of in accordance with Federal, State, and local regulations. Non-contaminated water may be disposed of on-site upon receiving approval from the Contracting Officer. The TAL metals that exceeded the groundwater quality standard - Class IIA, are listed in Table 5 and summarized on Table 7 at the end of this section.

3.1.6 Structures

During excavation activities, if asphalt pavement, concrete slabs, or other structures are encountered, remove and wash with high pressure water cleaning equipment. Remove and dispose of the pavement, concrete, and other structures as specified in Section 02050, "Demolition and Removal."

3.1.7 Inspections

Arrange for and perform required inspections. Provide copies of inspections to Contracting Officer.

3.1.8 Verification Sampling

3.1.8.1 Soil Collection

After the areas of soil contamination have been excavated and stockpiled, verification sampling shall be conducted to determine compliance with the NJDEPE Residential Soil Cleanup Criteria (Residential Cleanup Criteria). Soil samples would be collected to a depth of 6 inches from the sides and bottoms of the excavated areas and analyzed for the TAL metals that exceeded the Residential Cleanup Criteria as shown in Table 6 at the end of this section.

halon-1301
halon-2402
carbon tetrachloride
methyl chloroform

PART 2 PRODUCTS

2.1 EQUIPMENT

2.1.1 Respirators

Select respirators from those approved by the Mine Safety and Health Administration (MSHA) Department of Labor, or the National Institute for Occupational Safety and Health (NIOSH), Department of Health and Human Services.

2.1.2 Tools

Remove all residual dust and dirt from reusable tools prior to storage or reuse.

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Provide temporary containment area near the excavated area as required prior to loading into roll-off containers. Cover containment area with 30 mil polyethylene sheeting. Place excavated soil on the impervious barrier and cover with 6 mil polyethylene sheeting. Provide straw bale berm around the outer limits of the containment area and cover with polyethylene sheets. Secure edges of sheets to keep the polyethylene sheeting in place.

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Excavate as required. Place soil removed from the excavation in a temporary containment area as necessary or load directly into roll-off containers. Collect and temporarily store water runoff from stockpiled soils.

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Select methods and equipment to remove soil to minimize disturbance to areas beyond the limits of the excavation area. Material that becomes contaminated as a result of the Contractor's operations shall be removed and disposed of at no additional cost to the Government. Where excavation extends into groundwater levels, dewatering methods shall be employed on a localized basis to facilitate excavation operations. Water generated by dewatering during excavation, surface water and storm water collected in open excavation, or water used for washing equipment or existing concrete or bituminous surfaces, shall be collected and tested in accordance with EPA SW-846 and EPA 600-4-79-20 and state or locally required analyses. Water that contains contaminants above locally acceptable levels shall be disposed of in accordance with Federal, State, and local regulations. Non-contaminated water may be disposed of on-site upon receiving approval from the Contracting Officer. The TAL metals that exceeded the groundwater quality standard - Class IIA, are listed in Table 5 and summarized on Table 7 at the end of this section.

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Arrange for and perform required inspections. Provide copies of inspections to Contracting Officer.

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3.1.8.1 Soil Collection

After the areas of soil contamination have been excavated and stockpiled, verification sampling shall be conducted to determine compliance with the NJDEPE Residential Soil Cleanup Criteria (Residential Cleanup Criteria). Soil samples would be collected to a depth of 6 inches from the sides and bottoms of the excavated areas and analyzed for the TAL metals that exceeded the Residential Cleanup Criteria as shown in Table 6 at the end of this section.

3.1.8.2 Sampling Requirements and Frequency

NJDEPE Technical Requirements for Site Remediation (N.J.A.C. 7:26E-6.4), N.J.A.C. 7:26E contain sampling requirements to document the effectiveness of a remedial action. For excavations 20 to 300 feet in perimeter, one sample from each sidewall for every 30 linear feet of sidewall and one sample from the excavation bottom for every 900 square feet of bottom area is the minimum post-remediation sampling frequency.

3.2 SITE SAFETY AND HEALTH OFFICER

Identify an individual to serve as the Site Safety and Health Officer (SSHO). The SSHO shall report problems and concerns regarding health and safety to the Contracting Officer. The SSHO shall have a working knowledge of local and Federal occupational safety and health regulations, and shall provide training to Contractor employees in air monitoring practices and techniques. The SSHO shall also provide day to day industrial hygiene support, including air monitoring, training, and daily site safety inspections. The SSHO shall be trained in the use of the monitoring and sampling equipment, interpretation of data required to implement the SSHP, and to administer the elements of the SSHP. The SSHO shall remain on site during project operations and may be assigned other duties, such as project foreman or quality control manager.

3.3 SPILL AND DISCHARGE CONTROL PLAN

Develop, implement, and maintain a comprehensive spill and discharge control plan. The plan shall provide contingency measures for potential spills and discharges from handling and transportation of contaminated soils and water.

3.4 EXCLUSION ZONE (EZ) AND CONTAMINATION REDUCTION ZONE (CRZ)

Do not permit personnel not directly involved with the project to enter work zones, called the EZ and CRZ. The Contractor shall locate and delineate the EZ work zones. At the perimeter of the EZ, establish a CRZ. Limits of the CRZ shall be established by the Contractor. Within the CRZ, equipment and personnel shall be cleaned as stated in the paragraph entitled "Decontamination of Personnel and Equipment". The Contractor's site office, parking area, and other support facilities shall be located outside the EZ and CRZ. Boundaries of the EZ and CRZ shall be clearly marked and posted. Include a site map, outlining the extent of work zones and location of support facilities, in the SSHP.

3.5 TRAINING

Provide health and safety training in accordance with 29 CFR 1910 prior to starting work. Furnish copies of current training certification statements for personnel prior to initial entry into the work site.

3.5.1 On-Site Training

Prior to starting on-site work, a health and safety training class shall be held by the SSHO to discuss the implementation of the SSHP. Notify the Contracting Officer 24 hours prior to beginning the training class.

