W911KB-05-R-0024

PROPOSAL DOCUMENTS

PHASE VI UTILIDORS

EIELSON, ALASKA

SOLICITATION, OFFER, AND AWARD
SUPPLIES OR SERVICES AND PRICE/COSTS
CONSTRUCTION SPECIFICATIONS/STATEMENT OF WORK
INSPECTION AND ACCEPTANCE
SPECIAL CONTRACT REQUIREMENTS
CONTRACT CLAUSES
LIST OF DOCUMENTS, EXHIBITS, AND OTHER ATTACHMENTS
REPRESENTATIONS, CERTIFICATIONS, AND OTHER STATEMENTS OF OFFERORS
INSTRUCTIONS, CONDITIONS, AND NOTICES TO OFFERORS
EVALUATION FACTORS FOR AWARD

AUG 2005

U.S. ARMY ENGINEER DISTRICT, ALASKA
CORPS OF ENGINEERS
P.O. BOX 6898
ELMENDORF AFB, ALASKA 99506-6898

INCREASE PROFIT **SUBMIT VE CHANGES**

DESIGN AUTHENTICATION

Signatures affixed below indicate the drawings and specifications included in this solicitation were prepared, reviewed, and certified in accordance with ER 1110-345-100, Design Policy for Military Construction.

SOLICITATION:	**W911KB-05-R-0024**
UPC:	**EIE210**
PROJECT TITLE:	**PHASE VI UTILIDORS**
LOCATION:	**EIELSON, ALASKA**
CONTRACT TYPE:	**DESIGN BUILD**
SUBMITTAL:	**FINAL**

PATRICIA S. OPREIN, P.E.
Chief, Engineering Division

9 Aug 05
Date

LAURA A. WALKER, P.E.
Chief, Military Technical Engineering Branch

This project was designed by PDC INC ENGINEERS, and managed by the Alaska District of the U.S. Army Corps of Engineers. The initials or signatures and registration designations of individuals appear on these project documents within the scope of their employment as required by ER 1110-1-8152.

SOLICITATION, OFFER, AND AWARD *(Construction, Alteration, or Repair)*	1. SOLICITATION NUMBER	2. TYPE OF SOLICITATION	3. DATE ISSUED	PAGE OF PAGES
	W911KB-05-R-0024	☐ SEALED BID *(IFB)* ☒ NEGOTIATED *(RFP)*	08/09/05	

IMPORTANT - The "offer" section on the reverse must be fully completed by the offeror.

4. CONTRACT NUMBER	5. REQUISITION/PURCHASE REQUEST NUMBER	6. PROJECT NUMBER

7. ISSUED BY CODE W911KB

US ARMY ENGINEER DISTRICT, ALASKA
CEPOA-CT (W911KB)
PO BOX 6898
ANCHORAGE, AK 99506-0898

8. ADDRESS OFFER TO

US Army Engineer District, Alaska
2204 3rd Street (CEPOA-CT)
Elmendorf AFB, Alaska 99506

Mailing: PO Box 6898
Anchorage, AK 99506-0898

9. FOR INFORMATION CALL ▶	A. NAME	B. TELEPHONE NUMBER *(Include area code) (NO COLLECT CALLS)*
	LEON CLAY	(907)753-2879

SOLICITATION

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".

10. THE GOVERNMENT REQUIRES PERFORMANCE OF THE WORK DESCRIBED IN THESE DOCUMENTS *(Title, identifying number, date):*

NAICS: 237110 SIZE STANDARD: $28.5M
PROJECT TITLE/LOCATION: IDIQ for Design/Construct to Repair Utilidors and Related Systems, Primarily Eielson AFB, Alaska
FULL AND OPEN COMPETITION
DESCRIPTION OF WORK: An indefinite delivery contruction contract for design/construction to repair utilidors and related systems. The Government may award no more than two contracts, with a base period of 2 years with a shared value of $24M and two 1-year options. Total value of all contracts awarded shall not exceed $48M. There is no specific task order limit except that of the contract. Responders are advised that the requirements may be delayed, cancelled or revised at any time during the solicitation, evaluation, negotiation, and/or final award process based on decisions related to DOD changes and disposition of the Armed Services. Solicitation will be available for downloading free of charge from our website https://ebs.poa.usace.army.mil/AdvertisedSolicitations.asp

11. The Contractor shall begin performance within _____ calendar days and complete it within _____ calendar days after receiving ☐ award, ☐ notice to proceed. This performance period is ☐ mandatory, ☐ negotiable. *(See* See Sec 00810 & T.O. Checklist *.)*

12A. THE CONTRACTOR MUST FURNISH ANY REQUIRED PERFORMANCE PAYMENT BONDS? *(If "YES," indicate within how many calendar days after award in Item 12B.)*	12B. CALENDAR DAYS
☒ YES ☐ NO	10

13. ADDITIONAL SOLICITATION REQUIREMENTS:

A. Sealed offers in original and See Section 00100 copies to perform the work required are due at the place specified in Item 8 by 2:00pm *(hour)* local time 08 Sep 05 *(date)*. If this is a sealed bid solicitation, offers will be publicly opened at that time. Sealed envelopes containing offers shall be marked to show the offeror's name and address, the solicitation number, and the date and time offers are due.

B. An offer guarantee ☒ is, ☐ is not required.

C. All offers are subject to the (1) work requirements, and (2) other provisions and clauses incorporated in the solicitation in full text or by reference.

D. Offers providing less than 60 calendar days for Government acceptance after the date offers are due will not be considered and will be rejected.

OFFER *(Must be fully completed by offeror)*

14. NAME AND ADDRESS OF OFFEROR *(Include ZIP Code)*	15. TELEPHONE NUMBER *(Include area code)*
	16. REMITTANCE ADDRESS *(Include only if different than Item 14)*
CODE FACILITY CODE	

17. The offeror agrees to perform the work required at the prices specified below in strict accordance with the terms of this solicitation, if this offer is accepted by the Government in writing within _____ calendar days after the date offers are due. *(Insert any number equal or greater than the minimum requirement stated in 13D. Failure to insert any number means the offeror accepts the minimum in Item 13D.)*

AMOUNTS ▶

18. The offeror agrees to furnish any required performance and payment bonds.

19. ACKNOWLEDGEMENT OF AMENDMENTS
(The offeror acknowledges receipt of amendments to the solicitation - give number and date of each)

AMENDMENT NO.										
DATE										

20A. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER *(Type or print)*	20B. SIGNATURE	20C. OFFER DATE

AWARD *(To be completed by Government)*

21. ITEMS ACCEPTED

22. AMOUNT	23. ACCOUNTING AND APPROPRIATION DATA
24. SUBMIT INVOICES TO ADDRESS SHOWN IN ▶ *(4 copies unless otherwise specified)* ITEM	25. OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO ☐ 10 U.S.C. 2304(c) ( ) ☐ 41 U.S.C. 253(c) ( )
26. ADMINISTERED BY CODE	27. PAYMENT WILL BE MADE BY

CONTRACTING OFFICER WILL COMPLETE ITEM 28 OR 29 AS APPLICABLE

☐ 28. NEGOTIATED AGREEMENT *(Contractor is required to sign this document and return _____ copies to the issuing office.)* Contractor agrees to furnish and deliver all items or perform all work requirements identified on this form and any continuation sheets for the consideration stated in this contract. The rights and obligations of the parties to this contract shall be governed by (a) this contract award, (b) the solicitation, and (c) the clauses, representations, certifications, and specifications incorporated by reference in or attached to this contract.

☐ 29. AWARD. *(Contractor is not required to sign this document.)* Your offer on this solicitation is hereby accepted as to the items listed. This award consummates the contract, which consists of (a) the Government solicitation and your offer, and (b) this contract award. No further contractual document is necessary.

30A. NAME AND TITLE OF CONTRACTOR OR PERSON AUTHORIZED TO SIGN *(Type or print)*		31A. NAME OF CONTRACTING OFFICER *(Type or print)*	
30B. SIGNATURE	30C. DATE	31B. UNITED STATES OF AMERICA BY	31C. AWARD DATE

W911KB-05-R-0024

! ! ! C A U T I O N T O O F F E R O R S ! ! !

1. **BUSINESS HOURS:** For the Alaska District Corps of Engineers is from 7:30 A.M. to 4:00 P.M., Monday through Friday.

2. **SUBMIT PROPOSALS:** To deliver proposals to the US Army Corps of Engineers, 2204 Third St, Elmendorf AFB, Alaska, you will need to submit a request for a base pass 48 hours prior to proposal due date (See Section 00100 for additional instructions). Hand deliveries to the Alaska District, you will need call extension 753-2879 or 753-2545 in advance to arrange for pick-up. Be advised there is limited telephone service in the lobby. Please be sure to submit proposals by the time specified on Standard Form 1442, Block 13-A. Any bids received after the specified time will not be accepted.

3. **VISITORS TO ELMENDORF AFB: ***NOTE: BE ADVISED THAT DUE TO BASE SECURITY MEASURES, YOU WILL NEED EXTRA TIME TO PROCESS THROUGH BONIFACE GATE.** You are required to have the following to obtain a base pass: current Anchorage emissions control inspection certificate, driver's license, DOD ID card (if applicable), proof of insurance, Alaska vehicle registration and Contracting Division point of contact/telephone number.

4. **AMENDMENTS:** Have you acknowledge receipt of **ALL** amendments? If in doubt as to the number of amendments issued, please contact our office, (907)753-2545 or (907)753-2553. SEE SECTION 00100 FOR ADDITIONAL INFORMATION REGARDING AMENDMENTS.

5. **AMENDED PROPOSAL PAGES:** If **any** of the amendments furnished amended proposal pages, **the amended pages must be used** in submitting your proposals.

6. **OFFER GUARANTEE:** Sufficient offer guarantee in proper form (SF 24) must be furnished **with your proposal**. (FOR JOBS EXCEEDING $25,000)

7. **MISTAKE IN PROPOSAL:** Have you reviewed your proposal price for possible errors in calculation or work left out?

8. **TELEGRAPHIC MODIFICATIONS:** THE ALASKA DISTRICT DOES NOT HAVE THE CAPABILITY OF RECEIVING COMMERCIAL TELEGRAMS DIRECTLY. Offerors who wish to modify their offer by telegram are urged to ensure that telegrams are submitted within enough time to arrive at the offer depository room prior to the time specified for bid opening. (SEE STANDARD FORM 1442, BLOCK 13-A FOR SPECIFIC PROPOSAL DUE TIME). Any doubt as to time should be resolved in favor of **EXTRA TIME**. Transmission by Fax to this office is **NOT ACCEPTABLE**.

9. **OFFER ACCEPTANCE PERIOD:** The minimum OFFER acceptance period is specified in Block 13D of the Standard Form 1442, Solicitation, Offer and Award. Please ensure that you allow at least the stated number of calendar days for the Government to accept your proposal.

10. **WEB-SITE:** If you have access to the Internet, updated project listing and planholder lists are available at https://ebs.poa.usace.army.mil/AdvertisedSolicitations.asp

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RETURN THE FOLLOWING WITH YOUR BID:

Section 00010 - Completed
Section 00600 - Completed
20% Bid Bond

PROPOSAL NO. W911KB-05-R-0024

If the offer is submitted by a corporation, partnership, Joint Venture or an LLC, the applicable form listed must be completed. In the alternative, other evidence must be submitted to substantiate the authority of the person signing the offer. If a corporation, the same officer shall not execute both the offer and the certificate.

LLC

I, _____(name), certify that I am the _____(title) of the LLC named as Offeror/Contractor herein; that _____(name) who signed this offer/contract on behalf of the Offeror/Contractor was then _____(title) of said LLC; that said offer/contract was duly signed for and on behalf of said LLC by authority of its governing body, and is within the scope of its corporate powers.

_____
(Signature)

CORPORATE CERTIFICATE

I, _____, certify that I am the _____ Secretary of the corporation named as Offeror/Contractor herein; that _____ who signed this offer/contract on behalf of the Offeror/Contractor was then _____of said corporation; that said offer/contract was duly signed for and on behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

_____(CORPORATE SEAL)
(Secretary)

AUTHORITY TO BIND PARTNERSHIP

This is to certify that the names and signatures of all partners are listed below and that the person signing the offer had authority to actually bind the partnership pursuant to its partnership agreement. Each of the partners individually has full authority to enter into and execute contractual instruments, on behalf of said partnership, with the United States of America, except as follows: (State "none" or describe limitations, if any.)

This authority shall remain in full force and effect until such time as the revocation of authority by any cause whatsoever has been furnished in writing to, and acknowledged by, the Contracting Officer.

_____
(Type or Print Name) (Signature)

PROPOSAL NO. W911KB-05-R-0024

JOINT VENTURE

I, _____ , certify that I am the Secretary of the Corporation named as Offeror/Contractor Herein, that who signed this offer/contract on behalf of the Offeror/Contractor was then _____ of said corporation by authority of its governing body and is within the scope of its corporate powers. IN WITNESS WHEREOF, I have hereunto affixed my hand and the seal of said corporation this _____ day of

AFFIX CORPORATE SEAL

_____
(Secretary)

JOINT VENTURE

I, _____ , certify that I am the Secretary of the corporation names as Offeror/Contractor herein, that who signed this offer/contract on behalf of the Offeror/Contractor was then _____ of said corporation; that said offer/contract was duly signed for and on behalf of said corporation by authority of its governing body and is within the scope of its corporate powers.

IN WITNESS WHEREOF, I have hereunto affixed my hand and the seal of said corporation this _____ day of _____.

AFFIX CORPORATE SEAL

_____
(Secretary)

PROPOSAL NO. W911KB-05-R-0024

PRE-AWARD QUESTIONNAIRE

Following offer opening, the apparent low offeror will be contacted and requested to submit the data referenced below. This will expedite our pre-award process. Prior to awarding any contract, it is required for this office to have on record specific information concerning the apparent low, responsible, responsive offeror. Accordingly it is requested that you complete the following form and return to this office, ATTN: Contracting Division, CEPOA-CT-SP.

Name of Contractor _____ X Proper Block

Business Address _____ Corporation

City/State/Zip _____ Partnership

Telephone No. _____ Individual

Operating Office Address, (This Area): J/V

LLC

Name of Contractor

Business Address _____ inc. in State of:
City/State/Zip
Telephone No.

Year inc.

LIST OF CORPORATION OFFICERS/PARTNERS BY NAME AND TITLE

_____ Small Business

_____ Large Business

_____ Minority Business

YEARS EXPERIENCE in the field of proposed work (_____).
Also indicate similarity between work currently being produced and work required under subject invitation:

Financial Institution Ratings. Is your firm listed in:
a. Dun & Bradstreet: ____No ____Yes: If yes, what is the rating?
b. Thomas Register: ____No ____Yes: If yes, what is the rating?

CERTIFIED CURRENT BALANCE SHEET and latest PROFIT AND LOSS STATEMENT signed by an officer of the company. The name of your banking firm and telephone number and the name of the individual to contact for a line-of-credit reference. The last financial statements will be acceptable if they are less than 6 months old.

PROPOSAL NO. W911KB-05-R-0024

List all pending lawsuits or unsatisfied judgments against you; the nature of same and Court where filed or adjudicated. Lawsuits or judgments where full payment will be made, or are covered by your insurance are not to be included.

_____

_____

_____

List all your contract claims pending; state nature and amount of each claim and approximate date filed.

_____

_____

_____

Name(s) of Bonding Company(ies)_____

Business Address(es)_____

Your bonding capacity as established by your surety $_____

PLEASE ATTACH with Pre-Award Questionnaire a list of tools, equipment and facilities, with year, date and value which will be used for this project.

By my signature hereon, I certify that the offer price of $
on
subject project has been reviewed and is without error.

Signature_____

Title_____

Date_____

CONTRACT SCHEDULE:

Item No.	Description of Items	Maximum Quantity	Unit	Unit Price	Maximum Amount
0001	EIE210 Repair Utilidors 2-Year Base FFP Indefinite Delivery Indefinite Quantity (ID/IQ) for Design – Construction of Utilidors, Eielson AFB, Alaska. Period of performance: Task Orders may be awarded 2-years after date of contract award. Task Orders to be issued IAW Section 00810. Maximum Ordering Limitation (MOL): $48,000,000.00. Guaranteed minimum for each contract award: $10,000.00. Prices for Task Orders awarded shall be subject to the Davis-Bacon rate schedule identified in the RFP for each individual task order and the contractor's proposed maximum rates as set forth in the Fee Schedule. The total amount for both ID/IQ contracts shall not exceed $48,000,000.00 for the life of the contracts, including options.	24,000,000	$US	$1.00	$24,000,000.00
0002	EIE210 Repair Utilidors 1-Year Option FFP Indefinite Delivery Indefinite Quantity (ID/IQ) for Design – Construction of Utilidors, Eielson AFB, Alaska. Option to extend the contract(s): NTE 1 year. Option to be effected IAW Section 00810. Task Orders to be issued IAW Section 00810. Maximum Ordering Limitation as set forth at CLIN 0001 is the maximum allowable expenditure for the life of this contract – base and option years. Guaranteed minimum for each contract as a result of the exercise of this option: $7,500.00. Prices for Task Orders awarded shall be subject to the Davis-Bacon rate schedule identified in the RFPs for each individual task order and the contractor's proposed maximum rates as set forth in the Fee Schedule. The total amount for both ID/IQ contracts shall not exceed $48,000,000.00 for the life of the contracts, including options.	12,000,000	$US	$1.00	$12,000,000.00

0003	EIE210 Repair Utilidors 1-Year Option FFP Indefinite Delivery Indefinite Quantity (ID/IQ) for Design – Construction of Utilidors, Eielson AFB, Alaska. Option to extend the contract(s): NTE 1 year. Option to be effected IAW Section 00810. Task Orders to be issued IAW Section 00810. Maximum Ordering Limitation as set forth at CLIN 0001 is the maximum allowable expenditure for the life of this contract – base and option years. Guaranteed minimum for each contract as a result of the exercise of this option: $7,500.00. Prices for Task Orders awarded shall be subject to the Davis-Bacon rate schedule identified in the RFPs for each individual task order and the contractor's proposed maximum rates as set forth in the Fee Schedule. The total amount for both ID/IQ contracts shall not exceed $48,000,000.00 for the life of the contracts, including options.	12,000,000	$US	$1.00	$12,000,000.00

Total of Base Period and Options - Items 0001 thru 0003 **$48,000,000.00**

(Fee schedule will be used only in the event of a sole-source negotiation for a requirement.)

40-hour work week

Title	BASE 1st Year Maximum Hourly Rate	BASE 2nd Year Maximum Hourly Rate	OPTION 1 3rd Year Maximum Hourly Rate	OPTION 2 4th Year Maximum Hourly Rate
Project Manager	$	$	$	$
CQC System Manager	$	$	$	$
Site Superintendent	$	$	$	$
Direct Overhead	$	$	$	$
G&A Overhead	$	$	$	$
Combined Overhead	$	$	$	$

60-hour work week

Title	BASE 1st Year Maximum Hourly Rate	BASE 2nd Year Maximum Hourly Rate	OPTION 1 3rd Year Maximum Hourly Rate	OPTION 2 4th Year Maximum Hourly Rate
Project Manager	$	$	$	$
CQC System Manager	$	$	$	$
Site Superintendent	$	$	$	$
Direct Overhead	$	$	$	$
G&A Overhead	$	$	$	$
Combined Overhead	$	$	$	$

70-hour work week

Title	BASE 1st Year Maximum Hourly Rate	BASE 2nd Year Maximum Hourly Rate	OPTION 1 3rd Year Maximum Hourly Rate	OPTION 2 4th Year Maximum Hourly Rate
Project Manager	$	$	$	$
CQC System Manager	$	$	$	$
Site Superintendent	$	$	$	$
Direct Overhead	$	$	$	$
G&A Overhead	$	$	$	$
Combined Overhead	$	$	$	$

84--hour work week

Title	BASE 1st Year Maximum Hourly Rate	BASE 2nd Year Maximum Hourly Rate	OPTION 1 3rd Year Maximum Hourly Rate	OPTION 2 4th Year Maximum Hourly Rate
Project Manager	$	$	$	$
CQC System Manager	$	$	$	$
Site Superintendent	$	$	$	$
Direct Overhead	$	$	$	$
G&A Overhead	$	$	$	$
Combined Overhead	$	$	$	$

Per diem shall be in accordance with the Joint Travel Regulations.
Web site http://www.dtic.mil/perdiem/pdrates.html
All other travel related costs shall be based upon most competitive rates provided for the estimate and negotiated as a fair and reasonable amount.

Task Order Schedule:

CANTONMENT AREA:

Item No.	Description of Items	Estimated Quantity	Unit	Amount
	BASE ITEMS			
0001	Along Wabash Ave: Design approximately 720 feet of main utilidor, 220 feet of service utilidor, 2 fire hydrants, and 3 manholes from MH 333 south portal and MH 210 north portal. Except for point of connection, work excludes MH's 333 and 210 chambers. Replace services for Facility/Bldg Id Numbers 2225 & 2216. Approximately 75 feet of communications ductbank between CITS handhole HH 3-5 and utilidor MH 333. Replace and combine MH's 337 and 337-1 chambers. Approximately 120 feet of cracks for chemical grouting.	1	Lump Sum	$
0002	Along Wabash Ave: Construct Item 0001.	1	Lump Sum	$
0003	Along Wabash Ave: Design approximately 500 feet of main utilidor, 60 feet of service utilidor, 2 fire hydrants, and 4 manholes from MH 210 and 208-1. Work includes MH's 210 and 208-1 chambers. Replace services for Facility/Bldg Id Numbers 3305, 3108. Replace and combine MH's 208-1 and 208 chambers. Approximately 90 feet of cracks for chemical grouting..	1	Lump Sum	$
0004	Along Wabash Ave: Construct Item 0003.	1	Lump Sum	$
0005	Along Flightline Ave: Demolish and abatement of approximately 170 feet of steam, condensate and water pipe, appurtenances and supports utilidor from MH 701 and 704. Seal MH 701 South and MH 704 West Portals. Approximately 30 feet of cracks for chemical grouting..	1	Lump Sum	$

Total of Cantonment Area Base Items 0001 thru 0005 $

OPTIONAL ITEMS

Item No.	Description of Items	Estimated Quantity	Unit	Amount
0006	Along Flightline Ave: Design approximately 450 feet of main utilidor, 150 feet of service utilidor, 2 fire hydrants, and 6 manholes from MH 702 and 710. Work includes MH's 702, 703, 704, 706, 707 and 710 chambers. Replace service for Facility/Bldg Id Number 1215/1216. Approximately 75 feet of cracks for chemical grouting.	1	Lump Sum	$ _____
0007	Along Flightline Ave: Construct Item 0006	1	Lump Sum	$ _____
0008	Along Flightline Ave: Design sanitary sewer force main between LS 4114 and MH 710.	1	Lump Sum	$ _____
0009	Along Flightline Ave: Construct Item 0008.	1	Lump Sum	$ _____
0010	Along Flightline Ave: Demolish and abate approximately 900 feet of main utilidor from MH 710 and MH 721. Demolish approximately 425 feet of lateral utilidor that served former Bldgs 1220, 1221, 1223, 4112, and 4113 including 4 fire hydrants. Demolish all manholes.	1	Lump Sum	$ _____
0011	Along Flightline Ave: Design approximately 430 feet of main utilidor, 120 feet of service utilidor, 1 FH and 4 manholes from MH 140 and MH 134A. Work includes MH 134A, 136, 138 and 142. Replace service for Facility/Bldg Id Number1190 and 1168. Approximately 75 feet of cracks for chemical grouting.	1	Lump Sum	$ _____
0012	Along Flightline Ave: Construct Item 0011.	1	Lump Sum	$ _____
0013	Along Flightline Ave: Demolish and abate approximately 310 feet of main utilidor, and 2 manholes between MH 140 and MH 144.	1	Lump Sum	$ _____

Item No.	Description of Items	Estimated Quantity	Unit	Amount
0014	Along Flightline Ave: Design approximately 520 feet of main utilidor, 90 feet of service utilidor, 1 FH and 5 MHs from MHs 129 to 134A. Work includes MHs 129, 131, 133, 133A and 134. Replace service for Facility/Bldg Id Number 1176. Approximately 90 feet of cracks for chemical grouting..	1	Lump Sum	$
0015	Along Flightline Ave: Construct Item No. 0014	1	Lump Sum	$
0016	Inner Loop: Demolish and abate approximately 630 feet of utilidor from MH 749 towards station 66+27. Demolish all MHs except MH 749	1	Lump Sum	$
0017	Inner Loop: Demolish and abate approximately 630 feet of utilidor from station 66+27 (end of option 16) to MH 756-7. Demolish all MHs except MH 756-7	1	Lump Sum	$

Total of Cantonment Area Option Items 0006 thru 0017 **$**

Total of Cantonment Base and Optional Items **$**

ATTENTION: Department of Labor Wage Decisions AK030001, dated 29 July 2005, and AK030006, dated 29 July 2005, shall apply to CLINS 0001 through 0017 of this Schedule.