3.5.2 Training Outline

Provide the following:

- a. Health and safety organization, including discussion of distribution of functions and responsibilities
- b. Organization and components of the SSHP
- c. Physical and chemical site hazard identification
- d. Basic toxicology and toxicity information
- e. Discussion of the EZ and CRZ
- f. Protective clothing
- g. Respiratory protection
- h. Air quality monitoring
- i. Personnel exposure guidelines
- j. Decontamination procedures
- k. Basic first aid review
- l. Emergency procedures and contingency plan
- m. Site entry and exit procedures
- n. Sampling procedures

3.6 PERSONNEL PROTECTION

Furnish appropriate personal safety equipment and protective clothing to personnel and ensure that safety equipment and protective clothing is kept clean and well maintained. Furnish three clean sets of personal protective equipment and clothing for use by the Contracting Officer or official visitors as required for entry into the EZ.

3.7 RESPIRATORY PROTECTION PROGRAM

Develop a respiratory protection program, addressing respirator usage and training, in accordance with 29 CFR 1910 and COE EM-385-1-1.

3.8 VEHICULAR RESTRICTIONS

All vehicles and equipment entering the Exclusion Zone shall be considered contaminated and shall not leave the Exclusion Zone without being properly decontaminated at the Decontamination Pad. To the greatest extent possible, vehicles working in the Exclusion Zone shall remain therein. Route traffic within the Exclusion Zone away from remediated areas to prevent recontaminating these areas.

3.16.5 Non-contaminated Debris

All other non-contaminated debris shall be placed in approved Contractor furnished containers to prevent the spread and accumulation of dust and dirt. Non-contaminated debris shall be removed from the area as often as necessary, but not less than at least once at the end of each week. The non-contaminated debris shall not be disposed of in hazardous waste containers.

3.16.6 Site Restoration

3.16.6.1 Demolition of Decontamination Pad

Prior to demolition, the Contracting Officer will verify that decontamination has been achieved. Following all decontamination activities, completely remove the decontamination pad. Resulting debris from demolition will be treated as contaminated waste and disposed of accordingly. Care shall be taken not to contaminate the area during decontamination, demolition, or disposal activities.

3.16.6.2 Backfilling

Shall be in accordance with Section 02220, "General Excavation, Filling, and Backfilling".

3.16.6.3 Removal of Control Structures

With the approval of the Contracting Officer, remove erosion and sediment control measures.

3.17 DEMOBILIZATION

Shall include the following activities:

- a. Decontamination and removal from site of all Contractor equipment and materials.
- b. Collection and disposal of all Contractor generated contaminated materials for which decontamination is inappropriate.
- c. Decontamination of site-dedicated equipment and facilities operated by the Contractor and removal from site of same.
- d. Disconnection and removal of temporary utilities from the site.

3.18 DECONTAMINATION

All Contractor materials, equipment, and facilities shall be decontaminated to the level specified in Site Safety and Health Plan and State and local regulations.

3.18.1 Applicability

All Contractor materials, equipment, and facilities that can be certified decontaminated shall be decontaminated and inspected and approved by the

contracting Officer prior to removal from the site. All small tools and other materials for which decontamination is difficult or uncertain shall remain on-site upon completion of the project and shall be packaged and disposed of by the Contractor in accordance with appropriate and relevant disposal regulations for contaminated materials. Examples of such equipment or materials are personal protective equipment, rope, lumber, plastic, etc.

3.18.2 Approval Procedure

Prior to removal from the site, all decontaminated equipment and materials shall be inspected and approved by the Contracting Officer.

3.18.3 Certificates of Decontamination

The Contractor shall provide a certificate of decontamination for all equipment and materials removed from the project site. The Contractor shall provide a copy of each decontamination certificate to the Contracting Officer and shall maintain the original certificate at the Contractor's office.

3.18.4 Site Decontamination

The Contractor shall decontaminate all site improvements within the Exclusion Zone to remain. Decontamination shall include washing with an appropriate cleaning agent and water. All water generated by this activity shall be contained and shall be disposed of as hazardous waste.

3.18.5 Site Decontamination Verification

Determination of the effectiveness of Site Decontamination as described above will be the responsibility of the Government.

3.19 WASTE DISPOSAL

The Work Plan shall detail the practices and procedures to be utilized to dispose of wastes. Upon completion of the project, certify that equipment and materials were properly decontaminated prior to being removed from the site.

3.20 EMERGENCY RESPONSE REQUIREMENTS

Furnish emergency response and contingency plan in accordance with 29 CFR 1910. In an emergency, take action to remove or minimize the cause of the emergency, alert the Contracting Officer, and institute necessary measures to prevent repetition of the emergency. Equip site-support vehicles with route maps providing directions to the medical treatment facility.

3.21 UNFORESEEN HAZARDS

Notify the Contracting Officer of any unforeseen hazard or condition which becomes evident during work.

3.22 CLOSURE REPORT (SITE ASSESSMENT REPORT)

Provide the Contracting Officer a Site Assessment Report in a single binder notebook which shall contain a collection of reports, records, inspections, documentation, and data as follows:

- a. Notification Forms (within 30 days of closure).
- b. Description of work, including removal and demolition procedures, cubic yards of excavated soil, location of disposal sites, dates of excavation and starting and ending dates of reporting period.
- c. Site plan, including limits of excavation, sampling points, results of excavation, and depths.
- d. Laboratory testing reports, copies of data and test results from testing laboratory.
- e. Contaminated soil disposal paperwork, and contaminated water disposal paperwork.
- f. Certifications and certificates of closure required by implementing agency as outlined in N.J.A.C 7:26E Paragraph 6.6 entitled "Remedial Action Report" and N.J.A.C. 7:26 - 9.8 entitled "General Closure Requirements."
- g. Building permit, inspection permits, and other permits and notifications required for soil excavation, notifications, and inspection reports.
- h. Cumulative quantities of soil excavated.