MILITARY FAMILY HOUSING (MFH):

BASE ITEMS

Item No.	Description of Items	Estimated Quantity	Unit	Amount
0001	Along Koyuk Ave: Design for approximately 790 ft of main utilidor, 30 ft of service utilidor, 3 fire hydrants and 4 manholes between MH 353 South portal and MH 360 North portal	1	Lump Sum	$
0002	Along Koyuk Ave: Construct MFH item 0018.	1	Lump Sum	$
0003	Along Koyuk Ave: Demolish and abate approximately 330 feet of service utilidor.	1	Lump Sum	$

Total of Family Housing Area Items 0001 thru 0003 $

ATTENTION: Department of Labor Wage Decisions AK030001, dated 29 July 2005, and AK030006, dated 29 July 2005, shall apply to CLINS 0001 through 0003 of this Schedule.

--END OF SECTION--

IDIQ TASK ORDER CHECKLIST

W911KB-05-R-0024

Task Order: Cantonement Area

PROPOSAL SCHEDULE: (See Schedule C)

1. PROPOSAL INSTRUCTIONS:

a. This is a DESIGN/BUILD task order

☐ No
☒ Yes, therefore paragraphs b and c below and certain Special Contract Requirements as identified in paragraph 5 shall apply.

b. The target ceiling for the contract award to design and construct the work described in the Request For Proposal is $ (see Section 00100 for Schedules C&D task orders). The offeror is encouraged to approach this amount; the Government may obtain additional funds, but cannot guarantee that additional funds will be made available for award should this amount be exceeded.

c. Participation of Commercial Firm(s):

1) The following firm(s) shall be expressly prohibited from competing on the subject acquisition:

FIRM(S): ☐ NONE ☒ PDC Inc.

2. SECTION 100, INSTRUCTIONS TO OFFEROR:

a. 52.211-14, Notice of Priority Rating for National Defense Use (Sep 90)

Any contract awarded as a result of this solicitation will be ☐ DX rated; ☒ DO rated order for the national defense use under the Defense Priorities and Allocation System (DPAS) (15CFR 700), and the Contractor will be required to follow all the requirements of this regulation

(End of Provision)

b. 52.228-1, Bid Guarantee (Sep 96)

A proposal Guarantee ☒ Is (see Section 00100 for Task Orders)
☐ Is Not required.

Proposal Bond requirements are identified at FAR clause 52.228-1, Bid Guarantee (SEP 1996) and amended into Section 700 of the basic contract. The proposal guarantee amount shall be 20 percent of the proposal price, or $3 million, whichever is less. See text below.

52.228-1 -- Bid Guarantee (Sep 96).

a) Failure to furnish a bid guarantee in the proper form and amount, by the time set for opening of bids, may be cause for rejection of the bid.

b) The bidder shall furnish a bid guarantee in the form of a firm commitment, e.g., bid bond supported by good and sufficient surety or sureties acceptable to the Government, postal money order, certified check, cashier's check, irrevocable letter of credit, or, under Treasury Department regulations, certain bonds or notes of the United States. The Contracting Officer will return bid guarantees, other than bid bonds --

   (1) To unsuccessful bidders as soon as practicable after the opening of bids; and

   (2) To the successful bidder upon execution of contractual documents and bonds (including any necessary coinsurance or reinsurance agreements), as required by the bid as accepted.

c) The amount of the bid guarantee shall be 20 percent of the bid price or $3 million, whichever is less.

d) If the successful bidder, upon acceptance of its bid by the Government within the period specified for acceptance, fails to execute all contractual documents or furnish executed bond(s) within 10 days after receipt of the forms by the bidder, the Contracting Officer may terminate the contract for default.

e) In the event the contract is terminated for default, the bidder is liable for any cost of acquiring the work that exceeds the amount of its bid, and the bid guarantee is available to offset the difference.

(End of Provision)

3. SECTION 600, CERTIFICATIONS AND REPRESENTATIONS (Must be completed by the Contractor):

a. 52.223-4, Recovered Material Certification (Oct 97):

☒ Is ☐ Is Not applicable to this Task Order. See text of provision below.

As required by the Resource Conservation and Recovery Act of 1976 (42 U.S.C. 6962(c)(3)(A)(i)), the offeror certifies, by signing this offer, that the percentage of recovered materials to be used in the performance of the contract will be at least the amount required by the applicable contract specifications.

(End of Provision)

b. 252.247-7022 Representation of Extent of Transportation by Sea (Aug 92)

☒ Is ☐ Is Not applicable to this Task Order. See text of provision below.

Submit completed representation at DFARS 252.247-7022 Representation of Extent of Transportation by Sea (Aug 92) with your proposal. If affirmative representation, then DFARS Clause 252.247-7023 Transportation of Supplies by Sea (Mar 02) is applicable to the Task Order. If a negative representation, then DFARS Clause 252.247-7024 Notification of Transportation of Supplies by Sea (Mar 02) is not applicable to the Task Order.

REPRESENTATION OF EXTENT OF TRANSPORTATION BY SEA (AUG 1992)

252.247-7022 Representation of Extent of Transportation by Sea.

The Offeror shall indicate by checking the appropriate blank in paragraph (b) of this provision whether transportation of supplies by sea is anticipated under the resultant contract. The term "supplies" is defined in the Transportation of Supplies by Sea clause of this solicitation.

Representation. The Offeror represents that it-

_____ Does anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

_____ Does not anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

b. Any contract resulting from this solicitation will include the Transportation of Supplies by Sea clause. If the Offeror represents that it will not use ocean transportation, the resulting contract will also include the Defense FAR Supplement clause at 252.247-7024, Notification of Transportation of Supplies by Sea.

4. SECTION 00700, ADDITIONAL CLAUSES WHICH APPLY TO THIS TASK ORDER

TERMS AND CONDITIONS: In accordance with Contract No. W911KB—05-D-0005, SECTION 00600 Representations and Certifications; SECTION 00700 Contract Clauses; and SECTION 00800 Special Contract Requirements (SCR's) are applicable to the Task Order with exceptions indicated below. (Contracting Officer shall check as appropriate).

a. **52.211-10 Commencement, Prosecution and Completion of Work (Apr 84)**:

1) ☐ Is ☒ Is Not applicable to this Task Order.

2) Commence work under this contract within ___10___ calendar days after the date the Contractor receives the notice to proceed.

3) Complete the entire work, as described in the Proposal Schedule above, ready for use not later than _____. The time(s) stated for completion shall include final cleanup of the premises.

b. **52.211-10 Commencement, Prosecution and Completion of Work – Alt I (Apr 84)**:

(If the completion date is expressed as a specific calendar date, computed on the basis of the contractor receiving the notice to proceed by a certain day)

1. ☒ Is ☐ Is Not applicable to this Task Order.

2. Commence work under this contract within __10____ calendar days after the date the Contractor receives the notice to proceed.

3. Complete the entire work ready for use not later than 365 calendar days; however construction work must be performed between 1 May and 15 Sep. *The time stated for completion shall include final cleanup of the premises.

4. The completion date is based on the assumption that the successful offeror will receive the notice to proceed by 11 Oct 05.

c. **52.211-12, Liquidated Damages—Construction (Sep 00)**:

1) ☒ Is ☐ Is Not applicable to this Task Order.

Liquidated Damages: $1,383 per day

e. **52.223-9, Estimated of Percentage of Recovered Material Content for EPA Designated Products (Aug 00)** (Prescription >$100K):

1) ☒ Is ☐ Is Not applicable to this Task Order.

Estimate of Percentage of Recovered Material Content For EPA Designated Products (Aug 2000)

(a) Definitions. As used in this clause—

"Post consumer material," means a material or finished product that has served its intended use and has been discarded for disposal or recovery, having completed its life as a consumer item. Post consumer material is a part of the broader category of "recovered material."

"Recovered material," means waste materials and by-products recovered or diverted from solid waste, but the term does not include those materials and by-products generated from, and commonly reused within, an original manufacturing process.

(b) The Contractor, on completion of this contract, shall—

(1) Estimate the percentage of the total recovered material used in contract performance, including, if applicable, the percentage of post consumer material content; and

(2) Submit this estimate to:

Administrative Contracting Officer
U.S. Army Corps of Engineers,
Northern Area Office
P.O. Box 35066
Fort Wainwright, Alaska 99703-0066

(End of clause)

5. SECTION 00800, ADDITIONAL SPECIAL CONTRACT REQUIREMENT CLAUSES WHICH APPLY TO THIS TASK ORDER

SCR-30 OPTION FOR INCREASED QUANTITY

☒ Is ☐ Is Not applicable to this Task Order.

a. The Government may increase the quantity of work awarded by exercising one or more of the optional Proposal items _0006_ through _0017_ in accordance with the Task Order schedule, or not at all. The Contracting Officer may exercise the option(s) by written notice to the Contractor within 60 calendar days of award of the task order. Notice to proceed will be given by exercise of option(s). Delivery of the added items shall continue at the same rate as the like items called for under the task order, unless the parties otherwise agree.

IDIQ TASK ORDER CHECKLIST

W911KB-05-R-0024

Task Order: Family Housing Area

PROPOSAL SCHEDULE: (See Schedule D)

1. PROPOSAL INSTRUCTIONS:

a. This is a DESIGN/BUILD task order

☐ No
☒ Yes, therefore paragraphs b and c below and certain Special Contract Requirements as identified in paragraph 5 shall apply.

b. The target ceiling for the contract award to design and construct the work described in the Request For Proposal is $ (see Section 00100 for Schedules C&D task orders). The offeror is encouraged to approach this amount; the Government may obtain additional funds, but cannot guarantee that additional funds will be made available for award should this amount be exceeded.

c. Participation of Commercial Firm(s):

1) The following firm(s) shall be expressly prohibited from competing on the subject acquisition:

FIRM(S): ☐ NONE ☒ PDC Inc.

2. SECTION 100, INSTRUCTIONS TO OFFEROR:

a. 52.211-14, Notice of Priority Rating for National Defense Use (Sep 90)

Any contract awarded as a result of this solicitation will be ☐ DX rated; ☒ DO rated order for the national defense use under the Defense Priorities and Allocation System (DPAS) (15CFR 700), and the Contractor will be required to follow all the requirements of this regulation

(End of Provision)

b. 52.228-1, Bid Guarantee (Sep 96)

A proposal Guarantee ☒ Is (see Section 00100 for Task Orders)
☐ Is Not required.

Proposal Bond requirements are identified at FAR clause 52.228-1, Bid Guarantee (SEP 1996) and amended into Section 700 of the basic contract. The proposal guarantee amount shall be 20 percent of the proposal price, or $3 million, whichever is less. See text below.

52.228-1 -- Bid Guarantee (Sep 96).

a) Failure to furnish a bid guarantee in the proper form and amount, by the time set for opening of bids, may be cause for rejection of the bid.

b) The bidder shall furnish a bid guarantee in the form of a firm commitment, e.g., bid bond supported by good and sufficient surety or sureties acceptable to the Government, postal money order, certified check, cashier's check, irrevocable letter of credit, or, under Treasury Department regulations, certain bonds or notes of the United States. The Contracting Officer will return bid guarantees, other than bid bonds --

   (1) To unsuccessful bidders as soon as practicable after the opening of bids; and

   (2) To the successful bidder upon execution of contractual documents and bonds (including any necessary coinsurance or reinsurance agreements), as required by the bid as accepted.

c) The amount of the bid guarantee shall be 20 percent of the bid price or $3 million, whichever is less.

d) If the successful bidder, upon acceptance of its bid by the Government within the period specified for acceptance, fails to execute all contractual documents or furnish executed bond(s) within 10 days after receipt of the forms by the bidder, the Contracting Officer may terminate the contract for default.

e) In the event the contract is terminated for default, the bidder is liable for any cost of acquiring the work that exceeds the amount of its bid, and the bid guarantee is available to offset the difference.

(End of Provision)

3. SECTION 600, CERTIFICATIONS AND REPRESENTATIONS (Must be completed by Contractor):

a. 52.223-4, Recovered Material Certification (Oct 97):

☒ Is ☐ Is Not applicable to this Task Order. See text of provision below.

As required by the Resource Conservation and Recovery Act of 1976 (42 U.S.C. 6962(c)(3)(A)(i)), the offeror certifies, by signing this offer, that the percentage of recovered materials to be used in the performance of the contract will be at least the amount required by the applicable contract specifications.

(End of Provision)

b. 252.247-7022 Representation of Extent of Transportation by Sea (Aug 92)

☒ Is ☐ Is Not applicable to this Task Order. See text of provision below.

Submit completed representation at DFARS 252.247-7022 Representation of Extent of Transportation by Sea (Aug 92) with your proposal. If affirmative representation, then DFARS Clause 252.247-7023 Transportation of Supplies by Sea (Mar 02) is applicable to the Task Order. If a negative representation, then DFARS Clause 252.247-7024 Notification of Transportation of Supplies by Sea (Mar 02) is not applicable to the Task Order.

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Representation. The Offeror represents that it-

_____ Does anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

_____ Does not anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

b. Any contract resulting from this solicitation will include the Transportation of Supplies by Sea clause. If the Offeror represents that it will not use ocean transportation, the resulting contract will also include the Defense FAR Supplement clause at 252.247-7024, Notification of Transportation of Supplies by Sea.

4. SECTION 00700, ADDITIONAL CLAUSES WHICH APPLY TO THIS TASK ORDER

TERMS AND CONDITIONS: In accordance with Contract No. W911KB—05-D-0005, SECTION 00600 Representations and Certifications; SECTION 00700 Contract Clauses; and SECTION 00800 Special Contract Requirements (SCR's) are applicable to the Task Order with exceptions indicated below. (Contracting Officer shall check as appropriate).

a. **52.211-10 Commencement, Prosecution and Completion of Work (Apr 84)**:

1) ☐ Is ☒ Is Not applicable to this Task Order.

2) Commence work under this contract within ___10___ calendar days after the date the Contractor receives the notice to proceed.

3) Complete the entire work, as described in the Proposal Schedule above, ready for use not later than _____. The time(s) stated for completion shall include final cleanup of the premises.

b. **52.211-10 Commencement, Prosecution and Completion of Work – Alt I (Apr 84)**:

(If the completion date is expressed as a specific calendar date, computed on the basis of the contractor receiving the notice to proceed by a certain day)

1. ☒ Is ☐ Is Not applicable to this Task Order.

2. Commence work under this contract within __10____ calendar days after the date the Contractor receives the notice to proceed.

3. Complete the entire work ready for use not later than 365 calendar days; however construction work must be performed between 1 May and 15 Sep. *The time stated for completion shall include final cleanup of the premises.

4. The completion date is based on the assumption that the successful offeror will receive the notice to proceed by 11 Oct 05.

c. **52.211-12, Liquidated Damages—Construction (Sep 00)**:

1) ☒ Is ☐ Is Not applicable to this Task Order.

Liquidated Damages: $1,383 per day

e. **52.223-9, Estimated of Percentage of Recovered Material Content for EPA Designated Products (Aug 00)** (Prescription >$100K):

1) ☒ Is ☐ Is Not applicable to this Task Order.

Estimate of Percentage of Recovered Material Content For EPA Designated Products (Aug 2000)

(a) Definitions. As used in this clause—

"Post consumer material," means a material or finished product that has served its intended use and has been discarded for disposal or recovery, having completed its life as a consumer item. Post consumer material is a part of the broader category of "recovered material."

"Recovered material," means waste materials and by-products recovered or diverted from solid waste, but the term does not include those materials and by-products generated from, and commonly reused within, an original manufacturing process.

(b) The Contractor, on completion of this contract, shall—

(1) Estimate the percentage of the total recovered material used in contract performance, including, if applicable, the percentage of post consumer material content; and

(2) Submit this estimate to:

Administrative Contracting Officer
U.S. Army Corps of Engineers,
Northern Area Office
P.O. Box 35066
Fort Wainwright, Alaska 99703-0066

(End of clause)

5. SECTION 00800, ADDITIONAL SPECIAL CONTRACT REQUIREMENT CLAUSES WHICH APPLY TO THIS TASK ORDER

SCR-30 OPTION FOR INCREASED QUANTITY

☐ Is ☒ Is Not applicable to this Task Order.

a. The Government may increase the quantity of work awarded by exercising one or more of the optional Proposal items _NA_ through _NA_ in accordance with the Task Order schedule, or not at all. The Contracting Officer may exercise the option(s) by written notice to the Contractor within 60 calendar days of award of the task order. Notice to proceed will be given by exercise of option(s). Delivery of the added items shall continue at the same rate as the like items called for under the task order, unless the parties otherwise agree.

SECTION 00100 for Schedule B – IDIQ Contract

PROPOSAL SUBMISSION REQUIREMENTS

PART 1 – GENERAL INFORMATION

PRELIMINARY INFORMATION

1. **REQUEST FOR PROPOSAL.** The Request for Proposal (RFP) for this solicitation, including plans and specifications (if any), will be issued electronically and available on our website – https://ebs.poa.usace.army.mil/AdvertisedSolicitations.asp - for viewing/downloading.

2. **GENERAL:**

   MAGNITUDE. The Government intends to award two (2) Indefinite Delivery/Indefinite Quantity (IDIQ) contracts as the result of this solicitation. These contracts shall be for a base period of two years for $24,000,000 and two (2) 1-year options each valued at $12,000,000, for a potential total of four (4) years. The maximum combined awards under both contracts shall not exceed $48,000,000.00, including options.

   The minimum guaranteed amount for each contract is $10,000.00 for the base period and $7,500.00 for each option period. The Government intends to compete subsequent task orders for design-build construction among the awardees of the IDIQ contracts. The maximum amount of each subsequent task order is $12,000,000.00, with a minimum task order amount of $200,000.00.

   The evaluation process and factors for award of the basic contract are as set forth in Section 00120.

   TASK ORDER AWARDS AT TIME OF CONTRACT AWARD. See Section 00100 for Schedules C & D – Task Orders. See Section 00810 for additional information.

   SUBSEQUENT TASK ORDER AWARDS. Proposals for task orders for subsequent utilidor repair requirements will be solicited from the two contract awardees. The contractor offering the best value proposal to the Government will be awarded the task order.

3. **BOND AMOUNT REQUIRED**

   a. Surety Letter of Commitment. Offerors shall obtain and furnish a surety letter of commitment from a good and sufficient surety attesting to the offeror's ability to provide performance and payment bonds for an aggregate value of $24,000,000.00.

4. SURETY REQUIREMENTS

a. Corporate Sureties - Corporate sureties for bid, performance, and payment bonds must appear on the list contained in the Department of the Treasury Circular 570, "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and Acceptable Reinsuring Companies". Other requirements for corporate sureties are contained in FAR 28.202-1.

b. Individual Sureties - If individual sureties are used for bond obligations, they must meet the requirements under FAR 28.203.

5. EQUIPMENT OWNERSHIP AND OPERATION EXPENSE SCHEDULE

Whenever a task order or modification of task order amount is negotiated, the contractor's cost proposal for equipment ownership and operating expenses shall be determined in accordance with the requirements of SCR-29, EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE, contained in the Special Contract Requirements section of the specifications. A copy of EP 1110-1-8 "Construction Equipment Ownership and Operating Expense Schedule" is available for review at the US Army Engineer District, Alaska, Bldg. 2204 3rd Street, Elmendorf AFB, Alaska.

6. SAFETY AND HEALTH REQUIREMENTS

Your attention is invited to Section 00800, Special Contract Requirements 45 (SCR-45) entitled “Safety and Health Requirements Manual, EM 385-1-1, U. S. Army Corps of Engineers”. Contractors performing construction contract work under the provisions of FAR Clause 52.236-13 entitled “Accident Prevention” shall comply with the latest version of EM 385-1-1 (including interim changes) that is in effect on the date of the solicitation. Prior to making an offer you are advised to check the HQUSACE Safety and Occupational website for the latest changes. No separate payment will be made for compliance with this paragraph or for compliance with other safety and health requirements of the awarded contract. Site Safety personnel qualifications are identified in Section 01525 of this solicitation.

7. INQUIRIES

Prospective offerors may submit inquiries concerning administrative and technical matters in writing to Leon Clay, Contract Specialist, (907) 753-2879, Fax (907) 753-2544. All written inquiries should be addressed to U.S. Army Engineer District, Alaska, ATTN: Leon Clay, CEPOA-CT-CM, P.O. Box 6898, Elmendorf AFB, AK 99506-6898. (e-mail: Evan.L.Clay @poa02.usace.army.mil)

COLLECT CALLS WILL NOT BE ACCEPTED!

8. VISITORS TO ARMY AND AIR FORCE BASES

If a firm does not have a current pass to obtain entry to Elmendorf AFB, the firm may request a day pass using the following procedures:

Forty-eight (48) business hours prior to your meeting or delivery of proposal, the firm must contact Mr. Clay at the above e-mail and request a day pass. The firm must provide:

a. The solicitation number

b. The names of all person(s) in the vehicle

c. The name of their employer(s)

State that this is a request for a day pass.

On the DAY OF ENTRY, the driver must go to the Boniface Parkway gate and provide:

a. Valid driver's license

b. Proof of current insurance

c. Proof of current IM certification

d. Current vehicle registration.

e. Please inform the security police that you are on the list for a DAY PASS.

9. FACSIMILE PROPOSALS

Facsimile proposals or modifications will not be accepted.

10. PICK-UP SERVICE FOR TELEGRAPHIC AMENDMENTS

The US Army Engineer District, Alaska, does not provide pick-up service for telegraphic amendments.

11. PERFORMANCE OF WORK BY CONTRACTOR

Your attention is invited to FEDERAL ACQUISTION REGULATION (FAR) clause 52.236-1 entitled "PERFORMANCE OF WORK BY THE CONTRACTOR". Unless submitted with the proposal, the successful contractor must furnish the Contracting Officer within 30 days after award a description of the work, which he intends to perform with his own organization (e.g. earthwork, paving, brickwork, or roofing), the percentage of the total work this represents and the estimated cost thereof.

12. EXCLUSION OF DEBARRED AND SUSPENDED CONTRACTORS

By entering into this contract, the Contractor certifies that neither it, nor any person or firm who has an interest in the Contractor's firm, is a person or firm ineligible to be awarded Government contracts by virtue of being suspended or debarred in accordance with FAR subpart 9.4.

13. PRE-PROPOSAL CONFERENCE / SITE VISIT (see Section 00100 for Schedules C & D task orders)

14. PRE-AWARD SURVEYS. The Government reserves the right to conduct a pre-award survey of any firm under consideration to confirm any part of the information furnished by the offeror, or to require other evidence of managerial, financial, technical, and other capabilities, the positive establishment of which is determined by the Government to be necessary for the successful performance of the contract.

PART I. WHO MAY SUBMIT:

A. Firms formally organized as design-build entities, design firms and construction contractors that have associated specifically for this project, or any other joint venture or sub-contractor. For the purposes of this solicitation, no distinction is made between formally organized design-build entities and project-specific design-build associations. Both are referred to as the design-build offeror (or simply "offeror") or the design-build contractor (or simply "contractor") after award of a contract.

B. Joint ventures are encouraged to apply. However, they must complete the following:

1. Obtain a Tax Identification Number (TIN) as a joint venture.

2. Prepare the Representations and Certifications (Reps/Certs) as a joint venture (For example, provide the TIN of the joint venture. Do not use a TIN from one of the parties of the joint venture. See Section 00600 of this solicitation)
3. All parties to the joint venture must sign the proposal.
4. Be registered in the Central Construction Registration (CCR) as a joint venture. CCR registration may be accomplished via the Internet at http://www.ccr.gov/.
5. Be registered in the Online Representations and Certifications Application (ORCA). ORCA registration may be accomplished via the Internet at http://orca.bpn.gov/login.aspx.