3.23 SPILLS OF CONTAMINATED SOILS

Use appropriate vehicles and operating practices to prevent spillage or leakage of contaminated materials from occurring during operations. Inspect vehicles leaving the area of contamination to ensure that no contaminated materials adhere to the wheels or undercarriage.

3.24 BACKFILL

Provide backfill, compaction, grading, and seeding in accordance with Section 02220, "General Excavation, Filling, and Backfilling."

-- End of Section --

TABLE 3-1

**SURFACE SOIL RESULTS AND RESIDENTIAL CLEANUP STANDARDS
NWS EARLE, COLTS NECK, NEW JERSEY**

Parameter	I-1 7/90	I-2 7/90	I-3 7/90	I-4 7/90	I-5 7/90	I-6 7/90	I-7 7/90	Cleanup Standard
Aluminum	621	1,700	2,700	1,700	2,600	12,000	4,700	NA
Antimony	ND	ND	ND	ND	11	24	29	14
Arsenic	ND	1.2	ND	ND	1.8	6.8	1.6	2
Barium	13	4.9	18	5.3	100	2,000	220	700
Beryllium	ND	ND	ND	ND	ND	ND	ND	1
Cadmium	3.4	ND	3.1	1.1	29	200	36	1
Calcium	45	450	960	230	1,300	1,200	920	NA
Chromium	5.9	11	20	26	42	130	30	500
Cobalt	ND	ND	ND	ND	ND	6.4	ND	NA
Copper	8.8	3.0	33	15	41	2,700	340	600
Iron	2,500	4,100	6,100	5,700	6,600	19,000	6,900	NA
Lead	20	ND	128	29	1,000	23,000	2,700	100
Magnesium	110	350	890	220	1,000	4,500	1,300	NA
Manganese	9.3	17	34	9.2	39	100	39	NA
Mercury	ND	ND	ND	7.9	ND	0.11	ND	14
Nickel	5.5	ND	5.1	ND	4.6	34	6.2	250
Potassium	340	700	880	530	110	370	120	NA
Selenium	ND	ND	ND	ND	ND	ND	ND	63
Silver	ND	ND	ND	ND	ND	33	1.9	110
Sodium	110	150	210	140	180	370	170	NA
Thallium	ND	ND	ND	ND	ND	ND	ND	2
Vanadium	6.7	14	24	27	45	57	28	370
Zinc	44	9.6	110	35	110	6,600	2,500	1,500
Cyanide	ND	ND	ND	ND	0.22	0.26	ND	1,100

All results expressed in mg/kg.

Bold values exceed cleanup standard.

ND - not detected

NA - not available

**TABLE 3-1
SURFACE SOIL RESULTS AND RESIDENTIAL CLEANUP STANDARDS
NWS EARLE, COLTS NECK, NEW JERSEY
PAGE 2**

Parameter	I-8 7/90	I-9 7/90	I-10 7/90	I-14 7/90	I-11 7/90	I-12 7/90	Cleanup Standard
Aluminum	3,400	12,000	2,000	3,300	5,900	74,000	NA
Antimony	ND	82	120	150	150	230	14
Arsenic	1.8	57	4.4	5.0	5.1	8.4	2
Barium	26	1,600	220	270	280	2,600	700
Beryllium	ND	0.56	ND	ND	0.67	ND	1
Cadmium	1.4	190	410	330	130	860	1
Calcium	1,600	1,100	90	100	760	990	NA
Chromium	54	110	37	63	94	200	500
Cobalt	ND	ND	ND	ND	ND	14	NA
Copper	8.7	2,300	220	310	96	8,400	600
Iron	9,700	18,000	7,900	12,000	17,000	29,000	NA
Lead	96	13,000	4,900	4,800	5,600	46,000	100
Magnesium	1,100	3,800	460	920	3,000	9,900	NA
Manganese	36	86	24	25	23	450	NA
Mercury	ND	ND	5.1	7.9	0.28	ND	14
Nickel	5.0	23	4.3	7.6	10	54	250
Potassium	220	420	120	2,600	580	6,100	NA
Selenium	ND	ND	1.5	1.9	ND	ND	63
Silver	ND	46	1.2	5.3	ND	18	110
Sodium	220	380	170	240	340	540	NA
Thallium	ND	ND	ND	ND	ND	ND	2
Vanadium	54	67	33	46	80	49	370
Zinc	36	6,100	2,200	2,000	1,300	26,000	1,500
Cyanide	ND	ND	0.91	ND	ND	ND	1,100

All results expressed in mg/kg.
Bold values exceed cleanup standard.
 ND - not detected
 NA - not available

TABLE 3-1
 SURFACE SOIL RESULTS AND RESIDENTIAL CLEANUP STANDARDS
 NWS EARLE, COLTS NECK, NEW JERSEY
 PAGE 3

Parameter	I-13 7/90	I-18 1/92	I-19 1/92	I-20 1/92	I-21-S 12/92	I-21-F 12/92	Cleanup Standard
Aluminum	120,000	2,800	3,500	1,700	405	429	NA
Antimony	1,200	ND	ND	ND	ND	ND	14
Arsenic	29	1.4	1.1	ND	1.3	0.70	2
Barium	7,800	20	14	7.9	3.8	4.3	700
Beryllium	2.9	ND	0.58	ND	ND	ND	1
Cadmium	4,800	4.1	1.3	0.61	0.84	0.96	1
Calcium	1,800	980	400	210	55.6	50.3	NA
Chromium	400	34	62	19	3.2	4.0	500
Cobalt	28	ND	ND	ND	ND	ND	NA
Copper	24,000	10	5.4	7.8	4.7	4.2	600
Iron	48,000	7,600	11,000	3,900	1,170	1,240	NA
Lead	95,000	78	59	5.5	20.9	14.6	100
Magnesium	38,000	600	700	160	58.6	73.4	NA
Manganese	350	22	21	10	4.9	6.1	NA
Mercury	0.19	ND	ND	ND	ND	ND	14
Nickel	150	ND	ND	ND	ND	ND	250
Potassium	20,000	990	1,600	170	ND	146	NA
Selenium	ND	ND	ND	ND	ND	ND	63
Silver	56	ND	ND	ND	ND	ND	110
Sodium	810	ND	ND	ND	ND	ND	NA
Thallium	ND	ND	ND	ND	ND	ND	2
Vanadium	36	30	52	16	7.5	7.6	370
Zinc	34,000	90	56	24	10.6	10.8	1,500
Cyanide	0.25	ND	ND	ND	0.68	ND	1,100

All results expressed in mg/kg.
 Bold values exceed cleanup standard.
 ND - not detected
 NA - not available

TABLE 3-2

**SUBSURFACE SOIL RESULTS AND RESIDENTIAL CLEANUP STANDARDS
NWS EARLE, COLTS NECK, NEW JERSEY**

Parameter	I-1 1/92	I-2 1/92	I-3 1/92	I-4 1/92	I-5 1/92	I-6 1/92	Cleanup Standard
Aluminum	7,500	1,800	4,700- 8,600	8,100	6,000	5,100	NA
Antimony	ND	ND	ND	ND	ND	ND	14
Arsenic	ND	ND	1.4	ND	2.9	1.4	2
Barium	1.9	2.3	2.8- 4.2	4.1	2.5	6.9	700
Beryllium	0.72	ND	0.78	1.5	1.2	1.1	1
Cadmium	ND	ND	ND	ND	ND	0.63	1
Calcium	65	100	100- 220	180	180	360	NA
Chromium	110	15	120- 180	170	120	140	500
Cobalt	ND	ND	ND	ND	ND	ND	NA
Copper	ND	ND	ND	ND	ND	3.6	600
Iron	20,000	4,300	11,000- 26,000	22,000	17,000	16,000	NA
Lead	2.7	5.0	2.0	5.8	2.1	8.6	100
Magnesium	550- 2,400	180	640- 2,700	1,600	1,800	1,000	NA
Manganese	2.8	8.6	3.1	5.2	4.9	12	NA
Mercury	ND	ND	ND	ND	ND	ND	14
Nickel	ND	ND	ND	ND	ND	ND	250
Potassium	1,700- 7,500	430	2,000- 8,600	4,800	5,600	2,900	NA
Selenium	ND	ND	ND	ND	ND	ND	63
Silver	ND	ND	ND	ND	ND	ND	110
Sodium	ND	ND	ND	ND	ND	ND	NA
Thallium	ND	ND	ND	ND	ND	ND	2
Vanadium	96	14	110- 140	130	110	110	370
Zinc	24	19	17-30	18	16	21	1,500
Cyanide	ND	ND	ND	ND	ND	ND	1,100

All results expressed in mg/kg.
Bold values exceed cleanup standard
 ND - not detected
 NA - not available

**TABLE 3-2
 SUBSURFACE SOIL RESULTS AND RESIDENTIAL CLEANUP STANDARDS
 NWS EARLE, COLTS NECK, NEW JERSEY
 PAGE 2**

Parameter	I-7 1/92	I-8 1/92	I-9 1/92	I-10 1/92	I-11 1/92	Cleanup Standard
Aluminum	5,200	6,200	3,400	4,600	6,100	NA
Antimony	ND	ND	ND	ND	ND	14
Arsenic	1.4	2.0	ND	2.1	2.2	2
Barium	13	5.1	10	17	4.0	700
Beryllium	1.2	1.2	0.63	0.96	1.2	1
Cadmium	ND	0.80	0.60	11	ND	1
Calcium	1,200	690	940	590	400	NA
Chromium	120	140	74	74	160	500
Cobalt	ND	ND	ND	ND	ND	NA
Copper	3.1	ND	3.6	7.3	ND	600
Iron	17,000	23,000	11,000	14,000	23,000	NA
Lead	26	19	24	138	6.3	100
Magnesium	1,800	2,200	1,000	1,300	1,900	NA
Manganese	26	5.4	19	22	9.5	NA
Mercury	ND	ND	ND	0.16	ND	14
Nickel	ND	ND	ND	ND	ND	250
Potassium	4,200	5,800	2,200	3,300	6,000	NA
Selenium	ND	ND	ND	ND	ND	63
Silver	ND	ND	ND	ND	ND	110
Sodium	37	ND	ND	ND	ND	NA
Thallium	ND	ND	ND	ND	ND	2
Vanadium	95	110	66	69	120	370
Zinc	20	22	14	69	21	1,500
Cyanide	ND	ND	ND	ND	ND	1,100

All results expressed in mg/kg.
Bold values exceed cleanup standard
 ND - not detected
 NA - not available

**TABLE 3-2
SUBSURFACE SOIL RESULTS AND RESIDENTIAL CLEANUP STANDARDS
NWS EARLE, COLTS NECK, NEW JERSEY
PAGE 3**

Parameter	I-12 1/92	I-13 1/92	I-15 1/92	I-16 1/92	I-17 1/92	Cleanup Standard
Aluminum	10,000	4,400	6,500	4,700	580	NA
Antimony	22	ND	ND	ND	ND	14
Arsenic	ND	3.2	3.3	4.4	ND	2
Barium	230	3.3	3.2	6.8	2.4	700
Beryllium	1.2	0.93	1.2	1.1	ND	1
Cadmium	200	ND	0.58	6.4	ND	1
Calcium	420	140	420	270	27	NA
Chromium	110	90	130	99	9.6	500
Cobalt	ND	ND	ND	5.5	ND	NA
Copper	660	ND	ND	2.0	ND	600
Iron	22,000	14,000	21,000	20,000	2,700	NA
Lead	5,100	2.6	2.8	24	2.6	100
Magnesium	2,500	1,200	1,900	1,700	110	NA
Manganese	34	4.0	8.6	4.2	3.6	NA
Mercury	ND	ND	ND	ND	ND	14
Nickel	6.9	ND	ND	ND	ND	250
Potassium	3,800	3,700	5,800	5,500	230	NA
Selenium	1.4	ND	ND	ND	ND	63
Silver	57	ND	ND	ND	ND	110
Sodium	ND	ND	ND	ND	ND	NA
Thallium	ND	ND	ND	ND	ND	2
Vanadium	110	63	120	110	9.9	370
Zinc	2,000	17	23	28	4.5	1,500
Cyanide	ND	ND	ND	ND	ND	1,100