C. All firms are advised that if they are the successful proposer, they must be registered in CCR. We advise that they begin this process when they prepare their proposal in order to ensure this registration is in place should they be selected for the award. "Lack of registration in the CCR database will make an offeror ineligible for award." (Reference FAR Clause 52.204-7 Central Contractor Registration.

D. PARTICIPATION OF COMMERCIAL FIRM

The following firm may provide administrative support during the source selection process. This firm will be authorized access to only those portions of the proposal data and discussions that are necessary to enable them to perform their respective duties. The firm shall be expressly prohibited from competing on the subject acquisition and from proposal scoring, ranking, or recommending the selection of a source:

FIRM: PDC, Incorporated

Pursuant to Federal Acquisition Regulation (FAR) 9.505-4, individuals involved in this acquisition whose duties expose them to proprietary information generated in an offeror's proposal will be required to sign a nondisclosure agreement. This agreement states that, while performing their duties related to the source selection process, they will: (1) protect the offeror's information from unauthorized use or disclosure for as long as it remains proprietary, and (2) refrain from using the information for any purpose other than that for which it was furnished.

PART II. ONE-STEP REQUEST FOR PROPOSAL (RFP) PROCESS

a. The U.S. Army Engineer District, Alaska, intends to solicit this requirement using the source selection procedures in accordance with the provisions set forth in this Request for Proposal (RFP). Indefinite Delivery/Indefinite Quantity design-build contracts will be awarded to the two offerors who submit the proposals determined to be the best value and most advantageous to the Government, with cost elements and other factors considered. The solicitation criteria rely upon industry standards, as much as possible, to allow the Offeror a degree of innovation and design flexibility while meeting certain specific project requirements.

b. **The Government may award without discussions.**

c. Limited exchanges with offerors may be conducted for clarifications. A competitive range may be established for conducting discussions.

d. The process used for this solicitation will be a Request for Proposal (RFP) wherein offerors will be evaluated for award of an Indefinite Delivery Indefinite Quantity (ID/IQ) Contract and Schedules C & D task orders. The awards made based on the firm's:

- Experience to include prime contractor/design team and key subcontractors
- Past performance
- Team organization to include management plan, key personnel, and key subcontractors
- Subcontracting Plan
- Cost Elements shall include evaluation of labor rates and overhead in Schedule B. Evaluation shall be for reasonableness and affordability.
- Design Narrative
- Equipment
- Schedule
- Price

e. Each criterion will be evaluated as a discrete factor. The final determination as to the overall value of any proposal will reflect the combined effect of having considered all criteria as a whole.

PART III. GENERAL REQUIREMENTS

a. The intent of this RFP is to award two IDIQ contracts and Schedules C&D task orders for the purposes of soliciting between the awardees for the design and construction requirements needed to repair existing utilidors at Eielson AFB. See Section 00800 for additional information on Special Contract Requirements.

b. Submit your proposal packages to the U.S. Army Engineer District, Alaska at the address shown in Block 8 of Standard Form 1442.

c. The Government must receive your proposal no later than the time and date specified in Block 13 of Standard Form 1442.

d. Submit your proposal as follows. Volume 1 contains your organization's experience and capacity to perform this work. Volume 2 not applicable (see Section 00100 for Schedules C&D task order). Volume 3 contains the required cost elements on Schedule B and *pro forma* requirements.

e. All offerors will receive written notice whether they were or were not selected for contract award.

f. Proposal clarity, organization and cross-referencing are mandatory. The offerors shall sufficiently detail and clearly define all items addressed in this Section (00100) Proposal Submission Requirements.

g. Written portions shall be typewritten using not more than 6 vertical lines per inch in 8-1/2" x 11" format with three holes punched, inserted in three ring binders. The offeror shall label and tab their proposal consistent with the solicitation format index below. The proposal shall have a table of contents for each proposal criteria as established in this Section (00100). Each page of the proposal shall have the page number on the bottom of the page starting with the first page to the last.

h. Provide **original** and **three** (3) copies of Volume 1, and **original** and **one** (1) copy of Volume 3.

i. Page limitations:

1. Volume 1 is not expected to exceed 35 (thirty-five) single-sided pages. Personnel resumes and performance evaluations located in Volume 1 are not counted in the page limits.
2. Volume 2 Not applicable (see Section 00100 for Schedules C&D task orders)
3. Volume 3 is not expected to exceed 35 (thirty-five) pages.
4. Volume 4 Not applicable (see Section 00100 for Schedules C&D task orders).

PART IV. SPECIFIC PROPOSAL REQUIREMENTS

VOLUME ONE – ORGANIZATIONAL CHARACTERISTICS

Volume one is an opportunity for the offeror to provide information on its team's past experience and performance, its capacity to perform work for the ID/IQ contract, the task order items described herein, the ability to perform up to four (4) simultaneous task orders (consistent with FAR 52.216-19) and its approach to certain aspects of design and construction. The offeror shall present the material sequentially under the following Tabs A thru D, to facilitate evaluation.

TAB A: EXPERIENCE

a. Use the format specified in Part V Format Requirements of Volume One Tabs (referred to in this section as "Part V"), items 1, 2 and 3.

b. Team Experience: Provide up to three (3) examples of projects with recent and relevant experience in which the contractor and design firm have worked together. Identify any projects that are similar to this project. Provide an explanation of how these projects are similar in scope to the work required in this RFP. Also, identify any design-build experience within and between your proposed team.

c. Contractor: Provide at least one (1) and up to three (3) examples of projects that are similar to this project in scope, demonstrating relevant design/build experience. Provide an explanation of how these projects are similar in scope and magnitude to the work required in this RFP. Explain your experience with environmental compliance and permitting procedures.

d. Design Firm(s): Provide at least one (1) and up to three (3) examples of projects that are similar to this project in scope, demonstrating relevant design/build experience. Examples provided should include the primary A/E and may also include principal subcontractors. Provide an explanation of how these projects are similar in scope to the work required in this RFP.

Relevant experience includes but is not limited to: experience with design/construction of utility distribution infrastructure to include steam and condensate return systems, sewer systems, water systems, petroleum pipelines, or other similar distribution systems.

The first 3 examples as stated above in sequential order will be considered. Examples submitted in excess of the requested amount will not be considered.

TAB B: PAST PERFORMANCE

a. Provide information for each project listed under Tab A to indicate past performance. Use the format specified in Part V, item 4. The Government may also contact sources outside those listed in the proposal.

b. Past Performance Evaluation Questionnaire: The offeror may use the Past Performance Evaluation Questionnaire included at the end of this section (00100) as a means to supplement the Past Performance requirement. This is especially useful if one or both parties has limited experience with Government projects or wishes to highlight specific civilian projects. The Government will review all available recent and relevant past performance data in its possession. The Offeror will be responsible for submitting the Past Performance Interview Form to its customers in a timely manner.

- Compile responses from past customers and incorporate them into Volume 1, Tab B of the proposal.

TAB C: ORGANIZATION AND MANAGEMENT

Fully describe your proposed organization, in terms of key positions identified in Part V, items 5 & 6 and others who manage and execute the design, construction, training, and warranty support, including the projects described in Schedules C and D, future task orders to be issued under the ID/IQ, and staff (retained or readily available) to support multiple task orders within the limits of the ID/IQ. Provide this information in a narrative and in an organization chart. Resumes of key personnel should include experience commensurate with this type of project. Identify the Design/Build management team and describe the role of the Design Organization during construction. Identify your procedures for quality control throughout the design and construction process.

TAB D: SUBCONTRACTING PLAN FOR LARGE BUSINESS

Large business shall submit a Small Business Subcontracting Plan per Defense Federal Acquisition Regulation Supplement (DFARS) 252.219, proposing small business subcontracting goals for the life of the ID/IQ, including option years. Specific percentage and dollar goals will be submitted for the task order items addressed in Schedules C and D.

Following contract award, project specific plans will be required in responding to each subsequent task order RFP.

The subcontracting plan may be submitted up to 48 hours after the proposal due date and time. Subcontracting plans shall address the anticipated utilization of small businesses. List each group and goals for each small disadvantaged business, woman owned, HUB-zone, veteran owned, and disabled veteran owned.

- Submit your plan in the ATTACHED FORMAT provided in Section 00100 entitled "SUBCONTRACTING PLAN". The format outlines the areas that are to be evaluated.
- A Subcontracting Plan Evaluation Guide is also provided.

VOLUME TWO – Not applicable (see Section 00100 for Schedules C&D task orders)

VOLUME THREE – COST ELEMENTS AND PRO FORMA REQUIREMENTS

Organize the material sequentially under the following Tabs.

TAB A: SECTION 00600

Provide requirements of 00600 of this request for proposal. (Reps/Certs). Offeror shall include a printout of its ORCA representations and certifications.

TAB B: PRE-AWARD SURVEY BANK REFERENCE
Submit the Pre-Award Questionnaire form along with a letter from offeror's financial institution confirming offeror's business and financial reputation, integrity, and ability to execute this contract. This letter must include information regarding any outstanding loans, past performance on loan payments, and general account information (for example, XYZ Corporation routinely maintains a checking balance in the six figures.).

TAB C: PRICE INFORMATION/SF 1442
The cost information shall be in the Schedule B format contained in the front of this solicitation. The initial review of the cost proposals for Schedule B will include comparison with the Independent Government Estimate (IGE) and other offerors and will be used to support a determination as to reasonableness and affordability.

Include an explanation or demonstrate how indirect costs are applied to direct costs.

TAB D: POINTS OF CONTACT
Cleary identify points of contact for both construction and design firms as appropriate. Note the following:

1) Firm

2) Address

3) Primary Point of Contact (POC)

4) Phone Number

5) Fax Number

6) Email for POC if available.

TAB E: JOINT VENTURE (JV) OR LIMITED LIABILITY COMPANY (LLC)

Joint ventures must provide a copy of their Joint Venture Agreement. LLCs must provide a copy of their Articles of Organization. JVs and LLCs must provide evidence that the person(s) signing the offer has the authority to bind the organization.

VOLUME FOUR Not applicable (see Section 00100 for Schedules C&D for task orders)

PART V. FORMAT REQUIREMENTS FOR VOLUME ONE TABS

1. <u>DESIGN / BUILD EXPERIENCE AS A TEAM</u>. Use separate sheets.

A. Name of Project:

B. Location of Project:

C. Owner with Point of Contact and telephone number:

D. General Scope of Construction Project:

E. Construction Cost:

F. Project Team members: Identify key designers and disciplines and construction team members and positions. Refer to Qualifications provided under Part V, Items 4 and 5.

G. Dates Construction Began / Completed:

H. Extent and Type of Work Subcontracted:

I. Was Offeror Terminated or Assessed Liquidated Damages? (If either is "Yes," attach explanation)

2. CONSTRUCTION PRIME CONTRACTOR EXPERIENCE. Use separate sheets.

Use 'Project Experience Form' in this section.

3. DESIGN CONTRACTOR EXPERIENCE. Use separate sheets.

Use 'Project Experience Form' in this section.

4. PAST PERFORMANCE. Use separate sheets.

Use 'Owner/Client Past Performance Interview Form' in this section.

5. DESIGN PERSONNEL. Use separate sheets

Provide the information listed below on separate sheets for each person showing qualifications of: Design Project Manager as a minimum, and as appropriate, the Civil Engineer, Landscape Architect, Geotechnical Engineer, Structural Engineer, Mechanical Engineer, Electrical Engineer, Design Quality Control Manager, Hazardous Materials Specialist, etc. Use continuation sheets, if needed.

A. Name and Title:

B. Assignment on this Project:

C. Name of Firm:

D. Number of Years: With this Firm / With other Firms:

E. Education and/or special credentials and training:

F. Specific Experience and Qualifications Relevant to this Project:

6. CONSTRUCTION PERSONNEL. Use separate sheets

Provide the information listed below on separate sheets for each person showing qualifications of: Construction Project Manager, Construction Site Supervisor, Superintendent, Contractor Quality Control Manager and Safety Officer. Use continuation sheets, if needed.

A. Name and Title:

B. Assignment on this Project:

C. Name of Firm:

D. Number of Years: With this Firm / With other Firms:

E. Education and/or special credentials and training:

F. Specific Experience and Qualifications Relevant to this Project:

PROJECT EXPERIENCE FORM

Provide a completed form for each project for which experience is being claimed. Submit only projects on which the offeror was the prime contractor or prime construction contractor.

Name of offeror_____
_____

Work performed by Offeror [ ]and [ ] or by key subcontractor _____ and [ ] or [ ] design firm _____ (enter firm name and check "and" or "or" as applicable)

Was the project design-build?_____

Name of Project:_____
_____

Location of Project:_____
_____

Was Project a firm fixed price contract (Y/N)?_____If No, what type was it_____

Brief Description of Project _____
_____
_____
_____
_____

Contract Amount at Award: _____Final Contract Amount or Estimated Cost at Completion: _____ Amount added by Modification: _____

Explanation of any Cost Growth
_____
_____
_____

Multiple Interim Schedule Milestones (to include scheduled start date):
_____
_____
_____

Original Contract Completion Date: _____Final Contract Completion Date: _____

Actual Completion Date : _____Time added by Modification: _____

Explanation of any Late Finish:

_____
_____
_____
_____

Was the project terminated early or were cure/show cause letters received? ___Yes___No

Explain early termination (default/convenience) or cure/show cause letters_____
_____
_____
_____

Safety record: ____Accidents, _____Incidents, ____Violations

List and explain any customer concerns or dissatisfaction. Explain how you responded.
_____
_____

What were the SDB, WOB and small business percent goals in the original contract?

SDB:_____ WOB:_____ Small Business:_____ HBCU:_____HUBZONE:_____MI:_____

What was the actual percent achieved at contract completion?

SDB:_____ WOB:_____ Small Business:_____ HBCU:_____HUBZONE:_____MI:_____

Extent and Types of Work Subcontracted.
_____
_____

Was the project owner an agency of the federal government?_____Yes_____No

Name, address, FAX and telephone number of the owner:
_____

Name and telephone number of a representative of your firm who is knowledgeable of this project and can readily be contacted:
_____
_____

Name, address, FAX and telephone number of a representative of the owner who is knowledgeable of this project and can be readily contacted:
_____
_____

Name, address, FAX and telephone number of the Contracting Officer if project was for federal government:
_____
_____

OWNER/CLIENT PAST PERFORMANCE INTERVIEW FORM

The U.S. Army Corps of Engineer, Alaska District is conducting a past performance survey for an upcoming award. Please take the time to answer the Past Performance Interview Questions below. If you have any questions, please do not hesitate to contact this office. This Document will become Source Selection Sensitive Information IAW FAR 3.104

Name of Respondent: _____

A. <u>GENERAL INFORMATION</u>: Please correct any information below known to be inaccurate:

Contractor's Name: _____
Address: _____ Telephone Number: _____
Point of Contact: _____
Project Title or Brief Description of Work: _____*
Contract Number Provided by Offeror: _____ *
Dollar Amount: _____*
Contract Period or Dates of Performance Provided by Offeror: _____

Note: If information is incorrect, please provide correct number. Also, if offeror holds or has held other relevant contracts with your agency/organization in the last 3 years, please complete separate evaluation forms for those contracts as well.

Contractor Performed as the ? **Prime** Contractor ? **Sub**-Contractor.

B. <u>RESPONDENT INFORMATION:</u>

Name of Respondent: _____
Title: _____
Address: _____
_____
Telephone Number: _____
Fax Number: _____
Email Address: _____

C. PERFORMANCE INFORMATION: Choose the number on the scale of 1 to 6 that most accurately describes the contractor's performance or situation. ***PLEASE PROVIDE A NARRATIVE EXPLANATION FOR ANY RATINGS OF 1 OR 2.***

1	2	3	4	5	6
Unsatisfactory	**Marginal**	**None**	**Satisfactory**	**Very Good**	**Exceptional**
Performance did not meet most contractual requirements. There were serious problems and the contractor's corrective actions were ineffective.	Performance did not meet some contractual requirements. There were problems, some of a serious nature, for which corrective action was only marginally effective.	No record of past performance or the record is inconclusive	Performance met contract requirements. There were some minor problems and corrective actions taken by the contractor were satisfactory.	Performance met all contract requirements and exceeded some to the customer's benefit. There were a few minor problems, which the contractor resolved in a timely, effective manner.	Performance met all contract requirements and exceeded many to the customer's benefit. Problems, if any, were negligible and were resolved in a timely, highly effective manner

	The contractor:							
1.	Provided experienced managers and supervisors with the technical and administrative abilities needed to meet contract requirements.	1	2	3	4	5	6	N/A
2.	Demonstrated ability to hire, maintain, and replace, if necessary, qualified personnel during the contract period.	1	2	3	4	5	6	N/A
3.	Delegated authority to project managers and supervisors	1	2	3	4	5	6	N/A
4.	Home office participated in solving significant local problems.	1	2	3	4	5	6	N/A
5.	Followed approved quality control plan.	1	2	3	4	5	6	N/A
6.	Provided effective quality control and/or inspection procedures to meet contract requirements.	1	2	3	4	5	6	N/A
7.	Corrected deficiencies in timely manner and pursuant to their quality control procedures.	1	2	3	4	5	6	N/A
8.	Provided timely resolution of contract discrepancies	1	2	3	4	5	6	N/A
9.	Identified risks/problems as they occurred.	1	2	3	4	5	6	N/A
10.	Suggested alternative approaches to problems.	1	2	3	4	5	6	N/A
11.	Displayed initiative to solve problems.	1	2	3	4	5	6	N/A
12.	Developed realistic progress schedules.	1	2	3	4	5	6	N/A
13.	Met established project schedules.	1	2	3	4	5	6	N/A
14.	Provided timely resolution of warranty defects.	1	2	3	4	5	6	N/A
15.	Was responsive to contract changes.	1	2	3	4	5	6	N/A
16.	Provided adequate project supervision.	1	2	3	4	5	6	N/A
17.	Obtained consent of surety for increases in bonding as work-in-progress increased.	1	2	3	4	5	6	N/A
18.	Paid subcontractors/suppliers in a timely manner.	1	2	3	4	5	6	N/A
19.	Provided accurate and complete line item cost proposals including all aspects of work required for each task.	1	2	3	4	5	6	N/A
20.	Demonstrated ability to deploy equipment and materials in a timely manner	1	2	3	4	5	6	N/A
21.	Provided experienced managers and supervisors with technical and administrative abilities to meet contract requirements	1	2	3	4	5	6	N/A
22.	Management of subcontracts	1	2	3	4	5	6	N/A
23.	Compliance with labor standards	1	2	3	4	5	6	N/A
24.	Compliance with safety standards	1	2	3	4	5	6	N/A
25.	Cooperated with contracting agency personnel after award.	1	2	3	4	5	6	N/A
26.	Selected appropriate methods & materials for arctic/sub-arctic construction	1	2	3	4	5	6	N/A
27.	Planned for mobe, demobe, execution in light of constraints and hardships encountered in arctic/sub-arctic construction	1	2	3	4	5	6	N/A
28.	Performed work in arctic/sub-arctic condition	1	2	3	4	5	6	N/A

29.	Build and managed cohesive team for design-build efforts	1	2	3	4	5	6	N/A
30.	Adhered to codes and regulations	1	2	3	4	5	6	N/A
31.	Met needs of and addressed concerns of future facility occupants	1	2	3	4	5	6	N/A
32.	Provided functional and operable facilities	1	2	3	4	5	6	N/A
33.	Quality Control: Followed approved quality control plan; provided effective quality control and/or inspection procedures to meet contract requirements; corrected deficiencies in timely manner and pursuant to their quality control procedures	1	2	3	4	5	6	N/A
34.	Provide timely resolution of contract discrepancies	1	2	3	4	5	6	N/A
35.	Identified risks/problems as they occurred	1	2	3	4	5	6	N/A
36.	Suggested alternative approaches to problems	1	2	3	4	5	6	N/A
37.	Displayed initiative to solve problems	1	2	3	4	5	6	N/A
38.	Was the contractor ever issued a cure or show cause notice under the referenced contract? If yes, explain outcome in "remarks."					Yes		No
39.	Would you award another contract to this contractor? If not, explain in "remarks."					Yes		No

Remarks:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

D. FAX OR EMAIL COMPLETED QUESTIONNAIRE FORM TO:

U.S. Army Engineer District, Alaska District
Attn: Contracting Division (Leon Clay)
P.O. Box 6898,
Elmendorf AFB, AK 99506-6898.
(907) 753-2879 or FAX (907) 753-2544
E-mail: Evan.L.Clay@poa02.usace.army.mil

SUBCONTRACTING GOALS FY 2005
for the Alaska District Contracts
(THIS PLAN MAY BE SUBMITTED WITHIN
48 BUSINESS HOURS AFTER THE PROPOSAL DUE DATE)

Small Business	50.9%
Small Disadvantaged	8.8%
Woman-Owned Small Business	7.2%
Service Disabled Veteran-Owned Small Business	0.5%
HUB-Zone Small Business	2.9%

1. SUBMIT YOUR PLAN IN THE ATTACHED FORMAT. Please address each paragraph and DO NOT change the order or format of the tables. An electronic (MS Word) document is available by emailing a request to Evan.L.Clay@poa02.usace.army.mil.

2. Evaluation of the subcontracting plan is as stated in Section 00120 Volume One SUBCONTRACTING PLAN AND SMALL BUSINESS PARTICIPATION. An example of the SUBCONTRACTING PLAN EVALUATION GUIDE is attached.

SUBCONTRACTING PLAN FOR LARGE BUSINESS

FIRM: _____ Sol. No. W911KB-05-R-0024
_____ Contract No. _____
_____

PROJECT TITLE _____

CONTRACT SPECIALIST RESPONSIBLE FOR PRE-AWARD
Mr. Leon Clay_907/753-2879
NAME OF OFFICE ADMINISTERING CONTRACT TO INCLUDE SUBCONTRACTING PLAN: (If more than one office, name all offices/responsible parties):
_____
_____

I. Dollar Amounts (If possible, DO NOT include indirect costs):

SEE ATTACHED TABLE

II. Percentage goals (expressed in terms of percentage of total planned subcontracting dollars).

SEE ATTACHED TABLE

1. State your firm's policy statement or evidence of internal guidance to company buyers recognizing commitment to Pub. L. 99-661, Section 1207, and Pub.L. 100-180, Section 806. Describe special emphasis placed on subcontracting with SDBs. Describe corporate and management commitment to meeting your subcontracting plan. (HBCUs & MI are excluded from evaluation)

2. Describe your firm's efforts to broaden SB, SDB, WOSB , HUBZone SB, Service Disabled Veteran-Owned SB, and Veteran-Owned small business active vendor base. Specifically describe your efforts in increasing subcontracts to SBs and SDBs for non-complex and general housekeeping supplies or services normally awarded to firms already in your firm's vendor base. Describe established plans to use competition restricted to SDBs and give details about how your firm will accomplish this. (HBCUs & MI are excluded from evaluation).

3. Describe your firm's "Outreach Efforts" to work with organizations to identify potential sources for items not traditionally awarded to SB, SDB, WOSB, HUBZone SB, Service Disabled Veteran Owned SB, and Veteran-Owned SB firms. And, your proposed plan to conduct reviews to determine the competence, ability, experience and capacity available in SB, SDB, WOSB, HUBZone SB, Service Disabled Veteran-Owned SB, and Veteran-Owned SB firms and to provide them technical assistance. (HBCUs & MIs are excluded from evaluation).

4. Describe supplies and services to be subcontracted and planned for subcontracting to SBs, SDBs, WOSBs , HUBZone SB, Service Disabled Veteran-Owned SB, and Veteran-Owned SB firms. Indicate intent to review major product/system components and key project elements of R&D, construction, service and spare parts contracts for subcontracting to each of the above elements. Specifically describe how your plan targets specific SBs, SDBs, WOSBs, HUBZone SB, Service Disabled Veteran-Owned SB, and Veteran-Owned SB for review to determine their competence, ability, experience and capacity and identifies specific components or major portions of the acquisition for consideration of the above elements. Describe your firm's intent to work with large business subcontractors for major subsystems or

key project elements to ensure "flowdown" of this philosophy. (HBCUs & MIs are excluded from evaluation).

5. Describe your firm's efforts, based on results of efforts described in No. 3 and No. 4 above to ensure that opportunity to participate in acquisitions. Specifically, describe how the firm intends to evaluate its own SB, SDB, WOSB, HUBZone SB, Service Disabled Veteran-Owned SB and Veteran-Owned SB award performance and program effectiveness against the established goals, both company-wide and for individual plan being negotiated. Include SBs, SDBs, WOSBs, HUBZone SBs, Service Disabled Veteran-Owned SB and Veteran-Owned SB by name as members of original team for providing major service or performing a significant portion of the effort. Additionally, how does your firm plan to establish long-range relationships with the above elements? (HBCUs & MIs are excluded from evaluation).