All results expressed in mg/kg.
Bold values exceed cleanup standard
 ND - not detected
 NA - not available



TABLE 1
PAGE 1 OF 2

WASTE CLASSIFICATION ANALYTICAL RESULTS
NAVAL WEAPONS STATION EARLE
COLTS NECK, NEW JERSEY

Sampling Location: Sampling Date: BCM Sample Number:	Maximum Concentration of Contaminants for Characteristic of Toxicity	WC-1 03/29/94 406805	LEACH 406805 03/29/94 406806	WC-2 03/29/94 406807	LEACH 406807 03/29/94 406808	
Acid Extractable Organics:						
2,4,5-Trichlorophenol	mg/l	400.0	NT	<0.60	NT	<0.60
2,4,6-Trichlorophenol	mg/l	2.0	NT	<0.120	NT	<0.120
2-Methylphenol (o-Cresol)	mg/l	200.0	NT	<0.120	NT	<0.120
3-Methylphenol (m-Cresol)	mg/l	200.0	NT	<0.120	NT	<0.120
4-Methylphenol (p-Cresol)	mg/l	200.0	NT	<0.120	NT	<0.120
0,M,P Cresol (Total Cresols)	mg/l	200.0	NT	<0.120	NT	<0.120
Pentachlorophenol	mg/l	100.0	NT	<0.60	NT	<0.60
Base/Neutral Organics:						
1,4-Dichlorobenzene	mg/l	7.5	NT	<0.120	NT	<0.120
2,4-Dinitrotoluene	mg/l	0.13	NT	<0.120	NT	<0.120
Hexachlorobenzene	mg/l	0.13	NT	<0.120	NT	<0.120
Hexachlorobutadiene	mg/l	0.5	NT	<0.120	NT	<0.120
Hexachloroethane	mg/l	3.0	NT	<0.120	NT	<0.120
Nitrobenzene	mg/l	2.0	NT	<0.120	NT	<0.120
Physical Properties:						
Total Solids	%		85.2	NT	85.9	NT
Hazardous Parameters:						
Total Releasable Cyanide as HCN	mg/kg		<0.100	NT	<0.100	NT
Total Releasable Sulfide as H2S	mg/kg		<50.0	NT	<50.0	NT
Metals:						
Arsenic	mg/l	5.0	NT	0.576	NT	<0.2
Barium	mg/l	100.0	NT	8.03	NT	3.00
Cadmium	mg/l	1.0	NT	31.9 **	NT	0.149
Chromium	mg/l	5.0	NT	0.074	NT	0.013
Lead	mg/l	5.0	NT	288.0 **	NT	1.10
Mercury	mg/l	0.2	NT	0.0003	NT	<0.0002
Selenium	mg/l	1.0	NT	<0.2	NT	<0.2
Silver	mg/l	5.0	NT	<0.01	NT	<0.01
Organics:						
Filterable	Y/N		NT	NT	NT	NT
TCLP Matrix Determination	L/S/SL		S	NT	S	NT
Industrial Hygiene:						
Lindane	mg/l	400.0	NT	<0.0002	NT	<0.0002

NT : Not tested as part of this study.

** : Exceeds the maximum concentration of contaminants for characteristic of toxicity.



TABLE 1
PAGE 2 OF 2

WASTE CLASSIFICATION ANALYTICAL RESULTS
NAVAL WEAPONS STATION EARLE
COLTS NECK, NEW JERSEY

Sampling Location: Sampling Date: BCM Sample Number:	Maximum Concentration of Contaminants for Characteristic of Toxicity	WC-1 03/29/94 406805	LEACH 406805 03/29/94 406806	WC-2 03/29/94 406807	LEACH 406807 03/29/94 406808
Pesticides, Pcb's and Herbicides:					
2,4,5-TP	mg/l	1.0	NT	<0.040	<0.040
2,4-D	mg/l	10.0	NT	<0.040	<0.040
Chlordane	mg/l	0.03	NT	<0.0040	<0.0040
Endrin	mg/l	0.02	NT	<0.00040	<0.00040
Heptachlor	mg/l	0.008	NT	<0.00020	<0.00020
Heptachlor Epoxide	mg/l	0.008	NT	<0.00020	<0.00020
Methoxychlor	mg/l	10.0	NT	<0.0020	<0.0020
Toxaphene	mg/l	0.5	NT	<0.020	<0.020
Solvents:					
Methyl ethyl ketone	mg/l	200.0	NT	<0.010	<0.010
Pyridine	mg/l	5.0	NT	<0.120	<0.120
Tetrachloroethylene	mg/l	0.7	NT	<0.0050	<0.0050
Trichloroethene	mg/l	0.5	NT	<0.0050	<0.0050
Volatile Organics:					
1,1-Dichloroethene	mg/l	0.7	NT	<0.0050	<0.0050
1,2-Dichloroethane	mg/l	0.5	NT	<0.0050	<0.0050
Benzene	mg/l	0.5	NT	<0.0050	<0.0050
Carbon Tetrachloride	mg/l	0.5	NT	<0.0050	<0.0050
Chlorobenzene	mg/l	100.0	NT	<0.0050	<0.0050
Chloroform	mg/l	6.0	NT	0.0080	0.0090
Vinyl Chloride	mg/l	0.2	NT	<0.010	<0.010
Other Parameters:					
% Solids	%		>0.5	NT	>0.5
Final Temp. of Leachate Extraction	deg C		23.0	NT	23.0
Initial Temp. of Leachate Extraction	deg C		23.0	NT	23.0
pH of Sample	std u		8.2	NT	5.2

NT : Not tested as part of this study.