6. Your firm's plan (in section I and II) will be evaluated on the development of percentage goals based on planned subcontracting which is challenging, yet realistic as stated in item # 6 of Appendix CC of the AFARS. (HBCUs & MIs are excluded from evaluation).

7. Past performance to the extent your firm has historically been successful in establishing realistic, yet challenging, goals and achieving them will be evaluated. In cases where there has been no previous defense contract history, your firm will not be penalized. (HBCUs & MIs are excluded from evaluation).

8. Regulatory and statutory requirements described in # 8 of Appendix CC must be included in your firm's subcontracting plan and will be evaluated accordingly. If any of the subject elements are not complied with, your plan will not be approved and will be returned to your office for revision before the contract can be awarded. Included in the appendix are the following elements to include WOSBs, HUBZone SBs, Service Disabled Veteran-Owned SB, and Veteran-Owned SB. (HBCUs & MIs are excluded from evaluation).

a) A separate goal for SB, SDB, WOSBs, HUBZone SB, Service Disabled Veteran-Owned SB and Veteran-Owned SB.

b) A separate goal for the basic contract and, if applicable, each option.

c) The name of the company employee responsible for administration of plan and employee's duties as follows:

The individual who will administer this firm's subcontracting program:

NAME ADDRESS

TELEPHONE

Describe Description of duties:

d) A statement affirming intent to comply with subcontracting "flowdown" provisions as follows:

This firm will include Clause 52.219-8 entitled, "Utilization of Small Business Concerns, Small Disadvantaged, Women-Owned Small Business Concerns," in all subcontracts which offer further subcontracting opportunities and will require all subcontractors (except small business concerns) who receive subcontracts in excess of $500,0000.00 to adopt and comply with a plan

similar to the plan required by the clause at 52.219-9 Alternate II, "Small Business Subcontracting Plan." (HBCUs & MIs are excluded from evaluation).

e) A statement affirming willingness to cooperate in studies and to provide reports as follows:

This firm will submit such periodic reports and cooperate in any studies or surveys as may be required by the Corps of Engineers, Alaska District or the Small Business Administration in order to determine the extent of compliance by the company with the subcontracting plan as follows:

This firm will submit Standard Form (SF) 294, Subcontracting Report for Individual Contract, and SF 295, Summary Subcontract in accordance with the instructions on the forms. The name, address, and telephone number of the office responsible for preparation and submission of the reports is:

I, the undersigned, a designated officer of do hereby state that this firm agrees to carry out the Government's policy to provide the maximum practicable opportunity for small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals to participate in the performance of this contract consistent with its efficient performance.

f) A statement that indirect costs are either included or excluded from the proposed goals and, and if included, how they will be prorated.

g) Description of efforts to ensure that SBs, SDBs, WOSBs, HUBZone SB, Service Disabled Veteran-Owned SB, and Veteran-Owned SBs have an equitable opportunity to participate in the acquisition: (HBCUs & MIs are excluded from evaluation).

h) A recitation of the types of records maintained to demonstrate procedures adopted to comply with the requirements and goals in the plan as follows:

This firm will maintain the following types of records to demonstrate procedures which have been adopted to comply with the requirements and goals set forth in the plan. (Set forth here are the records to be maintained. In order to be considered acceptable, the records shall include at the minimum the following:)

(1) SB, SDB, WOSB, HUBZone SB, Service Disabled Veteran-Owned SB, and Veteran-Owned SB lists, guides, and other data identifying vendors.

(2) Organizations contacted or to be contacted for SB, SDB, WOSB , HUBZone SB, Service Disabled Veteran-Owned SB, and Veteran-Owned SB sources.

(3) Record of all subcontract solicitations indicating on each solicitation (i) whether SB, SDB, WOSB, HUBZone SB and Veteran-Owned SBs were solicited, and if not, why not.

(4) Records to support other outreach efforts, to include the following: contact with minority and small business trade associations, contact with business development organizations, and attendance at small and minority business procurement conferences and trade fairs.

(5) Records to support internal activities to guide and encourage buyers to include the following: workshops, seminars, training programs, and monitoring activities to evaluate compliance.

(6) Records to support award data on a contract-by-contract basis submitted to the Government to include name, address, and business size of subcontractor.

FIRM'S REPRESENTATIVE:

SIGNATURE:

PRINTED/TYPED NAME:

TITLE:

GOVERNMENT REVIEW

CONTRACT SPECIALIST_____

DEPUTY FOR SMALL BUSINESS (DSB) REVIEW:

1. Received Date:_____ 2. Returned Date: _____

3. Recommendation Date: _____

CONTRACTING OFFICER _____
Signature

NAME & TITLE _____

DATE _____

TABLE 1: Subcontracting dollars
TABLE 2: Subcontracting goals

TABLE 1: SUBCONTRACTING DOLLARS

	Base CLIN 0001	Option CLIN 0002	Option CLIN 0003							
a. Total amount of contract										
b. Total estimated amount of planned subcontracted dollars										
TOTAL DOLLARS PLANNED TO BE SUBCONTRACTED										
c. Small business (including d, e, f, & g below)										
d. Small disadvantaged businesses										
e. Women-owned small businesses										
f. Service disabled veteran-owned small businesses										
g. HUB-zone small businesses										

TABLE 2: SUBCONTRACTING GOALS (PERCENTAGE)

	Base CLIN 0001	Option CLIN 0003	Option CLIN 0003							
a. Percentage of contract to be subdivided (1b divided by 1a)										
PERCENETAGE OF SUBCONTRACTING DOLLAS TO BE SUBCONTRACTED TO:										
b. Small business (1c divided by 1b)										
c. Small disadvantaged businesses (1d divided by 1b)										
d. Women-owned small businesses (ie divided by 1b)										
e. Service disabled veteran-owned small businesses (1g divided by 1b)										
f. HUB-zone small businesses (1h divided by 1b)										

SUBCONTRACTING PLAN EVALUATION GUIDE FOR LARGE BUSINESS
AFARS Appendix DD

1. Policy statement or evidence of internal guidance to company buyers recognizing commitment to PL 99-661 and PL 100-180.

0 No written policy statement in plan.
1-2 Plan includes a general policy, but no evidence of recognition of special emphasis being placed on subcontracting with SDBs, HBCUs, and MIs as a result of public laws
3-5 Definitive corporate and management commitment evidenced in individual plan and master plan by specifically referencing the public laws.

2. Efforts to broaden SB and SDB active vendor base.

0 Description of efforts merely parrots requirements of FAR to maintain listing of vendors.
1-2 Contains evidence that effort is directed at increasing subcontracts to SBs and SDBs for noncomplex and general housekeeping, supplies or services normally awarded to firms already in existing vendor base.
3-10 Addresses efforts to increase the number of SB and SDB sources awarded subcontracts, establishes plans to use competition restricted to SDBs and gives details about how plans to use competition restricted to SDBs will be accomplished.

NOTE: Minus 2: Includes efforts described above which rate 1-2 or 3-10 points but, when it would be appropriate, does not address effort to involve HBCUs and MIs in performing the contract for which the subcontracting plan is submitted.
Minus 3: Includes efforts described above which rate 1-2 or 3-10 points but does not address effort to identify and overcome obstacles which may prohibit award to HBCUs and MIs sources currently in vendor base.

3. Outreach (ongoing and planned actions).

0 No mention of outreach.
1-4 Describes efforts to work with organizations in FAR 52.219-9(d)(11(iv) to identify potential sources for items not traditionally awarded to SB or SDB firms.
5-10 Indicates intent to conduct reviews to determine the competence, ability, experience and capacity available in SB or SDB firms and to provide technical assistance to SBs and SDBs or explains why such reviews or technical assistance are not appropriate.

NOTE: Minus 3: Fails to indicate the extent to which HBCU and MI participation will be considered and facilitated in performing the contract for which the subcontracting plan is submitted, or fails to indicate other efforts to increase HBCU and MI participation in future DOD acquisitions.

4. Describes supplies and services to be subcontracted and planned for subcontracting to SBs, SDBs, HBCUs, and MIs.

0 No mention.
1-4 Generic list of routine supplies and services included in materials listing for the specific contract.

5-7 Indicates intent to review major product/system components and key project elements of R&D, construction, service and spare parts contracts for subcontracting to SBs, SDBs, HBCUs, and MIs.

8-10 Substantive plan actually targets specific SBs, SDBs, HCBUs, and MIs for review to determine their competence, ability, experience and capacity and identifies specific components or major portions of the acquisition for consideration of SB, SDB, HBCU or MI competition. Also, indicates intent to work with large business subcontractors for major subsystems or key project elements to ensure "flowdown" of this philosophy.

5. Describes specific efforts, based on results of efforts described in Elements No. 8 an d9 to ensure that SB, SDB, HBCU and MI concerns have equitable opportunity to participate in acquisitions.

0 No mention.

1-4 Description of efforts merely parrots FAR 19.704(a)(3) and (6) and 52.219-9(d)(8).

5-8 Describes how the company intends to evaluate its own SB and SDB award performance and program effectiveness against the established goals, both company-wide and for the individual plan being negotiated.

9-12 Includes SBs, SDBs, HBCUs, and MIs by name as members of origina l team for producing specific major components or subassemblies, providing a major service or performing a significant portion of the effort.

13-15 Describes special efforts to establish long-range relationships with SBs, SDBs, HBCUs, and MIs, including le ader-follower techniques, when appropriate.

6. Development of percentage goal is based on planned subcontracting which is challenging, yet realistic.

0 Fails to include a specific goal for subcontracting with SBs, SDBs, HBCUs, and MIs or proposes 0% goal without substantive justification..

1-5 Sets small business goal of less than 10% and/or SDB/HBCU/MI goal of 2% or less with no significant justification.

6-10 Sets goals of less than 10% (SB) and 2% (SDB), but contractor shows evidence of reasonable effort, including use of set-asides, to involve SBs, SDBs, HBCUs, or MIs in nontraditional areas.

11-20 Sets goals of over 10% (SB) and 2% (SDB) and also identifies specific SB, SDB, HBCU, or MI concerns planned to be subcontractors, including the item or service or effort to be subcontracted. Indicates extent to which firms have participated in proposal preparation or otherwise indicates extent to which subcontracting to these firms may reasonably be assured. Goals are realistic in view of actions stated in other portions of the plan and make-or-buy plan, if applicable.

21-30 Same as for 11-20 points, but proposed percent of goal is reasonable in comparison with prior experience, yet indicates reasonable effort to improve on past experience in terms of dollars, number of SDBs, HBCUs, and MIs involved, and movement into area with previous SDB, HBCU or MI involvement.

31-40 Same as 21-30 points, but includes evidence that if SBs, universities or institutions other than HBCUs or MIs are performing on a major component or subassembly, proving a major service or performing on a key project element, SDBs, HBCUs and MIs will also be given an opportunity to perform. Also, the percentage of the SDB, HBCU, MI goal compares favorably with the percentage of SB goal, consistent with the Government-wide goals of 20% to SB with 5% to SDB, or is otherwise explained, and the plan includes a forecast for improvement. (The SB and SDB goals in the subcontracting plan should approximate the ratio between the SB and SDB Government-wide goals.)

7. Past performance.

0-10 Extent to which the company has historically been successful in establishing realistic, yet challenging, goals and achieving them. Consider DCMC comments on prime contractor's justifications for prior failure to achieve goals. To avoid penalizing the contractor when there has been no previous defense contract, assign 10 points.

8. ***Other regulatory and statutory requirements.***
If any of the following are answered "**NO**," the plan is **not acceptable** and if discussions are deemed necessary the plan must be revised to comply prior to award:

Does the plan have –

A. A separate goal for SB and SDB? (FAR 19.704(a)(1) and FAR 52.219-9(d)(1) and (2))

B. A separate goal for the basic contract and, if applicable, each option? (FAR 19.704(c))

C. The name of the company employee responsible for administration of plan and employee's duties? (FAR 19.704(a)(2) and 52.219-9(d)(7))

D. A statement affirming intent to comply with subcontracting "flowdown" provisions? (FAR 19.704(a)(4) and 52.219-9(d)(10))

E. A statement affirming willingness to cooperate in studies and to provide reports? (FAR 19.704(a)(5) and 52.219-9(d)(10))

F. A statement that indirect costs are either included or excluded from the proposed goals and, if included, how they will be prorated? (FAR 52.219-9(d)(6))

G. A description of efforts to ensure that SBs and SDBs have an equitable opportunity to participate in the acquisition? (FAR 52.219-9(d)(8))

H. A recitation of the types of records maintained to demonstrate procedures adopted to comply with the requirements and goal in the plan? (FAR 52.219-9(d)(11))

END OF SECTION 00100

SECTION 00100 for Schedules C & D – Task Orders

PROPOSAL SUBMISSION REQUIREMENTS

COST LIMITATIONS:

The target ceiling for the task order awards for:

a. Design and construction of the Cantonment area (Schedule C, CLINs 0001 through 0017) is $8,100,000.

b. Design and construction of the Family Housing area (Schedule D, CLINs 0001 through 0003) is $2,100,000.

The offeror is encouraged to approach but not exceed these amounts, as the Government may not obtain additional funds. It is unlikely additional funds will be made available for award should the target ceiling amounts are exceeded.

NOTE: IF THE SOLICITATION IS CANCELLED, ALL PROPOSAL PREPARATION COSTS WILL BE BORNE BY THE OFFEROR. THE GOVERNMENT WILL NOT REIMBURSE OFFERORS FOR THEIR COSTS ASSOCIATED IN PREPARING THEIR PROPOSALS.

PART 1 – GENERAL INFORMATION

PRELIMINARY INFORMATION

1. **REQUEST FOR PROPOSAL.** The Request for Proposal (RFP) for this solicitation, including plans and specifications (if any), will be issued electronically and available on our website – https://ebs.poa.usace.army.mil/AdvertisedSolicitations.asp - for viewing/downloading.

2. **GENERAL:**

   TASK ORDER AWARDS AT TIME OF CONTRACT AWARD. Proposals for the utilidor repair requirements identified in Schedules C and D will be solicited from all offerors. All offerors will be considered for concurrent task order awards for Schedules C and D.

3. BOND AMOUNT REQUIRED

a. Bid Bonds. Each offeror shall furnish a bid bond from a good and sufficient surety in the amount of 20% of its total proposed price for the proposal for Schedule C, CLINs 0001 through 0017, and for Schedule D, CLINs 0001 through 0003.

b. Performance & Payment Bonds

(1) Performance Bond & Payment Bond: The performance and payment bonds shall each equal one hundred percent (100%) of the amount of each task order. (See Clause 52.228-15, Performance and Payment Bonds Construction (Jul 2000), Section 700)

(2) The Government may require additional performance bond protection if the task order amount is increased. The increase in protection shall generally equal 100 percent (100%) of the increase in task order amount. The Government may secure additional protection by directing the contractor to increase the penal amount of the existing bond or to obtain an additional bond.

4. SURETY REQUIREMENTS

a. Corporate Sureties - Corporate sureties for bid, performance, and payment bonds must appear on the list contained in the Department of the Treasury Circular 570, "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and Acceptable Reinsuring Companies". Other requirements for corporate sureties are contained in FAR 28.202-1.

b. Individual Sureties - If individual sureties are used for bond obligations, they must meet the requirements under FAR 28.203.

5. EQUIPMENT OWNERSHIP AND OPERATION EXPENSE SCHEDULE

Whenever a task order or modification of task order amount is negotiated, the contractor's cost proposal for equipment ownership and operating expenses shall be determined in accordance with the requirements of SCR-29, EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE, contained in the Special Contract Requirements section of the specifications. A copy of EP 1110-1-8 "Construction Equipment Ownership and Operating Expense Schedule" is available for review at the US Army Engineer District, Alaska, Bldg. 2204 3rd Street, Elmendorf AFB, Alaska.

6. SAFETY AND HEALTH REQUIREMENTS

Your attention is invited to Section 00800, Special Contract Requirements 45 (SCR-45) entitled “Safety and Health Requirements Manual, EM 385-1-1, U. S. Army Corps of Engineers”. Contractors performing construction contract work under the provisions of FAR Clause 52.236-13 entitled “Accident Prevention” shall comply with the latest version of EM 385-1-1 (including interim changes) that is in effect on the date of the solicitation. Prior to making an offer you are advised to check the HQUSACE Safety and Occupational website for the latest changes. No separate payment will be made for compliance with this paragraph or for compliance with other safety and health requirements of the awarded contract. Site Safety personnel qualifications are identified in Section 01525 of this solicitation.

7. INQUIRIES

Prospective offerors may submit inquiries concerning administrative and technical matters in writing to Leon Clay, Contract Specialist, (907) 753-2879, Fax (907) 753-2544. All written inquiries should be addressed to U.S. Army Engineer District, Alaska, ATTN: Leon Clay, CEPOA-CT-CM, P.O. Box 6898, Elmendorf AFB, AK 99506-6898. (e-mail: Evan.L.Clay @poa02.usace.army.mil)

COLLECT CALLS WILL NOT BE ACCEPTED!

8. VISITORS TO ARMY AND AIR FORCE BASES

If a firm does not have a current pass to obtain entry to Elmendorf AFB, the firm may request a day pass using the following procedures:

Forty-eight (48) business hours prior to your meeting or delivery of proposal, the firm must contact Mr. Clay at the above e-mail and request a day pass. The firm must provide:

a. The solicitation number

b. The names of all person(s) in the vehicle

c. The name of their employer(s)

State that this is a request for a day pass.

On the DAY OF ENTRY, the driver must go to the Boniface Parkway gate and provide:

a. Valid driver's license

b. Proof of current insurance

c. Proof of current IM certification

d. Current vehicle registration.

e. Please inform the security police that you are on the list for a DAY PASS.

9. FACSIMILE PROPOSALS

Facsimile proposals or modifications will not be accepted.

10. PICK-UP SERVICE FOR TELEGRAPHIC AMENDMENTS

The US Army Engineer District, Alaska, does not provide pick-up service for telegraphic amendments.

11. PERFORMANCE OF WORK BY CONTRACTOR

Your attention is invited to FEDERAL ACQUISTION REGULATION (FAR) clause 52.236-1 entitled "PERFORMANCE OF WORK BY THE CONTRACTOR". Unless submitted with the proposal, the successful contractor must furnish the Contracting Officer within 30 days after award a description of the work, which he intends to perform with his own organization (e.g. earthwork, paving, brickwork, or roofing), the percentage of the total work this represents and the estimated cost thereof.

12. EXCLUSION OF DEBARRED AND SUSPENDED CONTRACTORS

By entering into this contract, the Contractor certifies that neither it, nor any person or firm who has an interest in the Contractor's firm, is a person or firm ineligible to be awarded Government contracts by virtue of being suspended or debarred in accordance with FAR subpart 9.4.

13. PRE-PROPOSAL CONFERENCE / SITE VISIT

A pre-proposal conference and site visit will be conducted; 10:00 a.m., August 17, 2005, at 2310 Central Avenue, Eielson AFB, Alaska. Offerors wishing to attend will be required to provide their full name, company name, and telephone number to Leon Clay, Contract Specialist**,** at the U.S. Army Engineer District, Alaska, at FAX (907) 753-2544, at least 2 business days prior to the site visit. Personal and vehicle identification will be required to pass security at the gate at Eielson AFB.

Questions submitted at least two days prior to the proposal conference/site visit will be answered at the conference when feasible. Submit questions to Leon Clay, via email (Evan.L.Clay@poa02.usace.army.mil) or FAX (907) 753-2544. Minutes of the conference will be recorded and distributed to all contractors as an amendment to this RFP regardless of whether or not they attend the pre-proposal conference.

Prospective offerors are advised to visit the work site to ascertain the degree of difficulty expected in avoiding existing features and other factors affecting the work. Any difficulties arising during performance of work that would have been evident at such a prior inspection will not be considered to be a result of differing site conditions.

14. PRE-AWARD SURVEYS. Not applicable (see Section 00100 for IDIQ Contract).

PART I. WHO MAY SUBMIT:

A. Firms formally organized as design-build entities, design firms and construction contractors that have associated specifically for this project, or any other joint venture or sub-contractor. For the purposes of this solicitation, no distinction is made between formally organized design-build entities and project-specific design-build associations. Both are referred to as the design-build offeror (or simply "offeror") or the design-build contractor (or simply "contractor") after award of a contract.

B. Joint ventures are encouraged to apply. However, they must complete the following:

1. Obtain a Tax Identification Number (TIN) as a joint venture.
2. Prepare the Representations and Certifications (Reps/Certs) as a joint venture (For example, provide the TIN of the joint venture. Do not use a TIN from one of the parties of the joint venture. See Section 00600 of this solicitation)
3. All parties to the joint venture must sign the proposal.
4. Be registered in the Central Construction Registration (CCR) as a joint venture. CCR registration may be accomplished via the Internet at http://www.ccr.gov/.
5. Be registered in the Online Representations and Certifications Application (ORCA). ORCA registration may be accomplished via the Internet at http://orca.bpn.gov/login.aspx.

C. All firms are advised that if they are the successful proposer, they must be registered in CCR. We advise that they begin this process when they prepare their proposal in order to ensure this registration is in place should they be selected for the award. "Lack of registration in the CCR database will make an offeror ineligible for award." (Reference FAR Clause 52.204-7 Central Contractor Registration.

D. PARTICIPATION OF COMMERCIAL FIRM

The following firm may provide administrative support during the source selection process. This firm will be authorized access to only those portions of the proposal data and discussions that are necessary to enable them to perform their respective duties. The firm shall be expressly prohibited from competing on the subject acquisition and from proposal scoring, ranking, or recommending the selection of a source:

FIRM: PDC, Incorporated

Pursuant to Federal Acquisition Regulation (FAR) 9.505-4, individuals involved in this acquisition whose duties expose them to proprietary information generated in an offeror's proposal will be required to sign a nondisclosure agreement. This agreement states that, while performing their duties related to the source selection process, they will: (1) protect the offeror's information from unauthorized use or disclosure for as long as it remains proprietary, and (2) refrain from using the information for any purpose other than that for which it was furnished.

PART II. ONE-STEP REQUEST FOR PROPOSAL (RFP) PROCESS

a. The U.S. Army Engineer District, Alaska, intends to solicit this requirement using the source selection procedures in accordance with the provisions set forth in this Request for Proposal (RFP). Task orders will be awarded to the awardee(s) of the IDIQ contracts who submit the proposals determined to be the best value and most advantageous to the Government based on the task order items, with price and other factors considered. The solicitation criteria rely upon industry standards, as much as possible, to allow the Offeror a degree of innovation and design flexibility while meeting certain specific each task order requirements.

b. **The Government may award without discussions.**

c. Limited exchanges with offerors may be conducted for clarifications. A competitive range may be established for conducting discussions.

d. The process used for this solicitation will be a Request for Proposal (RFP) wherein offerors will be evaluated for award of two Task Orders described herein. The award of the task orders will be made based on the firm's:

- Design Narrative
- Equipment
- Schedule
- Price

e. Each criterion will be evaluated as a discrete factor. The final determination as to the overall value of any proposal will reflect the combined effect of having considered all criteria as a whole.

PART III. GENERAL REQUIREMENTS

a. The intent of this RFP is to award two IDIQ contracts and Schedules C&D task orders for the purposes of soliciting between the awardees for the design and construction requirements needed to repair existing utilidors at Eielson AFB. See Section 00800 for additional information on Special Contract Requirements.

b. Submit your proposal packages to the U.S. Army Engineer District, Alaska at the address shown in Block 8 of Standard Form 1442.

c. The Government must receive your proposal no later than the time and date specified in Block 13 of Standard Form 1442.

d. Submit your proposal as follows. Volume 1 not applicable (see Section 00100 for IDIQ Contract). Volume 2 contains your technical solution for Schedules C and D (Task Order) items. Volume 3 contains the required pricing for Schedules C and D and *pro forma* requirements.

e. All offerors will receive written notification of any task order(s) for which they were not selected.

f. Proposal clarity, organization and cross-referencing are mandatory. The offerors shall sufficiently detail and clearly define all items addressed in this Section (00100) Proposal Submission Requirements.

g. Written portions shall be typewritten using not more than 6 vertical lines per inch in 8-1/2" x 11" format with three holes punched, inserted in three ring binders. Construction schedules may be presented on 11" x 17" sheets folded to 8-1/2" x 11". The offeror shall label and tab their proposal consistent with the solicitation format index below. The proposal shall have a table of contents for each proposal criteria as established in this Section (00100). Each page of the proposal shall have the page number on the bottom of the page starting with the first page to the last.

h. Provide **original** and **three** (3) copies of Volume 2, and **original** and **one** (1) copy of Volume 4.

i. Page limitations:

1. Volume 1 not applicable (see Section 00100 for IDIQ Contract).
2. Volume 2 may contain as many pages as required. Use of original product information laser copied images is encouraged for clarity.
3. Volume 3 not applicable (see Section 00100 for IDIQ Contract).
4. Volume 4 is not expected to exceed 10 (ten) pages.