Source: BCM Engineers Inc. (BCM Project No. 00-0451-20)



TABLE 2
PAGE 1 OF 3

SUMMARY OF SOIL ANALYTICAL RESULTS
NAVAL WEAPONS STATION EARLE
COLTS NECK, NEW JERSEY

Sampling Location:	NJDEPE	1-22 .5'	1-22 3'	1-22 6'	1-24 .5'	1-24 3'	
Sampling Date:	Residential Direct	03/21/94	03/21/94	03/21/94	03/21/94	03/21/94	
BCM Sample Number:	Contact Soil Cleanup Criteria (RDC)	406288	406289	406290	406291	406292	
Physical Properties:							
Total Solids	%	68.1	63.0	67.9	67.0	62.2	
pH-Laboratory	Std.Un	5.40	4.00	3.90	4.00	4.40	
Inorganic Non-metals:							
Cyanide	mg/kg	1100	<0.734	<0.794	<0.736	<0.746	<0.804
Metals:							
Aluminum	mg/kg	-	1510.0	4490.0	4570.0	436.0	7250.0
Antimony	mg/kg	14	<17.6 *	<19.0 *	<17.7 *	<17.9 *	<19.3 *
Arsenic	mg/kg	20	2.11	3.87	4.59	<0.896	6.46
Barium	mg/kg	700	7.12	2.30	2.02	2.97	2.33
Beryllium	mg/kg	1	<0.0587	<0.0635	<0.0589	<0.0597	<0.0643
Cadmium	mg/kg	1	<1.09	<1.17	<1.09	<1.10	<1.19
Calcium	mg/kg	-	890.0	34.0	26.5	28.1	51.6
Chromium	mg/kg	-	11.5	102.0	105.0	7.06	128.0
Cobalt	mg/kg	-	2.82	2.43	2.50	1.90	3.39
Copper	mg/kg	600	11.8	2.92	0.969	2.48	1.16
Iron	mg/kg	-	5120.0	13400.0	13100.0	2130.0	18800.0
Lead	mg/kg	100	36.3	<10.1	<9.40	<9.52	<10.3
Magnesium	mg/kg	-	395.0	1090.0	1040.0	78.2	1230.0
Manganese	mg/kg	-	37.3	5.14	4.98	10.1	5.63
Mercury	mg/kg	14	<0.147	<0.159	<0.147	<0.149	<0.161
Nickel	mg/kg	250	1.85	<1.75	<1.62	<1.64	<1.77
Potassium	mg/kg	-	267.0	3710.0	3620.0	196.0	4050.0
Selenium	mg/kg	63	<0.558	<0.603	<0.560	<0.567	<0.611
Silver	mg/kg	110	<0.910	<0.984	<0.913	<0.925	<0.997
Sodium	mg/kg	-	75.5	47.1	50.1	45.2	54.7
Thallium	mg/kg	2	<2.50 *	<2.70 *	<2.50 *	<0.507	<0.547
Vanadium	mg/kg	370	10.3	93.0	122.0	8.18	105.0
Zinc	mg/kg	1500	27.6	20.3	20.3	9.19	18.6

* : Method detection limit (MDL) exceeds NJDEPE Residential Direct Contact Soil Cleanup Criteria (RDC)



TABLE 2
PAGE 2 OF 3

SUMMARY OF SOIL ANALYTICAL RESULTS
NAVAL WEAPONS STATION EARLE
COLTS NECK, NEW JERSEY

Sampling Location:	NJDEPE	1-24 6'	1-23 .5'	1-23 3'	1-23 6'
Sampling Date:	Residential Direct	03/21/94	03/21/94	03/21/94	03/21/94
BCM Sample Number:	Contact Soil Cleanup Criteria (RDC)	406293	406294	406295	406296
Physical Properties:					
Total Solids	%	64.6	64.4	61.5	64.3
pH-Laboratory	Std.Un	4.30	6.30	4.90	4.40
Inorganic Non-metals:					
Cyanide	mg/kg	1100	<0.774	<0.776	<0.813
Metals:					
Aluminum	mg/kg	-	4430.0	1060.0	9250.0
Antimony	mg/kg	14	<18.6 *	<18.6 *	<19.5 *
Arsenic	mg/kg	20	3.03	1.15	5.45
Barium	mg/kg	700	2.46	7.28	4.39
Beryllium	mg/kg	1	<0.0619	<0.0621	<0.065
Cadmium	mg/kg	1	<1.15	<1.15	<1.20
Calcium	mg/kg	-	52.6	411.0	127.0
Chromium	mg/kg	-	121.0	29.0	156.0
Cobalt	mg/kg	-	2.28	1.66	5.19
Copper	mg/kg	600	1.08	5.90	1.07
Iron	mg/kg	-	10300.0	4670.0	25500.0
Lead	mg/kg	100	<9.88	49.8	<10.4
Magnesium	mg/kg	-	709.0	328.0	1790.0
Manganese	mg/kg	-	4.46	16.8	9.58
Mercury	mg/kg	14	<0.155	<0.155	<0.163
Nickel	mg/kg	250	<1.70	<1.71	1.89
Potassium	mg/kg	-	2340.0	790.0	5450.0
Selenium	mg/kg	63	<0.588	<0.590	<0.618
Silver	mg/kg	110	<0.960	<0.963	<1.01
Sodium	mg/kg	-	43.8	50.6	49.9
Thallium	mg/kg	2	<0.526	<0.186	<2.76 *
Vanadium	mg/kg	370	114.0	27.6	127.0
Zinc	mg/kg	1500	10.6	23.3	29.9

* : Method detection limit (MDL) exceeds NJDEPE Residential Direct Contact Soil Cleanup Criteria (RDC)



TABLE 2
PAGE 3 OF 3

SUMMARY OF SOIL ANALYTICAL RESULTS
NAVAL WEAPONS STATION EARLE
COLTS NECK, NEW JERSEY

Sampling Location:	RINSE BLANK
Sampling Date:	03/21/94
BCM Sample Number:	406297

Inorganic Non-metals:		
Cyanide	ug/l	<0.002
Metals:		
Aluminum	mg/l	<0.0108
Antimony	mg/l	<0.0599
Arsenic	mg/l	<0.003
Barium	mg/l	<0.0043
Beryllium	mg/l	<0.0002
Cadmium	mg/l	<0.0037
Calcium	mg/l	0.0505
Chromium	mg/l	<0.0039
Cobalt	mg/l	<0.0042
Copper	mg/l	0.0015
Iron	mg/l	0.0103
Lead	mg/l	<0.0319
Magnesium	mg/l	<0.0106
Manganese	mg/l	<0.0091
Mercury	mg/l	<0.0002
Nickel	mg/l	<0.0055
Potassium	mg/l	<0.158
Selenium	mg/l	<0.0019
Silver	mg/l	<0.0031
Sodium	mg/l	<0.0856
Thallium	mg/l	<0.0017
Vanadium	mg/l	<0.0016
Zinc	mg/l	<0.0032

Source: BCM Engineers Inc. (BCM Project No. 00-0451-20)



TABLE 3
WATER TABLE ELEVATIONS
NAVY WEAPONS STATION (NWS) EARLE
COLTS NECK, NEW JERSEY

WELL	DEPTH TO WATER FROM TOP OF CASING (FEET)	TOP OF CASING ELEVATION*	WATER TABLE ELVATION*
MW-I1	9.27	111.90	102.63
MW-I2	8.43	111.11	102.68
MW-I3	8.40	111.03	102.63
MW-I4	9.30	111.90	102.60
MW-I5	8.65	111.34	102.69

* : ELEVATIONS IN FEET BASED ON NATIONAL GEODETIC VERTICAL DATUM (NGCD 192) RELATIVE TO MEAN SEA LEVEL (MSL = 0.0)

Source: BCM Engineers Inc. (BCM Project No. 00-0451-20)



TABLE 4
PAGE 1 OF 2

SUMMARY OF BACKGROUND SOIL ANALYTICAL RESULTS
NAVAL WEAPONS STATION EARLE
COLTS NECK, NEW JERSEY

Sampling Location:		MW-14	MW-15	MW-15D
Sampling Date:		03/31/94	03/31/94	03/31/94
BCM Sample Number:		407260	407258	407259
Physical Properties:				
Total Solids	%	89.3	84.2	84.1
pH-Laboratory	Std.Un	4.30	4.40	4.40
Inorganic Non-metals:				
Cyanide	mg/kg	<0.560	<0.594	<0.595
Metals:				
Aluminum	mg/kg	1240.0	1540.0	1460.0
Antimony	mg/kg	<13.4	<14.3	<14.3
Arsenic	mg/kg	1.08	1.65	1.43
Barium	mg/kg	2.30	2.92	2.69
Beryllium	mg/kg	<0.0448	<0.0475	<0.0476
Cadmium	mg/kg	<0.829	<0.879	<0.880
Calcium	mg/kg	25.5	29.5	28.4
Chromium	mg/kg	15.5	17.1	16.2
Cobalt	mg/kg	1.67	1.85	1.94
Copper	mg/kg	1.28	2.84	2.49
Iron	mg/kg	4260.0	5430.0	5080.0
Lead	mg/kg	<7.14	<7.58	<7.59
Magnesium	mg/kg	196.0	176.0	191.0
Manganese	mg/kg	5.10	5.62	7.03
Mercury	mg/kg	<0.112	<0.119	<0.119
Nickel	mg/kg	<1.23	<1.31	<1.31
Potassium	mg/kg	671.0	589.0	639.0
Selenium	mg/kg	<0.426	<0.451	<0.452
Silver	mg/kg	<0.694	<0.736	<0.737
Sodium	mg/kg	42.3	52.3	45.5
Thallium	mg/kg	<0.381	<0.404	<0.404
Vanadium	mg/kg	12.9	13.4	11.9
Zinc	mg/kg	4.36	5.53	4.99



TABLE 4
PAGE 2 OF 2

SUMMARY OF BACKGROUND SOIL ANALYTICAL RESULTS
NAVAL WEAPONS STATION EARLE
COLTS NECK, NEW JERSEY

Sampling Location:		RINSE BLANK
Sampling Date:		03/31/94
BCM Sample Number:		407261

Inorganic Non-metals:		
Cyanide	ug/l	<0.002
Metals:		
Aluminum	mg/l	<0.0108
Antimony	mg/l	<0.0599
Arsenic	mg/l	<0.003
Barium	mg/l	<0.0043
Beryllium	mg/l	<0.0002
Cadmium	mg/l	<0.0037
Calcium	mg/l	0.0483
Chromium	mg/l	<0.0039
Cobalt	mg/l	0.0053
Copper	mg/l	0.0042
Iron	mg/l	0.0546
Lead	mg/l	<0.0319
Magnesium	mg/l	<0.0106
Manganese	mg/l	<0.0091
Mercury	mg/l	<0.0002
Nickel	mg/l	<0.0055
Potassium	mg/l	<0.158
Selenium	mg/l	<0.0019
Silver	mg/l	<0.0031
Sodium	mg/l	<0.0856
Thallium	mg/l	<0.0017
Vanadium	mg/l	<0.0016
Zinc	mg/l	0.0051

Source: BCM Engineers Inc. (BCM Project No. 00-0451-20)