PART IV. SPECIFIC PROPOSAL REQUIREMENTS

VOLUME ONE – NOT APPLICABLE (see Section 00100 for IDIQ Contract)

VOLUME TWO – TECHNICAL SOLUTION

Volume two is an opportunity for you to provide your team's solution for design and construction needed to accomplish requirements for the Phase VI Utilidor Repair. Present the material sequentially under the following Tabs A thru C to facilitate evaluation. Your technical presentation for the Schedule C and D items will be considered as representative of your firm's ability for future orders under the ID/IQ contract and for award of task order(s) for the work described in Schedules C and D.

TAB A: DESIGN NARRATIVE

Part I – Narrative. Present a narrative of your design approach and your technical design solutions. The Offeror shall certify that his/her designs shall comply with the current regulations, standards and codes. The narrative should include a description of how the firm keeps abreast of changes in industry and standards to ensure code compliance and adherence with developments in the state of the art. The narrative shall include but is not necessarily be limited to the following:

WATER, SEWER, AND STEAM SYSTEMS

Provide a description of your general design approach to each of the utility systems. Your description shall include basis of design, pipe support systems including construction materials, optimum racking of pipes in the utilidor to afford movement of maintenance workers, connection to the existing utilities at the project boundaries, describe the salient features of the proposed equipment to be used. Also include your concept plan for providing utility service to the facilities affected by the construction.

COMMUNICATION CABLE SUPPORT AND ELECTRICAL SYSTEMS

Provide a descriptive narrative of the communication cable supports and electrical systems required for this project. Your description shall include basis of design, construction materials, and optimum racking of cables in the utilidor to afford movement of maintenance workers and avoid conflict with other utility support systems. Also include the salient features of proposed equipment and materials to be used.

STRUCTURAL

Provide a general description of the utilidor upgrades including manhole expansion and upgrades to the fire hydrant and utilidor manholes.

HAZMAT ABATEMENT/DEMOLITION

Describe your procedures for handling hazardous materials (including asbestos) abatement and demolition for this project. Explain how areas not affected by construction will be protected from demolition.

TEMPORARY UTILITIES
Describe your plan for laying out and phasing temporary utilities on this project and any disruption of utilities that may occur.

TAB B: PROPOSED EQUIPMENT

Furnish manufacturer's catalog data on equipment and fixtures to indicate type of equipment, sizes or capacities, manufacturer, and model number to be used in this project. Originals of manufacturer's catalog should be submitted where photocopies may not be legible. Model or item to be utilized shall be clearly marked on the manufacturer's data sheet if it is provided. Material presented in this Tab will be one means of establishing the level of quality to be expected by the Government. Submit data on the following equipment:

Steam and Condensate:	Valves larger than 2 inch
	Expansion joints
	Steam Traps
	Ejectors

	Insulation and jacketing
	Pressure gauges
Water and Sewer:	Fire Hydrants
	Gate Valves
	Check Valves
	Grooved Pipe Couplings
	Expansion Joints
	Sump pumps
Electrical:	Sump pump float switches
	Sump pump high level alarms

TAB C: PROPOSED DESIGN/CONSTRUCTION SCHEDULE

Submit a proposed preliminary schedule for design and construction of Schedule C and D work. This schedule shall clearly state how it compares to the number of days stated in FAR Clause 52.211-10 entitled "COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK" . Assume an NTP date of 11 October 2005 for Schedule C and D task orders. Offeror shall acknowledge that it understands that its total task order durations proposed in this design/construction schedule would become contractually binding should that offeror receive an award. A Network Analysis System (NAS) or Critical Path Method (CPM) schedule is **NOT** required for this Tab but is required as part of task order performance. Construction schedules or diagrams may be provided separately in a size that is easily read, but shall be bound and clearly labeled. The construction schedules shall be task oriented, indicating the number of calendar days, after notice to proceed, by which milestones are to be achieved. Offeror may use the method of his/her choice; however, construction schedules shall be graphically represented. The proposed construction schedule shall be used by the successful offeror as the basis for development of the initial NAS as defined by SEC 01320 after task order award. Give special attention to the following features.

1. Show the design phase, including events associated with coordinating the design submittals and the proper handling of the review comments.
2. Show the construction phase for each major feature of construction. The schedule shall indicate the offeror's understanding of the 1 May-15 September allowable construction period. Construction is not permitted and utilidors must be fully operational outside these dates.
3. Show O&M manual submission and required operator training.
4. Show turnover of the project. Identify any proposed phased Turnovers. Show turnover Inspections.
5. Show as-built submissions.
6. Constraints: Offeror must demonstrate the capability and flexibility to plan and schedule the complete project to meet the proposed contract completion date. Clearly identify any constraints on the schedules presented (e.g., labor or material availability, weather, interfaces with base utilities, etc.); indicate the anticipated critical path on the schedule.
7. Permitting Milestones.
8. Show the proposed contract completion date and duration in calendar days

Also include, in narrative, your intended approach to staffing scheduling functions of future orders and for multiple orders.

VOLUME THREE –PRICING (See Section 00100 for IDIQ Contract)

VOLUME FOUR –PRICING

Organize the material sequentially under the following Tabs.

TAB A: IDIQ TASK ORDER CHECKLIST

Provide the IDIQ Task Order Checklist for each task order.

TAB B: PRICE INFORMATION

The price information shall be in the Schedules C and Schedule D formats contained in the front of this solicitation. The initial review of the price proposals for Schedules C and D will include comparison with the Independent Government Estimate (IGE) and other offeror and will be used to support a determination as to reasonableness and affordability.

TAB C: HUBZONE PREFERENCE

All HUBzone firms submitting as prime contractor will be provided a price evaluation in accordance with FAR clause 52.219-4 as noted in Section 00700 unless waived by the prime contractor by submitting the completed clause (52.219-4). Must submit a separate form for each task order.

PART V. FORMAT REQUIREMENTS FOR VOLUME ONE TABS: Not applicable (see Section 00100 for IDIQ Contract).

SECTION 00120

EVALUATION FACTORS FOR AWARD

I. Initial Proposal Acceptability

The Government will award a contract and task orders to the offeror whose proposal represents the overall best value to the Government. A second contract and minimum guaranteed amount will be awarded to the offeror whose proposal represents the best value among the remaining offerors. Before a proposal will be considered for evaluation and subsequent contract award, the offeror must provide the information requested in the solicitation and propose on all schedules (B, C and D). The Government may exclude a proposal from further consideration if the offeror takes exception to any of the terms and conditions in RFP Sections 00010 through 00800 or does not submit on all schedules.

II. Proposal Evaluation

The Government will evaluate the proposal from each offeror based on how well its proposal addresses each of the Factors listed below and described under the various Tabs (A, B, C, etc.) in Section 00100's for the IDIQ and Task Orders. The evaluation will determine the offeror's overall cohesive approach in assimilating these various elements for each Factor into a comprehensive, consistent, and concise proposal that meets or exceeds the Government's minimum requirements.

The Government intends to award the contracts and task orders without discussion. The proposal is therefore expected to be self-explanatory in addressing all of the required criteria. However, the Government reserves the right to conduct discussions if the Contracting Officer determines them to be necessary.

III. Factors For Evaluation

Volume One:

- Experience (Tab A)
- Past Performance (Tab B)
- Organization And Management (Tabs C)
- Subcontracting Plan for Large Business (Tab D)

Volume Two:

- Design Narrative (Tab A)
- Proposed Equipment (Tab B)
- Proposed Schedule (Tab C)

Volume Three for the IDIQ

- Section 00600 (Tab A)
- Pre-Award Survey Bank Reference (Tab B)
- Price Information – Schedule B (Tab C)
- Points of Contact (Tab D)

- Joint Venture (JV) or Limited Liability Company (LLC) (Tab E)

Volume Four for the Task Orders

- Section 00600 (Tab A)
- Price Information – Schedules C & D (Tab B)
- HUBZone Preference Clause, if applicable (Tab C)

Volume One Factors

EXPERIENCE (Tab A)

The Government defines experience as learning by doing. The Government will evaluate the depth and breadth of an offeror's experience on the basis of the number of times the offeror has performed projects that were similar in either nature, scope, or complexity to the work that will be required under the contract for which offers are solicited by this solicitation.

PAST PERFORMANCE (Tab B)

The Government will consider information submitted by the offeror, as well as any other relevant and reliable information obtained from any other source (including information from Government personnel and databases such as the Construction Contract Appraisal Support System – CCASS and Architect-Engineer Contract Administration Support System – ACASS).

Offerors shall be given an opportunity to address unfavorable reports of past performances if no opportunity to rebut the unfavorable report had previously been provided.

Offerors who demonstrate highly relevant experience as defined in Section 00100 with excellent performance will receive the most favorable rating for this factor.

The Government will review owner survey forms or other submitted information to determine if experience described is accurately represented (what the firm(s) have performed). The Government will also review owner survey forms and other information (CCASS) for overall performance, ability to satisfy customers and adherence to schedules (how the firm(s) performed).

ORGANIZATION AND MANAGEMENT (Tab C)

(1) ORGANIZATION CHART: The Government will evaluate the offeror’s organization chart and narrative for a clear description and demonstration of management style and effectiveness, ability to work with other members of the construction team (the owner, subcontractors, and agencies where required), and the ability to get the specified work done. The offeror’s proposal should clearly identify the structure of the management organization, authorities and responsibilities, and demonstrate the effectiveness of management system to be utilized to provide a safe jobsite, a quality product, schedule control, a functioning business partnership, and a satisfied customer. The Government will also evaluate each proposer’s approach to support during and after project turnover.

(2) KEY PERSONNEL: The Government will evaluate the résumés submitted for Key Personnel for a clear description and demonstration of the roles, responsibilities, and related experience of the key personnel in the organization and major subcontractors’ organizations.

Offerors who demonstrate a well-organized team with a preponderance of highly qualified key personnel will receive the most favorable rating for this subelement.

SUBCONTRACTING PLAN FOR LARGE BUSINESS (Tab D)

The plan will be evaluated for acceptability (acceptable/unacceptable) in accordance with AFARS 5119.705. To be acceptable, subcontracting plans must:

a. Adequately address the six required statutory elements. These elements are outlined in Nos. 1-6 of Section 00100 of the Subcontracting Plan Evaluation Guide.

b. Provide sufficient information to enable the Contracting Officer to answer affirmatively questions A through H of Section 00100 of the Subcontracting Plan Evaluation Guide.

c. Any subcontracting plan that is rated 70 points or less under the AFARS evaluation system is unsatisfactory. If discussions with offerors are necessary, those areas where the plan is deficient will be reviewed with the offeror with the goal of correcting deficiencies. Due to requirements for review of the successful offeror's subcontracting plan by other agencies, the Government reserves the right to negotiate the final plan with the successful offerors before award.

d. Small businesses will be given a satisfactory rating.

Volume Two

DESIGN NARRATIVE (Tab A)

The Government will evaluate each offeror's understanding of the requirements described in this RFP based on the proposed technical data submitted. The Government will review the sub-elements Design Narrative for accuracy, completeness, and the offeror's overall cohesive approach in assembling the requirements of Section 01010 into a comprehensive, consistent proposal that meets or exceeds the Government's stated requirements. Ratings will be assigned for this factor in accordance with the following guidance:

PROPOSED EQUIPMENT (Tab B)

The Government will evaluate the overall level of quality that can be expected based on the salient features of proposed equipment.

PROPOSED SCHEDULE (Tab C)

The Government will evaluate the Schedule and supporting narrative to ensure that the project can be completed within the specified time stated in FAR clause 52.211.10. The Schedule shall be complete, reasonable, and realistic in order to evaluate the offeror's understanding of all construction requirements. Offerors that demonstrate innovative and reasonable strategies for completing the schedule on or ahead of time will receive the most favorable rating for this factor.

Evaluation shall take into consideration the following elements:

- Consistent w/FAR 52.211-10 commencement to completion
- Identifies critical milestones of project
- Activity sequence is logical left to right
- Activity duration is realistic
- Critical path long lead items identifiable
- O & M submissions and training
- Commissioning

IV. Relative Importance of Individual Evaluation Factors

Volume One. The Government considers the factors Experience, Past Performance, and Organization and Management to be of equal importance. The Subcontracting Plan will be evaluated as acceptable or unacceptable in accordance with AFARS 5119.705. There are no sub-factors. See Section 00100.

Volume Two. For Volume Two, all Factors are in descending order of importance and there are no sub-factors.

Volume Three. Schedule B will be evaluated for reasonableness by performing a cost analysis using the Independent Government Estimate, historical information, and other offerors. Cost factors will be evaluated for reasonableness.

Volume Four. The Government will perform a price analysis comparing the sum total of the proposed prices for Schedules C & D to the Independent Government Estimate and prices of other offerors. Price shall be evaluated for reasonableness and affordability.

EVALUATION PREFERENCE FOR SCHEDULES C & D ONLY: All HUBzone firms submitting a prime contractor will be provided a price evaluation adjustment by adding 10 percent adjustment to all Offerors except from other HUBzone firms that have not waived the evaluation adjustment or otherwise successful offers from small businesses. HUBzone firms must complete Solicitation Clause 52.219-4, Notice of Price Evaluation for HUBZone Small Business Concerns.

V. Relative Importance of Overall Evaluation Factors

Relative Importance of Volumes. To be considered for award of the ID/IQ contract and Schedules C & D (task orders), an offeror must be rated acceptable on Volume Three. For award of the IDIQ contract and Schedules C & D (task orders), the Government considers Volume Two to be more important than Volume One and Volumes One and Two to be more important than Volume Four. The offeror should note that, under this scenario, price is not the most important factor for award. However, the Government cannot award to an offeror whose cost elements (Volume Three) are determined unacceptable or whose prices (Volume Four) exceed funds available as identified in section 00100 for Schedules C & D (Task Orders) regardless of non-price evaluation.

VI. The Determination of Best Value

<u>Award of the first IDIQ contract and schedules C & D task orders:</u>

In order to determine which proposal represents the best value, the Government will compare proposals to one another in a series of paired comparisons, trading off offerors' values based on their overall performances on the non-price factors. In comparing two proposals, if one member of a pair has both the better overall non-price value and the lower price, then the Government will consider that proposal to be a better value.

If one member of a pair has the better overall non-price value, but a higher price than the other proposal, then the Government's Source Selection Authority will determine if the difference in non-price value is worth the difference in price.

If the Source Selection Authority decides that the overall non-price value is worth the higher price, then the Government will consider the proposal with the better non-price value and the higher price to be the better overall value.

If the Source Selection Authority decides that the overall value is not worth the higher price, then the Source Selection Authority will continue to make paired comparisons in this fashion until he or she has identified the proposal that represents the best value. Contracts will be awarded to the offerors with the best value.

Award of the second IDIQ contract and minimum guaranteed amount:

From the remaining offerors, a second best value determination may be conducted using the methodology above and the existing non-price value and prices.

VII. EVALUATION OF OPTIONS

Except when it is determined in accordance with FAR17.206(b) not to be in the Government's best interest, the Government will evaluate offers for award purposes by adding the total price for all options to the total price for the basic requirement. Evaluation of option(s) will not obligate the Government to exercise the option(s).

END OF SECTION 00120

Section 00100 - Bidding Schedule/Instructions to Bidders

CLAUSES INCORPORATED BY FULL TEXT

52.204-6 DATA UNIVERSAL NUMBERING SYSTEM (DUNS) NUMBER (OCT 2003)

(a) The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation “DUNS” or “DUNS+4” followed by the DUNS number or “DUNS+4” that identifies the offeror's name and address exactly as stated in the offer. The DUNS number is a nine-digit number assigned by Dun and Bradstreet, Inc. The DUNS+4 is the DUNS number plus a 4-character suffix that may be assigned at the discretion of the offeror to establish additional CCR records for identifying alternative Electronic Funds Transfer (EFT) accounts (see Subpart 32.11) for the same parent concern.

(b) If the offeror does not have a DUNS number, it should contact Dun and Bradstreet directly to obtain one.

(1) An offeror may obtain a DUNS number--

(i) If located within the United States, by calling Dun and Bradstreet at 1-866-705-5711 or via the Internet at http://www.dnb.com; or

(ii) If located outside the United States, by contacting the local Dun and Bradstreet office.

(2) The offeror should be prepared to provide the following information:

(i) Company legal business name.

(ii) Tradestyle, doing business, or other name by which your entity is commonly recognized.

(iii) Company physical street address, city, state and Zip Code.

(iv) Company mailing address, city, state and Zip Code (if separate from physical).

(v) Company telephone number.

(vi) Date the company was started.

(vii) Number of employees at your location.

(viii) Chief executive officer/key manager.

(ix) Line of business (industry).

(x) Company Headquarters name and address (reporting relationship within your entity).

(End of provision)

52.204-7 CENTRAL CONTRACTOR REGISTRATION (OCT 2003)

(a) Definitions. As used in this clause--

Central Contractor Registration (CCR) database means the primary Government repository for Contractor information required for the conduct of business with the Government.

Data Universal Numbering System (DUNS) number means the 9-digit number assigned by Dun and Bradstreet, Inc. (D&B) to identify unique business entities.

Data Universal Numbering System +4 (DUNS+4) number means the DUNS number assigned by D&B plus a 4-character suffix that may be assigned by a business concern. (D&B has no affiliation with this 4-character suffix.) This 4-character suffix may be assigned at the discretion of the business concern to establish additional CCR records for identifying alternative Electronic Funds Transfer (EFT) accounts (see the FAR at Subpart 32.11) for the same parent concern.

Registered in the CCR database means that--

(1) The Contractor has entered all mandatory information, including the DUNS number or the DUNS+4 number, into the CCR database; and

(2) The Government has validated all mandatory data fields and has marked the record “Active”.

(b)(1) By submission of an offer, the offeror acknowledges the requirement that a prospective awardee shall be registered in the CCR database prior to award, during performance, and through final payment of any contract, basic agreement, basic ordering agreement, or blanket purchasing agreement resulting from this solicitation.

(2) The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation “DUNS” or “DUNS +4” followed by the DUNS or DUNS +4 number that identifies the offeror's name and address exactly as stated in the offer. The DUNS number will be used by the Contracting Officer to verify that the offeror is registered in the CCR database.

(c) If the offeror does not have a DUNS number, it should contact Dun and Bradstreet directly to obtain one.

(1) An offeror may obtain a DUNS number--

(i) If located within the United States, by calling Dun and Bradstreet at 1-866-705-5711 or via the Internet at http://www.dnb.com; or

(ii) If located outside the United States, by contacting the local Dun and Bradstreet office.

(2) The offeror should be prepared to provide the following information:

(i) Company legal business.

(ii) Tradestyle, doing business, or other name by which your entity is commonly recognized.

(iii) Company Physical Street Address, City, State, and Zip Code.

(iv) Company Mailing Address, City, State and Zip Code (if separate from physical).

(v) Company Telephone Number.

(vi) Date the company was started.

(vii) Number of employees at your location.

(viii) Chief executive officer/key manager.

(ix) Line of business (industry).

(x) Company Headquarters name and address (reporting relationship within your entity).

(d) If the Offeror does not become registered in the CCR database in the time prescribed by the Contracting Officer, the Contracting Officer will proceed to award to the next otherwise successful registered Offeror.

(e) Processing time, which normally takes 48 hours, should be taken into consideration when registering. Offerors who are not registered should consider applying for registration immediately upon receipt of this solicitation.

(f) The Contractor is responsible for the accuracy and completeness of the data within the CCR database, and for any liability resulting from the Government's reliance on inaccurate or incomplete data. To remain registered in the CCR database after the initial registration, the Contractor is required to review and update on an annual basis from the date of initial registration or subsequent updates its information in the CCR database to ensure it is current, accurate and complete. Updating information in the CCR does not alter the terms and conditions of this contract and is not a substitute for a properly executed contractual document.

(g)(1)(i) If a Contractor has legally changed its business name, “doing business as” name, or division name (whichever is shown on the contract), or has transferred the assets used in performing the contract, but has not completed the necessary requirements regarding novation and change-of-name agreements in Subpart 42.12, the Contractor shall provide the responsible Contracting Officer a minimum of one business day's written notification of its intention to (A) change the name in the CCR database; (B) comply with the requirements of Subpart 42.12 of the FAR; and (C) agree in writing to the timeline and procedures specified by the responsible Contracting Officer. The Contractor must provide with the notification sufficient documentation to support the legally changed name.

(ii) If the Contractor fails to comply with the requirements of paragraph (g)(1)(i) of this clause, or fails to perform the agreement at paragraph (g)(1)(i)(C) of this clause, and, in the absence of a properly executed novation or change-of-name agreement, the CCR information that shows the Contractor to be other than the Contractor indicated in the contract will be considered to be incorrect information within the meaning of the “Suspension of Payment” paragraph of the electronic funds transfer (EFT) clause of this contract.

(2) The Contractor shall not change the name or address for EFT payments or manual payments, as appropriate, in the CCR record to reflect an assignee for the purpose of assignment of claims (see FAR Subpart 32.8, Assignment of Claims). Assignees shall be separately registered in the CCR database. Information provided to the Contractor's CCR record that indicates payments, including those made by EFT, to an ultimate recipient other than that Contractor will be considered to be incorrect information within the meaning of the “Suspension of payment” paragraph of the EFT clause of this contract.

(h) Offerors and Contractors may obtain information on registration and annual confirmation requirements via the internet at http://www.ccr.gov or by calling 1-888-227-2423, or 269-961-5757.

(End of clause)

52.211-14 NOTICE OF PRIORITY RATING FOR NATIONAL DEFENSE USE (SEP 1990)

Any contract awarded as a result of this solicitation will be DX rated order; C2 DO rated order certified for national defense use under the Defense Priorities and Allocations System (DPAS) (15 CFR 700), and the Contractor will be required to follow all of the requirements of this regulation. [Contracting Officer check appropriate box.]

(End of provision)

52.215-1 INSTRUCTIONS TO OFFERORS--COMPETITIVE ACQUISITION (JAN 2004)

(a) Definitions. As used in this provision--

“Discussions” are negotiations that occur after establishment of the competitive range that may, at the Contracting Officer's discretion, result in the offeror being allowed to revise its proposal.

“In writing or written” means any worded or numbered expression which can be read, reproduced, and later communicated, and includes electronically transmitted and stored information.

“Proposal modification” is a change made to a proposal before the solicitation's closing date and time, or made in response to an amendment, or made to correct a mistake at any time before award.

“Proposal revision” is a change to a proposal made after the solicitation closing date, at the request of or as allowed by a Contracting Officer as the result of negotiations.

“Time”, if stated as a number of days, is calculated using calendar days, unless otherwise specified, and will include Saturdays, Sundays, and legal holidays. However, if the last day falls on a Saturday, Sunday, or legal holiday, then the period shall include the next working day.

(b) Amendments to solicitations. If this solicitation is amended, all terms and conditions that are not amended remain unchanged. Offerors shall acknowledge receipt of any amendment to this solicitation by the date and time specified in the amendment(s).

(c) Submission, modification, revision, and withdrawal of proposals. (1) Unless other methods (e.g., electronic commerce or facsimile) are permitted in the solicitation, proposals and modifications to proposals shall be submitted in paper media in sealed envelopes or packages (i) addressed to the office specified in the solicitation, and (ii) showing the time and date specified for receipt, the solicitation number, and the name and address of the offeror. Offerors using commercial carriers should ensure that the proposal is marked on the outermost wrapper with the information in paragraphs (c)(1)(i) and (c)(1)(ii) of this provision.