TABLE 5
PAGE 1 OF 2

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
NAVAL WEAPONS STATION EARLE
COLTS NECK, NEW JERSEY

Sampling Location: Sampling Date: BCM Sample Number:	Higher of GWQS or PQL	MW-11 04/14/94 408453	MW-12 04/14/94 408454	MW-13 04/14/94 408455	MW-14 04/14/94 408456	MW-14D 04/14/94 408457	MW-15 04/14/94 408462
Inorganic Non-metals:							
Cyanide	mg/l 0.20	<2.0 *	<2.0 *	<2.0 *	<2.0 *	<2.0 *	<2.0 *
Metals:							
Aluminum	mg/l 0.20	74.6 **	41.3 **	87.8 **	2.84 **	2.80 **	65.5 **
Antimony	mg/l 0.02	4.10 **	2.58 **	4.55 **	0.068 **	0.0687 **	3.57 **
Arsenic	mg/l 0.008	0.0214 **	0.0177 **	0.0476 **	<0.003	<0.003	<0.003
Barium	mg/l 2.0	0.097	0.0638	0.0709	0.0498	0.0464	0.125
Beryllium	mg/l 0.02	0.0021	0.0016	0.0047	0.0006	0.0006	0.0042
Cadmium	mg/l 0.004	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037	<0.0037
Calcium	mg/l -	3.24	3.46	3.85	7.02	7.21	5.58
Chromium	mg/l 0.10	3.29 **	1.36 **	2.49 **	0.0608	0.0561	2.18 **
Cobalt	mg/l -	0.103	0.0539	0.0933	0.0195	0.0229	0.0591
Copper	mg/l 1.0	0.0237	0.0144	0.0151	0.003	0.0041	0.0214
Iron	mg/l 0.3	338.0 **	199.0 **	378.0 **	6.95 **	6.63 **	283.0 **
Lead	mg/l 0.01	0.133 **	0.0752 **	0.151 **	0.0243 **	0.0253 **	0.0713 **
Magnesium	mg/l -	16.1	10.3	23.1	1.33	1.37	18.7
Manganese	mg/l 0.05	0.152 **	0.128 **	0.133 **	0.0413	0.0422	0.142 **
Mercury	mg/l 0.002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Nickel	mg/l 0.10	0.195 **	0.103 **	0.159 **	0.0415	0.0406	0.0837
Potassium	mg/l -	47.3	30.5	74.0	2.96	2.98	60.8
Selenium	mg/l 0.05	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019	<0.0019
Silver	mg/l -	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031	<0.0031
Sodium	mg/l 50.0	14.7	4.67	3.30	4.76	4.85	3.62
Thallium	mg/l 0.010	<0.017 *	<0.017 *	<0.017 *	<0.017 *	<0.017 *	<0.0017 *
Vanadium	mg/l -	1.86	1.01	1.90	0.033	0.0312	1.40
Zinc	mg/l 5.0	0.358	0.311	0.432	0.0359	0.0408	0.375

- : GWQS and PQL's have not been established.
 GWQS : Groundwater Quality Standard - Class IIA
 PQL : Practical Quantitation Levels
 * : Method detection limit (MDL) exceeds the higher of the GWQS - Class IIA or PQL.
 ** : Concentration exceeds the higher of the GWQS - Class IIA or PQL.



TABLE 5
PAGE 1 OF 2

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
NAVAL WEAPONS STATION EARLE
COLTS NECK, NEW JERSEY

Sampling Location:		RINSE BLANK
Sampling Date:		04/14/94
BCM Sample Number:		408458

Inorganic Non-metals:		
Cyanide	ug/l	<0.002
Metals:		
Aluminum	mg/l	<0.0108
Antimony	mg/l	<0.017
Arsenic	mg/l	<0.003
Barium	mg/l	<0.0043
Beryllium	mg/l	<0.0002
Cadmium	mg/l	<0.0037
Calcium	mg/l	0.054
Chromium	mg/l	<0.0039
Cobalt	mg/l	<0.0042
Copper	mg/l	<0.0012
Iron	mg/l	0.0208
Lead	mg/l	<0.0018
Magnesium	mg/l	<0.0106
Manganese	mg/l	<0.0091
Mercury	mg/l	<0.0002
Nickel	mg/l	<0.0055
Potassium	mg/l	<0.158
Selenium	mg/l	<0.0019
Silver	mg/l	<0.0031
Sodium	mg/l	<0.0856
Thallium	mg/l	<0.0017
Vanadium	mg/l	<0.0016
Zinc	mg/l	<0.0032

Source: BCM Engineers Inc. (BCM Project No. 00-0451-20)

TABLE 6
CONTAMINANT CONCENTRATIONS
EXCEEDING THE
RESIDENTIAL SOIL CLEANUP CRITERIA
NWS EARLE, NEW JERSEY

Parameter	Soil Cleanup ¹ Criteria (mg/kg)	Maximum ² Concentration (mg/kg)
Antimony	14	230
Arsenic	20	57
Barium	700	7,800
Beryllium	1	10
Cadmium	1	4,800
Copper	600	24,000
Lead	100	99,000
Thallium	2	<2.76 ³
Zinc	1,500	34,000

Notes:

1. Source is from the NJDEPE Soil Cleanup Criteria for Residential Direct Soil Cleanup, dated February 3, 1994
2. Source is from Tables 3-1 and 3-2 of the Incinerator Cleanup Plan, dated August 1993, Halliburton NUS Corporation except for Thallium (See note 3).
3. This result came from BCM's Summary of Soil Analytical Results (Table 2, Sampling Location I-23) located at the end of Section 02990.

TABLE 7
ANALYTICAL TEST METHOD
FOR THE
CONTAMINANTS OF CONCERN
FROM THE
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS (TABLE 5)

Contaminant	EPA Method No.
Aluminum	7060
Antimony	6010
Arsenic	7060
Chromium	6010
Iron	6010
Lead	7421
Manganese	6010
Nickel	6010
Thallium	7841

Notes:

1. Use New Jersey Reduced Laboratory Data Deliverables - Non-USEPA/CCP Methods.
2. The contaminants listed are those whose parameters exceeded the higher of Groundwater Quality Standard (GWQS) Class IIA or the Practical Quantitation Levels (PQS). See Table 5 at the end of Section 02290 for the Summary of Groundwater Analytical Results.
3. The Source for the EPA Methods is : US EPA Office of Solid Waste, Test Methods for Evaluating Solid Waste, 520-846, Third Edition, November 1986. Washington, D.C.

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