(2) The first page of the proposal must show--

(i) The solicitation number;

(ii) The name, address, and telephone and facsimile numbers of the offeror (and electronic address if available);

(iii) A statement specifying the extent of agreement with all terms, conditions, and provisions included in the solicitation and agreement to furnish any or all items upon which prices are offered at the price set opposite each item;

(iv) Names, titles, and telephone and facsimile numbers (and electronic addresses if available) of persons authorized to negotiate on the offeror's behalf with the Government in connection with this solicitation; and

(v) Name, title, and signature of person authorized to sign the proposal. Proposals signed by an agent shall be accompanied by evidence of that agent's authority, unless that evidence has been previously furnished to the issuing office.

(3) Submission, modification, or revision, of proposals.

(i) Offerors are responsible for submitting proposals, and any modifications, or revisions, so as to reach the Government office designated in the solicitation by the time specified in the solicitation. If no time is specified in the solicitation, the time for receipt is 4:30 p.m., local time, for the designated Government office on the date that proposal or revision is due.

(ii)(A) Any proposal, modification, or revision received at the Government office designated in the solicitation after the exact time specified for receipt of offers is “late” and will not be considered unless it is received before award is made, the Contracting Officer determines that accepting the late offer would not unduly delay the acquisition; and--

(1) If it was transmitted through an electronic commerce method authorized by the solicitation, it was received at the initial point of entry to the Government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of proposals; or

(2) There is acceptable evidence to establish that it was received at the Government installation designated for receipt of offers and was under the Government's control prior to the time set for receipt of offers; or

(3) It is the only proposal received.

(B) However, a late modification of an otherwise successful proposal that makes its terms more favorable to the Government, will be considered at any time it is received and may be accepted.

(iii) Acceptable evidence to establish the time of receipt at the Government installation includes the time/date stamp of that installation on the proposal wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

(iv) If an emergency or unanticipated event interrupts normal Government processes so that proposals cannot be received at the office designated for receipt of proposals by the exact time specified in the solicitation, and urgent Government requirements preclude amendment of the solicitation, the time specified for receipt of proposals will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal Government processes resume.

(v) Proposals may be withdrawn by written notice received at any time before award. Oral proposals in response to oral solicitations may be withdrawn orally. If the solicitation authorizes facsimile proposals, proposals may be withdrawn via facsimile received at any time before award, subject to the conditions specified in the provision at 52.215-5, Facsimile Proposals. Proposals may be withdrawn in person by an offeror or an authorized representative, if the identity of the person requesting withdrawal is established and the person signs a receipt for the proposal before award.

(4) Unless otherwise specified in the solicitation, the offeror may propose to provide any item or combination of items.

(5) Offerors shall submit proposals in response to this solicitation in English, unless otherwise permitted by the solicitation, and in U.S. dollars, unless the provision at FAR 52.225-17, Evaluation of Foreign Currency Offers, is included in the solicitation.

(6) Offerors may submit modifications to their proposals at any time before the solicitation closing date and time, and may submit modifications in response to an amendment, or to correct a mistake at any time before award.

(7) Offerors may submit revised proposals only if requested or allowed by the Contracting Officer.

(8) Proposals may be withdrawn at any time before award. Withdrawals are effective upon receipt of notice by the Contracting Officer.

(d) Offer expiration date. Proposals in response to this solicitation will be valid for the number of days specified on the solicitation cover sheet (unless a different period is proposed by the offeror).

(e) Restriction on disclosure and use of data. Offerors that include in their proposals data that they do not want disclosed to the public for any purpose, or used by the Government except for evaluation purposes, shall--

(1) Mark the title page with the following legend: This proposal includes data that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed--in whole or in part--for any purpose other than to evaluate this proposal. If, however, a contract is awarded to this offeror as a result of--or in connection with-- the submission of this data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the Government's right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in sheets [insert numbers or other identification of sheets]; and

(2) Mark each sheet of data it wishes to restrict with the following legend: Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal.

(f) Contract award. (1) The Government intends to award a contract or contracts resulting from this solicitation to the responsible offeror(s) whose proposal(s) represents the best value after evaluation in accordance with the factors and subfactors in the solicitation.

(2) The Government may reject any or all proposals if such action is in the Government's interest.

(3) The Government may waive informalities and minor irregularities in proposals received.

(4) The Government intends to evaluate proposals and award a contract without discussions with offerors (except clarifications as described in FAR 15.306(a)). Therefore, the offeror's initial proposal should contain the offeror's best terms from a cost or price and technical standpoint. The Government reserves the right to conduct discussions if the Contracting Officer later determines them to be necessary. If the Contracting Officer determines that the number of proposals that would otherwise be in the competitive range exceeds the number at which an efficient competition can be conducted, the Contracting Officer may limit the number of proposals in the competitive range to the greatest number that will permit an efficient competition among the most highly rated proposals.

(5) The Government reserves the right to make an award on any item for a quantity less than the quantity offered, at the unit cost or prices offered, unless the offeror specifies otherwise in the proposal.

(6) The Government reserves the right to make multiple awards if, after considering the additional administrative costs, it is in the Government's best interest to do so.

(7) Exchanges with offerors after receipt of a proposal do not constitute a rejection or counteroffer by the Government.

(8) The Government may determine that a proposal is unacceptable if the prices proposed are materially unbalanced between line items or subline items. Unbalanced pricing exists when, despite an acceptable total evaluated price, the price of one or more contract line items is significantly overstated or understated as indicated by the application of cost or price analysis techniques. A proposal may be rejected if the Contracting Officer determines that the lack of balance poses an unacceptable risk to the Government.

(9) If a cost realism analysis is performed, cost realism may be considered by the source selection authority in evaluating performance or schedule risk.

(10) A written award or acceptance of proposal mailed or otherwise furnished to the successful offeror within the time specified in the proposal shall result in a binding contract without further action by either party.

(11) If a post-award debriefing is given to requesting offerors, the Government shall disclose the following information, if applicable:

(i) The agency's evaluation of the significant weak or deficient factors in the debriefed offeror's offer.

(ii) The overall evaluated cost or price and technical rating of the successful and the debriefed offeror and past performance information on the debriefed offeror.

(iii) The overall ranking of all offerors, when any ranking was developed by the agency during source selection.

(iv) A summary of the rationale for award.

(v) For acquisitions of commercial items, the make and model of the item to be delivered by the successful offeror.

(vi) Reasonable responses to relevant questions posed by the debriefed offeror as to whether source-selection procedures set forth in the solicitation, applicable regulations, and other applicable authorities were followed by the agency.

(End of provision)

52.216-1 TYPE OF CONTRACT (APR 1984)

The Government contemplates award of a FIRM-FIXED PRICE INDEFINITE DELIVERY/INDEFINITE QUANTITY contract resulting from this solicitation.

(End of clause)

52.216-27 SINGLE OR MULTIPLE AWARDS. (OCT 1995)

The Government may elect to award a single delivery order contract or task order contract or to award multiple delivery order contracts or task order contracts for the same or similar supplies or services to two or more sources under this solicitation.

52.222-23 NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY FOR CONSTRUCTION (FEB 1999)

(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
8.7%(Alaska) 15.1%(Locations outside City of Anchorage)	6.9%(Alaska)

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 Deputy Assistant Secretary for Federal Contract Compliance, U.S. Department of Labor, 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;

(2) Employer's identification number of the subcontractor;

(3) Estimated dollar amount of the subcontract;

(4) Estimated starting and completion dates of the subcontract; and

(5) 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 **SEE ABOVE

(End of provision)

52.233-2 SERVICE OF PROTEST (AUG 1996)

(a) Protests, as defined in section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the General Accounting Office (GAO), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from Chief, Contracting Division, US Army Engineer District-Alaska, 2204 Third St, Elmendorf AFB, Alaska.

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

(End of provision)

252.209-7001 DISCLOSURE OF OWNERSHIP OR CONTROL BY THE GOVERNMENT OF A TERRORIST COUNTRY (SEP 2004)

(a) "Definitions."

As used in this provision --

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

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

(3) "Significant interest" means --

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

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

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

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

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

(b) "Prohibition on award."

In accordance with 10 U.S.C. 2327, no contract may be awarded to a firm or a subsidiary of a firm if the government of a terrorist country has a significant interest in the firm or subsidiary or, in the case of a subsidiary, the firm that owns the subsidiary, unless a waiver is granted by the Secretary of Defense.

(c) "Disclosure."

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

(1) Identification of each government holding a significant interest; and

(2) A description of the significant interest held by each government.

(End of provision)

252.209-7002 DISCLOSURE OF OWNERSHIP OR CONTROL BY A FOREIGN GOVERNMENT (SEP 1994)

(a) Definitions. As used in this provision--

(1) "Entity controlled by a foreign government" means--

(i) Any domestic or foreign organization or corporation that is effectively owned or controlled by a foreign government; or

(ii) Any individual acting on behalf of a foreign government.

(2) "Effectively owned or controlled" means that a foreign government or any entity controlled by a foreign government has the power, either directly or indirectly, whether exercised or exercisable, to control or influence the election or appointment of the Offeror's officers, directors, partners, regents, trustees, or a majority of the Offeror's board of directors by means, e.g., ownership, contract, or operation of law.

(3) "Foreign government" means any governing body organized and existing under the laws of any country other than the United States and its possessions and trust territories and any agent or instrumentality of that government.

(4) "Proscribed information" means--

(i) Top Secret information;

(ii) Communications Security (COMSEC) information, except classified keys used to operate secure telephone unites (STU IIIs);

(iii) Restricted Data as defined in the U.S. Atomic Energy Act of 1954, as amended;

(iv) Special Access Program (SAP) information; or

(v) Sensitive Compartmental Information (SCI).

(b) Prohibition on award. No contract under a national security program may be awarded to a company owned by an entity controlled by a foreign government if that company requires access to proscribed information to perform the contract, unless the Secretary of Defense or designee has waived application of 10 U.S.C.2536(a).

(c) Disclosure.
The Offeror shall disclose any interest a foreign government has in the Offeror when that interest constitutes control by a foreign government as defined in this provision. If the Offeror is a subsidiary, it shall also disclose any reportable interest a foreign government has in any entity that owns or controls the subsidiary, including reportable interest concerning the Offeror's immediate parent, intermediate parents, and the ultimate parent. Use separate paper as needed, and provide the information in the following format:

Offeror's Point of Contact for Questions about Disclosure
(Name and Phone Number with Country Code, City Code and Area Code, as applicable)

Name and Address of Offeror

Name and Address of Entity Controlled by a Foreign Government	Description of Interest, Ownership Percentage, and Identification of Foreign Government

(End of provision)

Section 00600 - Representations & Certifications

CLAUSES INCORPORATED BY FULL TEXT

52.204-3 TAXPAYER IDENTIFICATION (OCT 1998)

(a) Definitions.

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

Taxpayer Identification Number (TIN), as used in this provision, means the number required by the Internal Revenue Service (IRS) to be used by the offeror in reporting income tax and other returns. The TIN may be either a Social Security Number or an Employer Identification Number.

(b) All offerors must submit the information required in paragraphs (d) through (f) of this provision to comply with debt collection requirements of 31 U.S.C. 7701(c) and 3325(d), reporting requirements of 26 U.S.C. 6041, 6041A, and 6050M, and implementing regulations issued by the IRS. If the resulting contract is subject to the payment reporting requirements described in Federal Acquisition Regulation (FAR) 4.904, the failure or refusal by the offeror to furnish the information may result in a 31 percent reduction of payments otherwise due under the contract.

(c) The TIN may be used by the Government to collect and report on any delinquent amounts arising out of the offeror's relationship with the Government (31 U.S.C. 7701(c)(3)). If the resulting contract is subject to the payment reporting requirements described in FAR 4.904, the TIN provided hereunder may be matched with IRS records to verify the accuracy of the offeror's TIN.

(d) Taxpayer Identification Number (TIN).

___ TIN:.----------

___ TIN has been applied for.

___ TIN is not required because:

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

___ Offeror is an agency or instrumentality of a foreign government;

___ Offeror is an agency or instrumentality of the Federal Government.

(e) Type of organization.

___ Sole proprietorship;

___ Partnership;

___ Corporate entity (not tax-exempt);

___ Corporate entity (tax-exempt);

___ Government entity (Federal, State, or local);

___ Foreign government;

___ International organization per 26 CFR 1.6049-4;

___ Other----------

(f) Common parent.

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

___ Name and TIN of common parent:

Name----------

TIN----------

(End of provision)

52.204-8 ANNUAL REPRESENTATIONS AND CERTIFICATIONS (JAN 2005)

(a)(1) If the clause at 52.204-7, Central Contractor Registration, is included in this solicitation, paragraph (b) of this provision applies.

(2) If the clause at 52.204-7 is not included in this solicitation, and the offeror is currently registered in CCR, and has completed the ORCA electronically, the offeror may choose to use paragraph (b) of this provision instead of completing the corresponding individual representations and certifications in the solicitation. The offeror shall indicate which option applies by checking one of the following boxes:

(__) Paragraph (b) applies.

(__) Paragraph (b) does not apply and the offeror has completed the individual representations and certifications in the solicitation.

(b) The offeror has completed the annual representations and certifications electronically via the Online Representations and Certifications Application (ORCA) website at http://orca.bpn.gov. After reviewing the ORCA database information, the offeror verifies by submission of the offer that the representations and certifications currently posted electronically have been entered or updated within the last 12 months, are current, accurate, complete, and applicable to this solicitation (including the business size standard applicable to the NAICS code referenced for this solicitation), as of the date of this offer and are incorporated in this offer by reference (see FAR 4.1201); except for the changes identified below [offeror to insert changes, identifying change by clause number, title, date]. These amended representation(s) and/or certification(s) are also incorporated in this offer and are current, accurate, and complete as of the date of this offer.

FAR Clause	Title	Date	Change

Any changes provided by the offeror are applicable to this solicitation only, and do not result in an update to the representations and certifications posted on ORCA.

(End of Provision)

52.236-28 PREPARATION OF PROPOSALS--CONSTRUCTION (OCT 1997)

(a) Proposals must be (1) submitted on the forms furnished by the Government or on copies of those forms, and (2) manually signed. The person signing a proposal must initial each erasure or change appearing on any proposal form.

(b) The proposal form may require offerors to submit proposed prices for one or more items on various bases, including--

(1) Lump sum price;

(2) Alternate prices;

(3) Units of construction; or

(4) Any combination of paragraphs (b)(1) through (b)(3) of this provision.

(c) If the solicitation requires submission of a proposal on all items, failure to do so may result in the proposal being rejected without further consideration. If a proposal on all items is not required, offerors should insert the words “no proposal” in the space provided for any item on which no price is submitted.

(d) Alternate proposals will not be considered unless this solicitation authorizes their submission.

(End of provision)

252.247-7022 REPRESENTATION OF EXTENT OF TRANSPORTATION BY SEA (AUG 1992)

(a) The Offeror shall indicate by checking the appropriate blank in paragraph (b) of this provision whether transportation of supplies by sea is anticipated under the resultant contract. The term supplies is defined in the Transportation of Supplies by Sea clause of this solicitation.

(b) Representation. The Offeror represents that it:

____ (1) Does anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

____ (2) Does not anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

(c) Any contract resulting from this solicitation will include the Transportation of Supplies by Sea clause. If the Offeror represents that it will not use ocean transportation, the resulting contract will also include the Defense FAR Supplement clause at 252.247-7024, Notification of Transportation of Supplies by Sea.

(End of provision)

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Section 00700 - Contract Clauses

CLAUSES INCORPORATED BY FULL TEXT

52.202-1 DEFINITIONS (JUL 2004)

(a) When a solicitation provision or contract clause uses a word or term that is defined in the Federal Acquisition Regulation (FAR), the word or term has the same meaning as the definition in FAR 2.101 in effect at the time the solicitation was issued, unless--

(1) The solicitation, or amended solicitation, provides a different definition;

(2) The contracting parties agree to a different definition;

(3) The part, subpart, or section of the FAR where the provision or clause is prescribed provides a different meaning; or

(4) The word or term is defined in FAR Part 31, for use in the cost principles and procedures.

(b) The FAR Index is a guide to words and terms the FAR defines and shows where each definition is located. The FAR Index is available via the Internet at http://www.acqnet.gov at the end of the FAR, after the FAR Appendix.

(End of clause)

52.203-3 GRATUITIES (APR 1984)

(a) The right of the Contractor to proceed may be terminated by written notice if, after notice and hearing, the agency head or a designee determines that the Contractor, its agent, or another representative--

(1) Offered or gave a gratuity (e.g., an entertainment or gift) to an officer, official, or employee of the Government; and

(2) Intended, by the gratuity, to obtain a contract or favorable treatment under a contract.

(b) The facts supporting this determination may be reviewed by any court having lawful jurisdiction.

(c) If this contract is terminated under paragraph (a) of this clause, the Government is entitled--

(1) To pursue the same remedies as in a breach of the contract; and

(2) In addition to any other damages provided by law, to exemplary damages of not less than 3 nor more than 10 times the cost incurred by the Contractor in giving gratuities to the person concerned, as determined by the agency head or a designee. (This subparagraph (c)(2) is applicable only if this contract uses money appropriated to the Department of Defense.)

(d) The rights and remedies of the Government provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this contract.

(End of clause)

52.203-5 COVENANT AGAINST CONTINGENT FEES (APR 1984)

(a) The Contractor warrants that no person or agency has been employed or retained to solicit or obtain this contract upon an agreement or understanding for a contingent fee, except a bona fide employee or agency. For breach or violation of this warranty, the Government shall have the right to annul this contract without liability or, in its discretion, to deduct from the contract price or consideration, or otherwise recover, the full amount of the contingent fee.

(b) "Bona fide agency," as used in this clause, means an established commercial or selling agency, maintained by a contractor for the purpose of securing business, that neither exerts nor proposes to exert improper influence to solicit or obtain Government contracts nor holds itself out as being able to obtain any Government contract or contracts through improper influence.

"Bona fide employee," as used in this clause, means a person, emp loyed by a contractor and subject to the contractor's supervision and control as to time, place, and manner of performance, who neither exerts nor proposes to exert improper influence to solicit or obtain Government contracts nor holds out as being able to obtain any Government contract or contracts through improper influence.

"Contingent fee," as used in this clause, means any commission, percentage, brokerage, or other fee that is contingent upon the success that a person or concern has in securing a Go vernment contract.

"Improper influence," as used in this clause, means any influence that induces or tends to induce a Government employee or officer to give consideration or to act regarding a Government contract on any basis other than the merits of the matter.

(End of clause)

52.203-6 RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT (JUL 1995)

(a) Except as provided in (b) of this clause, the Contractor shall not enter into any agreement with an actual or prospective subcontractor, nor otherwise act in any manner, which has or may have the effect of restricting sales by such subcontractors directly to the Government of any item or process (including computer software) made or furnished by the subcontractor under this contract or under any follow-on production contract.

(b) The prohibition in (a) of this clause does not preclude the Contractor from asserting rights that are otherwise authorized by law or regulation.

(c) The Contractor agrees to incorporate the substance of this clause, including this paragraph (c), in all subcontracts under this contract which exceed $100,000.

52.203-7 ANTI-KICKBACK PROCEDURES. (JUL 1995)

(a) Definitions.

"Kickback," as used in this clause, means any money, fee, commission, credit, gift, gratuity, thing of value, or compensation of any kind which is provided, directly or indirectly, to any prime Contractor, prime Contractor employee, subcontractor, or subcontractor employee for the purpose of improperly obtaining or rewarding favorable treatment in connection with a prime contract or in connection with a subcontract relating to a prime contract.

"Person," as used in this clause, means a corporation, partnership, business association of any kind, trust, joint-stock company, or individual.

"Prime contract," as used in this clause, means a contract or contractual action entered into by the United States for the purpose of obtaining supplies, materials, equipment, or services of any kind.

"Prime Contractor," as used in this clause, means a person who has entered into a prime contract with the United States.

"Prime Contractor employee," as used in this clause, means any officer, partner, employee, or agent of a prime Contractor.

"Subcontract," as used in this clause, means a contract or contractual action entered into by a prime Contractor or subcontractor for the purpose of obtaining supplies, materials, equipment, or services of any kind under a prime contract.

"Subcontractor," as used in this clause, (1) means any person, other than the prime Contractor, who offers to furnish or furnishes any supplies, materials, equipment, or services of any kind under a prime contract or a subcontract entered into in connection with such prime contract, and (2) includes any person who offers to furnish or furnishes general supplies to the prime Contractor or a higher tier subcontractor.

"Subcontractor employee," as used in this clause, means any officer, partner, employee, or agent of a subcontractor.

(b) The Anti-Kickback Act of 1986 (41 U.S.C. 51-58) (the Act), prohibits any person from -

(1) Providing or attempting to provide or offering to provide any kickback;

(2) Soliciting, accepting, or attempting to accept any kickback; or

(3) Including, directly or indirectly, the amount of any kickback in the contract price charged by a prime Contractor to the United States or in the contract price charged by a subcontractor to a prime Contractor or higher tier subcontractor.

(c)(1) The Contractor shall have in place and follow reasonable procedures designed to prevent and detect possible violations described in paragraph (b) of this clause in its own operations and direct business relationships.

(2) When the Contractor has reasonable grounds to believe that a violation described in paragraph (b) of this clause may have occurred, the Contractor shall promptly report in writing the possible violation. Such reports shall be made to the inspector general of the contracting agency, the head of the contracting agency if the agency does not have an inspector general, or the Department of Justice.

(3) The Contractor shall cooperate fully with any Federal agency investigating a possible violation described in paragraph (b) of this clause.

(4) The Contracting Officer may (i) offset the amount of the kickback against any monies owed by the United States under the prime contract and/or (ii) direct that the Prime Contractor withhold, from sums owed a subcontractor under the prime contract, the amount of any kickback. The Contracting Officer may order the monies withheld under subdivision (c)(4)(ii) of this clause be paid over to the Government unless the Government has already offset those monies under subdivision (c)(4)(i) of this clause. In either case, the Prime Contractor shall notify the Contracting Officer when the monies are withheld.

(5) The Contractor agrees to incorporate the substance of this clause, including this subparagraph (c)(5) but

excepting subparagraph (c)(1), in all subcontracts under this contract which exceed $100,000.

52.203-8 CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY (JAN 1997)

(a) If the Government receives information that a contractor or a person has engaged in conduct constituting a violation of subsection (a), (b), (c), or (d) of Section 27 of the Office of Federal Procurement Policy Act (41 U.S.C. 423) (the Act), as amended by section 4304 of the 1996 National Defense Authorization Act for Fiscal Year 1996 (Pub. L. 104-106), the Government may--

(1) Cancel the solicitation, if the contract has not yet been awarded or issued; or

(2) Rescind the contract with respect to which--

(i) The Contractor or someone acting for the Contractor has been convicted for an offense where the conduct constitutes a violation of subsection 27(a) or (b) of the Act for the purpose of either--

(A) Exchanging the information covered by such subsections for anything of value; or

(B) Obtaining or giving anyone a competitive advantage in the award of a Federal agency procurement contract; or

(ii) The head of the contracting activity has determined, based upon a preponderance of the evidence, that the Contractor or someone acting for the Contractor has engaged in conduct constituting an offense punishable under subsections 27(e)(1) of the Act.

(b) If the Government rescinds the contract under paragraph (a) of this clause, the Government is entitled to recover, in addition to any penalty prescribed by law, the amount expended under the contract.

(c) The rights and remedies of the Government specified herein are not exclusive, and are in addition to any other rights and remedies provided by law, regulation, or under this contract.

(End of clause)

52.203-10 PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY (JAN 1997)

(a) The Government, at its election, may reduce the price of a fixed-price type contract and the total cost and fee under a cost-type contract by the amount of profit or fee determined as set forth in paragraph (b) of this clause if the head of the contracting activity or designee determines that there was a violation of subsection 27 (a), (b), or (c) of the Office of Federal Procurement Policy Act, as amended (41 U.S.C. 423), as implemented in section 3.104 of the Federal Acquisition Regulation.

(b) The price or fee reduction referred to in paragraph (a) of this clause shall be--

(1) For cost-plus-fixed-fee contracts, the amount of the fee specified in the contract at the time of award;

(2) For cost-plus-incentive-fee contracts, the target fee specified in the contract at the time of award, notwithstanding

any minimum fee or "fee floor" specified in the contract;

(3) For cost-plus-award-fee contracts--

(i) The base fee established in the contract at the time of contract award;

(ii) If no base fee is specified in the contract, 30 percent of the amount of each award fee otherwise payable to the Contractor for each award fee evaluation period or at each award fee determination point.

(4) For fixed-price-incentive contracts, the Government may--

(i) Reduce the contract target price and contract target profit both by an amount equal to the initial target profit specified in the contract at the time of contract award; or

(ii) If an immediate adjustment to the contract target price and contract target profit would have a significant adverse impact on the incentive price revision relationship under the contract, or adversely affect the contract financing provisions, the Contracting Officer may defer such adjustment until establishment of the total final price of the contract. The total final price established in accordance with the incentive price revision provisions of the contract shall be reduced by an amount equal to the initial target profit specified in the contract at the time of contract award and such reduced price shall be the total final contract price.

(5) For firm-fixed-price contracts, by 10 percent of the initial contract price or a profit amount determined by the Contracting Officer from records or documents in existence prior to the date of the contract award.

(c) The Government may, at its election, reduce a prime contractor's price or fee in accordance with the procedures of paragraph (b) of this clause for violations of the Act by its subcontractors by an amount not to exceed the amount of profit or fee reflected in the subcontract at the time the subcontract was first definitively priced.

(d) In addition to the remedies in paragraphs (a) and (c) of this clause, the Government may terminate this contract for default. The rights and remedies of the Govemment specified herein are not exclusive, and are in addition to any other rights and remedies provided by law or under this contract.

(End of clause)

52.203-12 LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (JUN 2003)

(a) Definitions.

"Agency," as used in this clause, means executive agency as defined in 2.101.

"Covered Federal action," as used in this clause, means any of the following Federal actions:

(1) The awarding of any Federal contract.

(2) The making of any Federal grant.

(3) The making of any Federal loan.

(4) The entering into of any cooperative agreement.

(5) The extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

"Indian tribe" and "tribal organization," as used in this clause, have the meaning provided in section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450B) and include Alaskan Natives.

"Influencing or attempting to influence," as used in this clause, means making, with the intent to influence, any communication to or appearance before an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any covered Federal action.

"Local government," as used in this clause, means a unit of government in a State and, if chartered, established, or otherwise recognized by a State for the performance of a governmental duty, including a local public authority, a special district, an intrastate district, a council of governments, a sponsor group representative organization, and any other instrumentality of a local government.

"Officer or employee of an agency," as used in this clause, includes the following individuals who are employed by an agency:

(1) An individual who is appointed to a position in the Government under Title 5, United States Code, including a position under a temporary appointment.

(2) A member of the uniformed services, as defined in subsection 101(3),Title 37, United States Code.

(3) A special Government employee, as defined in section 202, Title 18, United States Code.

(4) An individual who is a member of a Federal advisory committee, as defined by the Federal Advisory Committee Act, Title 5, United States Code, appendix 2.

"Person," as used in this clause, means an individual, corporation, company, association, authority, firm, partnership, society, State, and local government, regardless of whether such entity is operated for profit, or not for profit. This term excludes an Indian tribe, tribal organization, or any other Indian organization with respect to expenditures specifically permitted by other Federal law.

"Reasonable compensation," as used in this clause, means, with respect to a regularly employed officer or employee of any person, compensation that is consistent with the normal compensation for such officer or employee for work that is not furnished to, not funded by, or not furnished in cooperation with the Federal Government.

"Reasonable payment," as used in this clause, means, with respect to professional and other technical services, a payment in an amount that is consistent with the amount normally paid for such services in the private sector.

"Recipient," as used in this clause, includes the Contractor and all subcontractors. This term excludes an Indian tribe, tribal organization, or any other Indian organization with respect to expenditures specifically permitted by other Federal law.

"Regularly employed," as used in this clause, means, with respect to an officer or employee of a person requesting or receiving a Federal contract, an officer or employee who is employed by such person for at least 130 working days within 1 year immediately preceding the date of the submission that initiates agency consideration of such person for receipt of such contract. An officer or employee who is employed by such person for less than 130 working days within 1 year immediately preceding the date of the submission that initiates agency consideration of such person shall be considered to be regularly employed as soon as he or she is employed by such person for 130 working days.

State, as used in this clause, means a State of the United States, the District of Columbia, or an outlying area of the United States, an agency or instrumentality of a State, and multi-State, regional, or interstate entity having governmental duties and powers.

(b) Prohibitions.

(1) Section 1352 of Title 31, United States Code, among other things, prohibits a recipient of a Federal contract, grant, loan, or cooperative agreement from using appropriated funds to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following covered Federal actions: the awarding of any Federal contract; the making of any Federal grant; the making of any Federal loan; the entering into of any cooperative agreement; or the modification of any Federal contract, grant, loan, or cooperative agreement.

(2) The Act also requires Contractors to furnish a disclosure if any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a Federal contract, grant, loan, or cooperative agreement.

(3) The prohibitions of the Act do not apply under the following conditions:

(i) Agency and legislative liaison by own employees.

(A) The prohibition on the use of appropriated funds, in subparagraph (b)(1) of this clause, does not apply in the case of a payment of reasonable compensation made to an officer or employee of a person requesting or receiving a covered Federal action if the payment is for agency and legislative liaison activities not directly related to a covered Federal action.

(B) For purposes of subdivision (b)(3)(i)(A) of this clause, providing any information specifically requested by an agency or Congress is permitted at any time.

(C) The following agency and legislative liaison activities are permitted at any time where they are not related to a specific solicitation for any covered Federal action:

(1) Discussing with an agency the qualities and characteristics (including individual demonstrations) of the person's products or services, conditions or terms of sale, and service capabilities.

(2) Technical discussions and other activities regarding the application or adaptation of the person's products or services for an agency's use.

(D) The following agency and legislative liaison activities are permitted where they are prior to formal solicitation of any covered Federal action--

(1) Providing any information not specifically requested but necessary for an agency to make an informed decision about initiation of a covered Federal action;

(2) Technical discussions regarding the preparation of an unsolicited proposal prior to its official submission; and

(3) Capability presentations by persons seeking awards from an agency pursuant to the provisions of the Small Business Act, as amended by Pub. L. 95-507, and subsequent amendments.

(E) Only those services expressly authorized by subdivision (b)(3)(i)(A) of this clause are permitted under this clause.

(ii) Professional and technical services.

(A) The prohibition on the use of appropriated funds, in subparagraph (b)(1) of this clause, does not apply in the case of--

(1) A payment of reasonable compensation made to an officer or employee of a person requesting or receiving a covered Federal action or an extension, continuation, renewal, amendment, or modification of a covered Federal action, if payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal action or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal action.

(2) Any reasonable payment to a person, other than an officer or employee of a person requesting or receiving a covered Federal action or an extension, continuation, renewal, amendment, or modification of a covered Federal action if the payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal action or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal action. Persons other than officers or employees of a person requesting or receiving a covered Federal action include consultants and trade associations.

(B) For purposes of subdivision (b)(3)(ii)(A) of this clause, "professional and technical services" shall be limited to advice and analysis directly applying any professional or technical discipline. For example, drafting of a legal document accompanying a bid or proposal by a lawyer is allowable. Similarly, technical advice provided by an engineer on the performance or operational capability of a piece of equipment rendered directly in the negotiation of a contract is allowable. However, communications with the intent to influence made by a professional (such as a licensed lawyer) or a technical person (such as a licensed accountant) are not allowable under this section unless they provide advice and analysis directly applying their professional or technical expertise and unless the advice or analysis is rendered directly and solely in the preparation, submission or negotiation of a covered Federal action. Thus, for example, communications with the intent to influence made by a lawyer that do not provide legal advice or analysis directly and solely related to the legal aspects of his or her client's proposal, but generally advocate one proposal over another are not allowable under this section because the lawyer is not providing professional legal services. Similarly, communications with the intent to influence made by an engineer providing an engineering analysis prior to the preparation or submission of a bid or proposal are not allowable under this section since the engineer is providing technical services but not directly in the preparation, submission or negotiation of a covered Federal action.

(C) Requirements imposed by or pursuant to law as a condition for receiving a covered Federal award include those required by law or regulation and any other requirements in the actual award documents.

(D) Only those services expressly authorized by subdivisions (b)(3)(ii)(A)(1) and (2) of this clause are permitted under this clause.

(E) The reporting requirements of FAR 3.803(a) shall not apply with respect to payments of reasonable compensation made to regularly employed officers or employees of a person.

(c) Disclosure.

(1) The Contractor who requests or receives from an agency a Federal contract shall file with that agency a disclosure form, OMB standard form LLL, Disclosure of Lobbying Activities, if such person has made or has agreed to make any payment using nonappropriated funds (to include profits from any covered Federal action), which would be prohibited under subparagraph (b)(1) of this clause, if paid for with appropriated funds.

(2) The Contractor shall file a disclosure form at the end of each calendar quarter in which there occurs any event that materially affects the accuracy of the information contained in any disclosure form previously filed by such person under subparagraph (c)(1) of this clause. An event that materially affects the accuracy of the information reported includes--

(i) A cumulative increase of $25,000 or more in the amount paid or expected to be paid for influencing or attempting to influence a covered Federal action; or

(ii) A change in the person(s) or individual(s) influencing or attempting to influence a covered Federal action; or

(iii) A change in the officer(s), employee(s), or Member(s) contacted to influence or attempt to influence a covered Federal action.

(3) The Contractor shall require the submittal of a certification, and if required, a disclosure form by any person who requests or receives any subcontract exceeding $100,000 under the Federal contract.

(4) All subcontractor disclosure forms (but not certifications) shall be forwarded from tier to tier until received by the prime Contractor. The prime Contractor shall submit all disclosures to the Contracting Officer at the end of the calendar quarter in which the disclosure form is submitted by the subcontractor. Each subcontractor certification shall be retained in the subcontract file of the awarding Contractor.

(d) Agreement. The Contractor agrees not to make any payment prohibited by this clause.

(e) Penalties.

(1) Any person who makes an expenditure prohibited under paragraph (a) of this clause or who fails to file or amend the disclosure form to be filed or amended by paragraph (b) of this clause shall be subject to civil penalties as provided for by 31 U.S.C. 1352. An imposition of a civil penalty does not prevent the Government from seeking any other remedy that may be applicable.

(2) Contractors may rely without liability on the representation made by their subcontractors in the certification and disclosure form.

(f) Cost allowability. Nothing in this clause makes allowable or reasonable any costs which would otherwise be unallowable or unreasonable. Conversely, costs made specifically unallowable by the requirements in this clause will not be made allowable under any other provision.

(End of clause)

52.204-4 PRINTED OR COPIED DOUBLE-SIDED ON RECYCLED PAPER (AUG 2000)

(a) Definitions. As used in this clause--

“Postconsumer material” means a material or finished product that has served its intended use and has been discarded for disposal or recovery, having completed its life as a consumer item. Postconsumer material is a part of the broader category of “recovered material.” For paper and paper products, postconsumer material means “postconsumer fiber” defined by the U.S. Environmental Protection Agency (EPA) as--

(1) Paper, paperboard, and fibrous materials from retail stores, office buildings, homes, and so forth, after they have passed through their end-usage as a consumer item, including: used corrugated boxes; old newspapers; old magazines; mixed waste paper; tabulating cards; and used cordage; or

(2) All paper, paperboard, and fibrous materials that enter and are collected from municipal solid waste; but not

(3) Fiber derived from printers' over-runs, converters' scrap, and over-issue publications.

“Printed or copied double-sided” means printing or reproducing a document so that information is on both sides of a sheet of paper.

"Recovered material," for paper and paper products, is defined by EPA in its Comprehensive Procurement Guideline as "recovered fiber" and means the following materials:

(1) Postconsumer fiber; and

(2) Manufacturing wastes such as--

(i) Dry paper and paperboard waste generated after completion of the papermaking process (that is, those manufacturing operations up to and including the cutting and trimming of the paper machine reel into smaller rolls or rough sheets) including: envelope cuttings, bindery trimmings, and other paper and paperboard waste resulting from printing, cutting, forming, and other converting operations; bag, box, and carton manufacturing wastes; and butt rolls, mill wrappers, and rejected unused stock; and

(ii) Repulped finished paper and paperboard from obsolete inventories of paper and paperboard manufacturers, merchants, wholesalers, dealers, printers, converters, or others.

(b) In accordance with Section 101 of Executive Order 13101 of September 14, 1998, Greening the Government through Waste Prevention, Recycling, and Federal Acquisition, the Contractor is encouraged to submit paper documents, such as offers, letters, or reports, that are printed or copied double-sided on recycled paper that meet minimum content standards specified in Section 505 of Executive Order 13101, when not using electronic commerce methods to submit information or data to the Government.

(c) If the Contractor cannot purchase high-speed copier paper, offset paper, forms bond, computer printout paper, carbonless paper, file folders, white wove envelopes, writing and office paper, book paper, cotton fiber paper, and cover stock meeting the 30 percent postconsumer material standard for use in submitting paper documents to the Government, it should use paper containing no less than 20 percent postconsumer material. This lesser standard should be used only when paper meeting the 30 percent postconsumer material standard is not obtainable at a reasonable price or does not meet reasonable performance standards.

(End of clause)

52.209-6 PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT (JAN 2005)

(a) The Government suspends or debars Contractors to protect the Government's interests. The Contractor shall not enter into any subcontract in excess of the $25,000 with a Contractor that is debarred, suspended, or proposed for debarment unless there is a compelling reason to do so.

(b) The Contractor shall require each proposed first-tier subcontractor, whose subcontract will exceed $25,000, to disclose to the Contractor, in writing, whether as of the time of award of the subcontract, the subcontractor, or its principles, is or is not debarred, suspended, or proposed for debarment by the Federal Government.

(c) A corporate officer or a designee of the Contractor shall notify the Contracting Officer, in writing, before entering into a subcontract with a party that is debarred, suspended, or proposed for debarment (see FAR 9.404 for information on the in the Excluded Parties List System). The notice must include the following:

(1) The name of the subcontractor.

(2) The Contractor's knowledge of the reasons for the subcontractor being in the Excluded Parties List System.

(3) The compelling reason(s) for doing business with the subcontractor notwithstanding its inclusion in the Excluded Parties List System.

(4) The systems and procedures the Contractor has established to ensure that it is fully protecting the Government's interests when dealing with such subcontractor in view of the specific basis for the party's debarment, suspension, or proposed debarment.

(End of clause)

52.211-10 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (APR 1984)

The Contractor shall be required to (a) commence work under this contract within 10 calendar days after the date the Contractor receives the notice to proceed, (b) prosecute the work diligently, and (c) complete the entire work ready for use not later than TBD per Task Order. The time stated for completion shall include final cleanup of the premises.

(End of clause)

52.211-12 LIQUIDATED DAMAGES--CONSTRUCTION (SEP 2000)

(a) If the Contractor fails to complete the work within the time specified in the contract, the Contractor shall pay liquidated damages to the Government in the amount TBD per Task Order for each calendar day of delay until the work is completed or accepted.

(b) If the Government terminates the Contractor's right to proceed, liquidated damages will continue to accrue until the work is completed. These liquidated damages are in addition to excess costs of repurchase under the Termination clause.

(End of clause)

52.211-13 TIME EXTENSIONS (SEP 2000)

Time extensions for contract changes will depend upon the extent, if any, by which the changes cause delay in the completion of the various elements of construction. The change order granting the time extension may provide that the contract completion date will be extended only for those specific elements related to the changed work and that the remaining contract completion dates for all other portions of the work will not be altered. The change order also may provide an equitable readjustment of liquidated damages under the new completion schedule.

(End of clause)

52.211-15 DEFENSE PRIORITY AND ALLOCATION REQUIREMENTS (SEP 1990)

This is a rated order certified for national defense use, and the Contractor shall follow all the requirements of the Defense Priorities and Allocations System regulation (15 CFR 700).

(End of clause)

52.211-18 VARIATION IN ESTIMATED QUANTITY (APR 1984)

If the quantity of a unit-priced item in this contract is an estimated quantity and the actual quantity of the unit-priced item varies more than 15 percent above or below the estimated quantity, an equitable adjustment in the contract price shall be made upon demand of either party. The equitable adjustment shall be based upon any increase or decrease in costs due solely to the variation above 115 percent or below 85 percent of the estimated quantity. If the quantity variation is such as to cause an increase in the time necessary for completion, the Contractor may request, in writing, an extension of time, to be received by the Contracting Officer within 10 days from the beginning of the delay, or within such further period as may be granted by the Contracting Officer before the date of final settlement of the contract. Upon the receipt of a written request for an extension, the Contracting Officer shall ascertain the facts and make an adjustment for extending the completion date as, in the judgement of the Contracting Officer, is justified.

52.215-2 AUDIT AND RECORDS--NEGOTIATION (JUN 1999)

(a) As used in this clause, "records" includes books, documents, accounting procedures and practices, and other data, regardless of type and regardless of whether such items are in written form, in the form of computer data, or in any other form.

(b) Examination of costs. If this is a cost-reimbursement, incentive, time-and-materials, labor-hour, or price redeterminable contract, or any combination of these, the Contractor shall maintain and the Contracting Officer, or an authorized representative of the Contracting Officer, shall have the right to examine and audit all records and other evidence sufficient to reflect properly all costs claimed to have been incurred or anticipated to be incurred directly or indirectly in performance of this contract. This right of examination shall include inspection at all reasonable times of the Contractor's plants, or parts of them, engaged in performing the contract.

(c) Cost or pricing data. If the Contractor has been required to submit cost or pricing data in connection with any pricing action relating to this contract, the Contracting Officer, or an authorized representative of the Contracting Officer, in order to evaluate the accuracy, completeness, and currency of the cost or pricing data, shall have the right to examine and audit all of the Contractor's records, including computations and projections, related to--

(1) The proposal for the contract, subcontract, or modification;

(2) The discussions conducted on the proposal(s), including those related to negotiating;

(3) Pricing of the contract, subcontract, or modification; or

(4) Performance of the contract, subcontract or modification.

(d) Comptroller General--(1) The Comptroller General of the United States, or an authorized representative, shall have access to and the right to examine any of the Contractor's directly pertinent records involving transactions related to this contract or a subcontract hereunder.

(2) This paragraph may not be construed to require the Contractor or subcontractor to create or maintain any record that the Contractor or subcontractor does not maintain in the ordinary course of business or pursuant to a provision of law.

(e) Reports. If the Contractor is required to furnish cost, funding, or performance reports, the Contracting Officer or an authorized representative of the Contracting Officer shall have the right to examine and audit the supporting

records and materials, for the purpose of evaluating (1) the effectiveness of the Contractor's policies and procedures to produce data compatible with the objectives of these reports and (2) the data reported.

(f) Availability. The Contractor shall make available at its office at all reasonable times the records, materials, and other evidence described in paragraphs (a), (b), (c), (d), and (e) of this clause, for examination, audit, or reproduction, until 3 years after final payment under this contract or for any shorter period specified in Subpart 4.7, Contractor Records Retention, of the Federal Acquisition Regulation (FAR), or for any longer period required by statute or by other clauses of this contract. In addition--

(1) If this contract is completely or partially terminated, the Contractor shall make available the records relating to the work terminated until 3 years after any resulting final termination settlement; and

(2) The Contractor shall make available records relating to appeals under the Disputes clause or to litigation or the settlement of claims arising under or relating to this contract until such appeals, litigation, or claims are finally resolved.

(g) The Contractor shall insert a clause containing all the terms of this clause, including this paragraph (g), in all subcontracts under this contract that exceed the simplified acquisition threshold, and--

(1) That are cost-reimbursement, incentive, time-and-materials, labor-hour, or price-redeterminable type or any combination of these;

(2) For which cost or pricing data are required; or

(3) That require the subcontractor to furnish reports as discussed in paragraph (e) of this clause.

The clause may be altered only as necessary to identify properly the contracting parties and the Contracting Officer under the Government prime contract.

(End of clause)

52.215-10 PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA (OCT 1997)

(a) If any price, including profit or fee, negotiated in connection with this contract, or any cost reimbursable under this contract, was increased by any significant amount because--

(1) The Contractor or a subcontractor furnished cost or pricing data that were not complete, accurate, and current as certified in its Certificate of Current Cost or Pricing Data;

(2) A subcontractor or prospective subcontractor furnished the Contractor cost or pricing data that were not complete, accurate, and current as certified in the Contractor's Certificate of Current Cost or Pricing Data; or

(3) Any of these parties furnished data of any description that were not accurate, the price or cost shall be reduced accordingly and the contract shall be modified to reflect the reduction.

(b) Any reduction in the contract price under paragraph (a) of this clause due to defective data from a prospective subcontractor that was not subsequently awarded the subcontract shall be limited to the amount, plus applicable overhead and profit markup, by which--

(1) The actual subcontract; or

(2) The actual cost to the Contractor, if there was no subcontract, was less than the prospective subcontract cost estimate submitted by the Contractor; provided, that the actual subcontract price was not itself affected by defective cost or pricing data.

(c)(1) If the Contracting Officer determines under paragraph (a) of this clause that a price or cost reduction should be made, the Contractor agrees not to raise the following matters as a defense:

(i) The Contractor or subcontractor was a sole source supplier or otherwise was in a superior bargaining position and thus the price of the contract would not have been modified even if accurate, complete, and current cost or pricing data had been submitted.

(ii) The Contracting Officer should have known that the cost or pricing data in issue were defective even though the Contractor or subcontractor took no affirmative action to bring the character of the data to the attention of the Contracting Officer.

(iii) The contract was based on an agreement about the total cost of the contract and there was no agreement about the cost of each item procured under the contract.

(iv) The Contractor or subcontractor did not submit a Certificate of Current Cost or Pricing Data.

(2)(i) Except as prohibited by subdivision (c)(2)(ii) of this clause, an offset in an amount determined appropriate by the Contracting Officer based upon the facts shall be allowed against the amount of a contract price reduction if--

(A) The Contractor certifies to the Contracting Officer that, to the best of the Contractor's knowledge and belief, the Contractor is entitled to the offset in the amount requested; and

(B) The Contractor proves that the cost or pricing data were available before the “as of” date specified on its Certificate of Current Cost or Pricing Data, and that the data were not submitted before such date.

(ii) An offset shall not be allowed if--

(A) The understated data were known by the Contractor to be understated before the “as of” date specified on its Certificate of Current Cost or Pricing Data; or

(B) The Government proves that the facts demonstrate that the contract price would not have increased in the amount to be offset even if the available data had been submitted before the “as of” date specified on its Certificate of Current Cost or Pricing Data.

(d) If any reduction in the contract price under this clause reduces the price of items for which payment was made prior to the date of the modification reflecting the price reduction, the Contractor shall be liable to and shall pay the United States at the time such overpayment is repaid--

(1) Simple interest on the amount of such overpayment to be computed from the date(s) of overpayment to the Contractor to the date the Government is repaid by the Contractor at the applicable underpayment rate effective for each quarter prescribed by the Secretary of the Treasury under 26 U.S.C. 6621(a)(2); and

A penalty equal to the amount of the overpayment, if the Contractor or subcontractor knowingly submitted cost or pricing data that were incomplete, inaccurate, or noncurrent.

(End of clause)

52.215-11 PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA--MODIFICATIONS (OCT 1997)

(a) This clause shall become operative only for any modification to this contract involving a pricing adjustment expected to exceed the threshold for submission of cost or pricing data at FAR 15.403-4, except that this clause does not apply to any modification if an exception under FAR 15.403-1 applies.

(b) If any price, including profit or fee, negotiated in connection with any modification under this clause, or any cost reimbursable under this contract, was increased by any significant amount because (1) the Contractor or a subcontractor furnished cost or pricing data that were not complete, accurate, and current as certified in its Certificate of Current Cost or Pricing Data, (2) a subcontractor or prospective subcontractor furnished the Contractor cost or pricing data that were not complete, accurate, and current as certified in the Contractor's Certificate of Current Cost or Pricing Data, or (3) any of these parties furnished data of any description that were not accurate, the price or cost shall be reduced accordingly and the contract shall be modified to reflect the reduction. This right to a price reduction is limited to that resulting from defects in data relating to modifications for which this clause becomes operative under paragraph (a) of this clause.

(c) Any reduction in the contract price under paragraph (b) of this clause due to defective data from a prospective subcontractor that was not subsequently awarded the subcontract shall be limited to the amount, plus applicable overhead and profit markup, by which--

(1) The actual subcontract; or

(2) The actual cost to the Contractor, if there was no subcontract, was less than the prospective subcontract cost estimate submitted by the Contractor; provided, that the actual subcontract price was not itself affected by defective cost or pricing data.

(d)(1) If the Contracting Officer determines under paragraph (b) of this clause that a price or cost reduction should be made, the Contractor agrees not to raise the following matters as a defense:

(i) The Contractor or subcontractor was a sole source supplier or otherwise was in a superior bargaining position and thus the price of the contract would not have been modified even if accurate, complete, and current cost or pricing data had been submitted.

(ii) The Contracting Officer should have known that the cost or pricing data in issue were defective even though the Contractor or subcontractor took no affirmative action to bring the character of the data to the attention of the Contracting Officer.

(iii) The contract was based on an agreement about the total cost of the contract and there was no agreement about the cost of each item procured under the contract.

(iv) The Contractor or subcontractor did not submit a Certificate of Current Cost or Pricing Data.

(2)(i) Except as prohibited by subdivision (d)(2)(ii) of this clause, an offset in an amount determined appropriate by the Contracting Officer based upon the facts shall be allowed against the amount of a contract price reduction if--

(A) The Contractor certifies to the Contracting Officer that, to the best of the Contractor's knowledge and belief, the Contractor is entitled to the offset in the amount requested; and

(B) The Contractor proves that the cost or pricing data were available before the “as of” date specified on its Certificate of Current Cost or Pricing Data, and that the data were not submitted before such date.

(ii) An offset shall not be allowed if--

(A) The understated data were known by the Contractor to be understated before the “as of” date specified on its Certificate of Current Cost or Pricing Data; or

(B) The Government proves that the facts demonstrate that the contract price would not have increased in the amount to be offset even if the available data had been submitted before the “as of” date specified on its Certificate of Current Cost or Pricing Data.

(e) If any reduction in the contract price under this clause reduces the price of items for which payment was made prior to the date of the modification reflecting the price reduction, the Contractor shall be liable to and shall pay the United States at the time such overpayment is repaid--

(1) Simple interest on the amount of such overpayment to be computed from the date(s) of overpayment to the Contractor to the date the Government is repaid by the Contractor at the applicable underpayment rate effective for each quarter prescribed by the Secretary of the Treasury under 26 U.S.C. 6621(a)(2); and

A penalty equal to the amount of the overpayment, if the Contractor or subcontractor knowingly submitted cost or pricing data that were incomplete, inaccurate, or noncurrent.

(End of clause)

52.215-12 SUBCONTRACTOR COST OR PRICING DATA (OCT 1997)

(a) Before awarding any subcontract expected to exceed the threshold for submission of cost or pricing data at FAR 15.403-4, on the date of agreement on price or the date of award, whichever is later; or before pricing any subcontract modification involving a pricing adjustment expected to exceed the threshold for submission of cost or pricing data at FAR 15.403-4, the Contractor shall require the subcontractor to submit cost or pricing data (actually or by specific identification in writing), unless an exception under FAR 15.403-1 applies.

(b) The Contractor shall require the subcontractor to certify in substantially the form prescribed in FAR 15.406-2 that, to the best of its knowledge and belief, the data submitted under paragraph (a) of this clause were accurate, complete, and current as of the date of agreement on the negotiated price of the subcontract or subcontract modification.

(c) In each subcontract that exceeds the threshold for submission of cost or pricing data at FAR 15.403-4, when entered into, the Contractor shall insert either--

(1) The substance of this clause, including this paragraph (c), if paragraph (a) of this clause requires submission of cost or pricing data for the subcontract; or

(2) The substance of the clause at FAR 52.215-13, Subcontractor Cost or Pricing Data--Modifications.

52.215-13 SUBCONTRACTOR COST OR PRICING DATA--MODIFICATIONS (OCT 1997)

(a) The requirements of paragraphs (b) and (c) of this clause shall--

(1) Become operative only for any modification to this contract involving a pricing adjustment expected to exceed the threshold for submission of cost or pricing data at FAR 15.403-4; and

(2) Be limited to such modifications.

(b) Before awarding any subcontract expected to exceed the threshold for submission of cost or pricing data at FAR

15.403-4, on the date of agreement on price or the date of award, whichever is later; or before pricing any subcontract modification involving a pricing adjustment expected to exceed the threshold for submission of cost or pricing data at FAR 15.403-4, the Contractor shall require the subcontractor to submit cost or pricing data (actually or by specific identification in writing), unless an exception under FAR 15.403-1 applies.

(c) The Contractor shall require the subcontractor to certify in substantially the form prescribed in FAR 15.406-2 that, to the best of its knowledge and belief, the data submitted under paragraph (b) of this clause were accurate, complete, and current as of the date of agreement on the negotiated price of the subcontract or subcontract modification.

The Contractor shall insert the substance of this clause, including this paragraph (d), in each subcontract that exceeds the threshold for submission of cost or pricing data at FAR 15.403-4 on the date of agreement on price or the date of award, whichever is later.

(End of clause)

52.215-19 NOTIFICATION OF OWNERSHIP CHANGES (OCT 1997)

(a) The Contractor shall make the following notifications in writing:

(1) When the Contractor becomes aware that a change in its ownership has occurred, or is certain to occur, that could result in changes in the valuation of its capitalized assets in the accounting records, the Contractor shall notify the Administrative Contracting Officer (ACO) within 30 days.

(2) The Contractor shall also notify the ACO within 30 days whenever changes to asset valuations or any other cost changes have occurred or are certain to occur as a result of a change in ownership.

(b) The Contractor shall--

(1) Maintain current, accurate, and complete inventory records of assets and their costs;

(2) Provide the ACO or designated representative ready access to the records upon request;

(3) Ensure that all individual and grouped assets, their capitalized values, accumulated depreciation or amortization, and remaining useful lives are identified accurately before and after each of the Contractor's ownership changes; and

(4) Retain and continue to maintain depreciation and amortization schedules based on the asset records maintained before each Contractor ownership change.

The Contractor shall include the substance of this clause in all subcontracts under this contract that meet the applicability requirement of FAR 15.408(k).

(End of clause)

52.216-18 ORDERING. (OCT 1995)

(a) Any supplies and services to be furnished under this contract shall be ordered by issuance of delivery orders or task orders by the individuals or activities designated in the Schedule. Such orders may be issued from award through expiration of contract.

(b) All delivery orders or task orders are subject to the terms and conditions of this contract. In the event of conflict between a delivery order or task order and this contract, the contract shall control.

(c) If mailed, a delivery order or task order is considered "issued" when the Government deposits the order in the mail. Orders may be issued orally, by facsimile, or by electronic commerce methods only if authorized in the Schedule.

(End of clause)

52.216-19 ORDER LIMITATIONS. (OCT 1995)

(a) Minimum order. When the Government requires supplies or services covered by this contract in an amount of less than $10,000, the Government is not obligated to purchase, nor is the Contractor obligated to furnish, those supplies or services under the contract.

(b) Maximum order. The Contractor is not obligated to honor:

(1) Any order for a single item in excess of $12 million;

(2) Any order for a combination of items in excess of $12 million; or

(3) A series of orders from the same ordering office within 7 days that together call for quantities exceeding the limitation in subparagraph (1) or (2) above.

(c) If this is a requirements contract (i.e., includes the Requirements clause at subsection 52.216-21 of the Federal Acquisition Regulation (FAR)), the Government is not required to order a part of any one requirement from the Contractor if that requirement exceeds the maximum-order limitations in paragraph (b) above.

(d) Notwithstanding paragraphs (b) and (c) above, the Contractor shall honor any order exceeding the maximum order limitations in paragraph (b), unless that order (or orders) is returned to the ordering office within 1 day after issuance, with written notice stating the Contractor's intent not to ship the item (or items) called for and the reasons. Upon receiving this notice, the Government may acquire the supplies or services from another source.

(End of clause)

52.216-22 INDEFINITE QUANTITY. (OCT 1995)

(a) This is an indefinite-quantity contract for the supplies or services specified, and effective for the period stated, in the Schedule. The quantities of supplies and services specified in the Schedule are estimates only and are not purchased by this contract.

(b) Delivery or performance shall be made only as authorized by orders issued in accordance with the Ordering clause. The Contractor shall furnish to the Government, when and if ordered, the supplies or services specified in the Schedule up to and including the quantity designated in the Schedule as the "maximum". The Government shall order at least the quantity of supplies or services designated in the Schedule as the "minimum".

(c) Except for any limitations on quantities in the Order Limitations clause or in the Schedule, there is no limit on the number of orders that may be issued. The Government may issue orders requiring delivery to multiple destinations or performance at multiple locations.

(d) Any order issued during the effective period of this contract and not completed within that period shall be completed by the Contractor within the time specified in the order. The contract shall govern the Contractor's and Government's rights and obligations with respect to that order to the same extent as if the order were completed during the contract's effective period; provided, that the Contractor shall not be required to make any deliveries under this contract after [insert date].

(End of clause)

52.217-5 EVALUATION OF OPTIONS (JUL 1990)

Except when it is determined in accordance with FAR 17.206(b) not to be in the Government's best interests, the Government will evaluate offers for award purposes by adding the total price for all options to the total price for the basic requirement. Evaluation of options will not obligate the Government to exercise the option(s).

(End of provision)

52.219-4 NOTICE OF PRICE EVALUATION PREFERENCE FOR HUBZONE SMALL BUSINESS CONCERNS (OCT 2004)

(a) Definition. HUBZone small business concern, as used in this clause, means a small business concern that appears on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration.

(b) Evaluation preference. (1) Offers will be evaluated by adding a factor of 10 percent to the price of all offers, except--

(i) Offers from HUBZone small business concerns that have not waived the evaluation preference;

(ii) Otherwise successful offers from small business concerns;

(iii) Otherwise successful offers of eligible products under the Trade Agreements Act when the dollar threshold for application of the Act is exceeded (see 25.402 of the Federal Acquisition Regulation (FAR)); and

(iv) Otherwise successful offers where application of the factor would be inconsistent with a Memorandum of Understanding or other international agreement with a foreign government.

(2) The factor of 10 percent shall be applied on a line item basis or to any group of items on which award may be made. Other evaluation factors described in the solicitation shall be applied before application of the factor.

(3) A concern that is both a HUBZone small business concern and a small disadvantaged business concern will receive the benefit of both the HUBZone small business price evaluation preference and the small disadvantaged business price evaluation adjustment (see FAR clause 52.219-23). Each applicable price evaluation preference or adjustment shall be calculated independently against an offeror's base offer.

These individual preference amounts shall be added together to arrive at the total evaluated price for that offer.

(c) Waiver of evaluation preference. A HUBZone small business concern may elect to waive the evaluation preference, in which case the factor will be added to its offer for evaluation purposes. The agreements in paragraph (d) of this clause do not apply if the offeror has waived the evaluation preference.

___ Offeror elects to waive the evaluation preference.

(d) Agreement. A HUBZone small business concern agrees that in the performance of the contract, in the case of a contract for

(1) Services (except construction), at least 50 percent of the cost of personnel for contract performance will be spent for employees of the concern or employees of other HUBZone small business concerns;

(2) Supplies (other than procurement from a nonmanufacturer of such supplies), at least 50 percent of the cost of manufacturing, excluding the cost of materials, will be performed by the concern or other HUBZone small business concerns;

(3) General construction, at least 15 percent of the cost of the contract performance incurred for personnel will be spent on the concern's employees or the employees of other HUBZone small business concerns; or

(4) Construction by special trade contractors, at least 25 percent of the cost of the contract performance incurred for personnel will be spent on the concern's employees or the employees of other HUBZone small business concerns.

(e) A HUBZone joint venture agrees that in the performance of the contract, the applicable percentage specified in paragraph (d) of this clause will be performed by the HUBZone small business participant or participants.

(f) A HUBZone small business concern nonmanufacturer agrees to furnish in performing this contract only end items manufactured or produced by HUBZone small business manufacturer concerns. This paragraph does not apply in connection with construction or service contracts.

(End of clause)

52.219-8 UTILIZATION OF SMALL BUSINESS CONCERNS (MAY 2004)

(a) It is the policy of the United States that small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, HUBZone small business concerns, small disadvantaged business concerns, and women-owned small business concerns shall have the maximum practicable opportunity to participate in performing contracts let by any Federal agency, including contracts and subcontracts for subsystems, assemblies, components, and related services for major systems. It is further the policy of the United States that its prime contractors establish procedures to ensure the timely payment of amounts due pursuant to the terms of their subcontracts with small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, HUBZone small business concerns, small disadvantaged business concerns, and women-owned small business concerns.

(b) The Contractor hereby agrees to carry out this policy in the awarding of subcontracts to the fullest extent consistent with efficient contract performance. The Contractor further agrees to cooperate in any studies or surveys as may be conducted by the United States Small Business Administration or the awarding agency of the United States as may be necessary to determine the extent of the Contractor's compliance with this clause.

Definitions. As used in this contract--

HUBZone small business concern means a small business concern that appears on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration.

Service-disabled veteran-owned small business concern--

(1) Means a small business concern--

(i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a service-disabled veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

Small business concern means a small business as defined pursuant to Section 3 of the Small Business Act and relevant regulations promulgated pursuant thereto.

Small disadvantaged business concern means a small business concern that represents, as part of its offer that--

(1) It has received certification as a small disadvantaged business concern consistent with 13 CFR part 124, subpart B;

(2) No material change in disadvantaged ownership and control has occurred since its certification;

(3) Where the concern is owned by one or more individuals, the net worth of each individual upon whom the certification is based does not exceed $750,000 after taking into account the applicable exclusions set forth at 13 CFR 124.104(c)(2); and

(4) It is identified, on the date of its representation, as a certified small disadvantaged business in the database maintained by the Small Business Administration (PRO-Net).

Veteran-owned small business concern means a small business concern--

(1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and

(2) The management and daily business operations of which are controlled by one or more veterans.

Women-owned small business concern means a small business concern--

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

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

(d) Contractors acting in good faith may rely on written representations by their subcontractors regarding their status as a small business concern, a veteran-owned small business concern, a service-disabled veteran-owned small business concern, a HUBZone small business concern, a small disadvantaged business concern, or a women-owned small business concern.

(End of clause)

52.219-9 SMALL BUSINESS SUBCONTRACTING PLAN (JAN 2002)

(a) This clause does not apply to small business concerns.

(b) Definitions. As used in this clause--

Commercial item means a product or service that satisfies the definition of commercial item in section 2.101 of the Federal Acquisition Regulation.

Commercial plan means a subcontracting plan (including goals) that covers the offeror's fiscal year and that applies to the entire production of commercial items sold by either the entire company or a portion thereof (e.g., division, plant, or product line).

Individual contract plan means a subcontracting plan that covers the entire contract period (including option periods), applies to a specific contract, and has goals that are based on the offeror's planned subcontracting in support of the specific contract, except that indirect costs incurred for common or joint purposes may be allocated on a prorated basis to the contract.

Master plan means a subcontracting plan that contains all the required elements of an individual contract plan, except goals, and may be incorporated into individual contract plans, provided the master plan has been approved.

Subcontract means any agreement (other than one involving an employer-employee relationship) entered into by a Federal Government prime Contractor or subcontractor calling for supplies or services required for performance of the contract or subcontract.

(c) The offeror, upon request by the Contracting Officer, shall submit and negotiate a subcontracting plan, where applicable, that separately addresses subcontracting with small business, veteran-owned small business, HUBZone small business concerns, small disadvantaged business, and women-owned small business concerns. If the offeror is submitting an individual contract plan, the plan must separately address subcontracting with small business, veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns, with a separate part for the basic contract and separate parts for each option (if any). The plan shall be included in and made a part of the resultant contract. The subcontracting plan shall be negotiated within the time specified by the Contracting Officer. Failure to submit and negotiate the subcontracting plan shall make the offeror ineligible for award of a contract.

(d) The offeror's subcontracting plan shall include the following:

(1) Goals, expressed in terms of percentages of total planned subcontracting dollars, for the use of small business, veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns as subcontractors. The offeror shall include all subcontracts that contribute to contract performance, and may include a proportionate share of products and services that are normally allocated as indirect costs.

(2) A statement of--

(i) Total dollars planned to be subcontracted for an individual contract plan; or the offeror's total projected sales, expressed in dollars, and the total value of projected subcontracts to support the sales for a commercial plan;

(ii) Total dollars planned to be subcontracted to small business concerns;

(iii) Total dollars planned to be subcontracted to veteran-owned small business concerns;

(iv) Total dollars planned to be subcontracted to HUBZone small business concerns;

(v) Total dollars planned to be subcontracted to small disadvantaged business concerns; and

(vi) Total dollars planned to be subcontracted to women-owned small business concerns.

(3) A description of the principal types of supplies and services to be subcontracted, and an identification of the types planned for subcontracting to--

(i) Small business concerns;

(ii) Veteran-owned small business concerns;

(iii) HUBZone small business concerns;

(iv) Small disadvantaged business concerns; and

(v) Women-owned small business concerns.

(4) A description of the method used to develop the subcontracting goals in paragraph (d)(1) of this clause.

(5) A description of the method used to identify potential sources for solicitation purposes (e.g., existing company source lists, the Procurement Marketing and Access Network (PRO-Net) of the Small Business Administration (SBA), veterans service organizations, the National Minority Purchasing Council Vendor Information Service, the Research and Information Division of the Minority Business Development Agency in the Department of Commerce, or small, HUBZone, small disadvantaged, and women-owned small business trade associations). A firm may rely on the information contained in PRO-Net as an accurate representation of a concern's size and ownership characteristics for the purposes of maintaining a small, veteran-owned small, HUBZone small, small disadvantaged, and women-owned small business source list. Use of PRO-Net as its source list does not relieve a firm of its responsibilities (e.g., outreach, assistance, counseling, or publicizing subcontracting opportunities) in this clause.

(6) A statement as to whether or not the offeror in included indirect costs in establishing subcontracting goals, and a description of the method used to determine the proportionate share of indirect costs to be incurred with—

(i) Small business concerns;

(ii) Veteran-owned small business concerns;

(iii) HUBZone small business concerns;

(iv) Small disadvantaged business concerns; and

(v) Women-owned small business concerns.

(7) The name of the individual employed by the offeror who will administer the offeror's subcontracting program, and a description of the duties of the individual.

(8) A description of the efforts the offeror will make to assure that small business, veteran-owned small business, HUBZone small business, small disadvantaged business and women-owned small business concerns have an equitable opportunity to compete for subcontracts.

(9) Assurances that the offeror will include the clause of this contract entitled ``Utilization of Small Business Concerns'' in all subcontracts that offer further subcontracting opportunities, and that the offeror will require all

subcontractors (except small business concerns) that receive subcontracts in excess of $500,000 ($1,000,000 for construction of any public facility) to adopt a subcontracting plan that complies with the requirements of this clause.

(10) Assurances that the offeror will--

(i) Cooperate in any studies or surveys as may be required;

(ii) Submit periodic reports so that the Government can determine the extent of compliance by the offeror with the subcontracting plan;

(iii) Submit Standard Form (SF) 294, Subcontracting Report for Individual Contracts, and/or SF 295, Summary Subcontract Report, in accordance with paragraph (j) of this clause. The reports shall provide information on subcontract awards to small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, small disadvantaged business concerns, women-owned small business concerns, and Historically Black Colleges and Universities and Minority Institutions. Reporting shall be in accordance with the instructions on the forms or as provided in agency regulations.

(iv) Ensure that its subcontractors agree to submit SF 294 and SF 295.

(11) A description of the types of records that will be maintained concerning procedures that have been adopted to comply with the requirements and goals in the plan, including establishing source lists; and a description of the offeror's efforts to locate small business, veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns and award subcontracts to them. The records shall include at least the following (on a plant-wide or company-wide basis, unless otherwise indicated)

(i) Source lists (e.g., PRO-Net), guides, and other data that identify small business, veteran-owner small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns.

(ii) Organizations contacted in an attempt to locate sources that are small business, veteran-owned small business, HUBZone small business, small disadvantaged business, or women-owned small business concerns.

(iii) Records on each subcontract solicitation resulting in an award of more than $100,000, indicating--

(A) Whether small business concerns were solicited and, if not, why not;

(B) Whether veteran-owned small business concerns were solicited and, if not, why not;

(C) Whether HUBZone small business concerns were solicited and, if not, why not;

(D) Whether small disadvantaged business concerns were solicited and, if not, why not;

(E) Whether women-owned small business concerns were solicited and, if not, why not; and

(F) If applicable, the reason award was not made to a small business concern.

(iv) Records of any outreach efforts to contact--

(A) Trade associations;

(B) Business development organizations;

(C) Conferences and trade fairs to locate small, HUBZone small, small disadvantaged, and women-owned small business sources; and

(D) Veterans service organizations.

(v) Records of internal guidance and encouragement provided to buyers through--

(A) Workshops, seminars, training, etc.; and

(B) Monitoring performance to evaluate compliance with the program's requirements.

(vi) On a contract-by-contract basis, records to support award data submitted by the offeror to the Government, including the name, address, and business size of each subcontractor. Contractors having commercial plans need not comply with this requirement.

(e) In order to effectively implement this plan to the extent consistent with efficient contract performance, the Contractor shall perform the following functions:

(1) Assist small business, veteran-owner small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns by arranging solicitations, time for the preparation of bids, quantities, specifications, and delivery schedules so as to facilitate the participation by such concerns. Where the Contractor's lists of potential small business, veteran-owner small business, HUBZone small business, small disadvantaged business, and women-owned small business subcontractors are excessively long, reasonable effort shall be made to give all such small business concerns an opportunity to compete over a period of time.

(2) Provide adequate and timely consideration of the potentialities of small business, veteran-owner small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns in all ``make-or-buy'' decisions.

(3) Counsel and discuss subcontracting opportunities with representatives of small business, veteran-owner small business, HUBZone small business, small disadvantaged business, and women-owned small business firms.

(4) Provide notice to subcontractors concerning penalties and remedies for misrepresentations of business status as small, veteran-owner small business, HUBZone small, small disadvantaged, or women-owned small business for the purpose of obtaining a subcontract that is to be included as part or all of a goal contained in the Contractor's subcontracting plan.

(f) A master plan on a plant or division-wide basis that contains all the elements required by paragraph (d) of this clause, except goals, may be incorporated by reference as a part of the subcontracting plan required of the offeror by this clause; provided--
(1) the master plan has been approved, (2) the offeror ensures that the master plan is updated as necessary and provides copies of the approved master plan, including evidence of its approval, to the Contracting Officer, and (3) goals and any deviations from the master plan deemed necessary by the Contracting Officer to satisfy the requirements of this contract are set forth in the individual subcontracting plan.

(g) A commercial plan is the preferred type of subcontracting plan for contractors furnishing commercial items. The commercial plan shall relate to the offeror's planned subcontracting generally, for both commercial and Government business, rather than solely to the Government contract. Commercial plans are also preferred for subcontractors that provide commercial items under a prime contract, whether or not the prime contractor is supplying a commercial item.

(h) Prior compliance of the offeror with other such subcontracting plans under previous contracts will be considered by the Contracting Officer in determining the responsibility of the offeror for award of the contract.

(i) The failure of the Contractor or subcontractor to comply in good faith with (1) the clause of this contract entitled "Utilization Of Small Business Concerns," or (2) an approved plan required by this clause, shall be a material breach of the contract.

(j) The Contractor shall submit the following reports:

(1) Standard Form 294, Subcontracting Report for Individual Contracts. This report shall be submitted to the Contracting Officer semiannually and at contract completion. The report covers subcontract award data related to this contract. This report is not required for commercial plans.

(2) Standard Form 295, Summary Subcontract Report. This report encompasses all of the contracts with the awarding agency. It must be submitted semi-annually for contracts with the Department of Defense and annually for contracts with civilian agencies. If the reporting activity is covered by a commercial plan, the reporting activity must report annually all subcontract awards under that plan. All reports submitted at the close of each fiscal year (both individual and commercial plans) shall include a breakout, in the Contractor's format, of subcontract awards, in whole dollars, to small disadvantaged business concerns by North American Industry Classification System (NAICS) Industry Subsector. For a commercial plan, the Contractor may obtain from each of its subcontractors a predominant NAICS Industry Subsector and report all awards to that subcontractor under its predominant NAICS Industry Subsector.

(End of clause)

52.219-16 LIQUIDATED DAMAGES-SUBCONTRACTING PLAN (JAN 1999)

(a) Failure to make a good faith effort to comply with the subcontracting plan, as used in this clause, means a willful or intentional failure to perform in accordance with the requirements of the subcontracting plan approved under the clause in this contract entitled "Small Business Subcontracting Plan," or willful or intentional action to frustrate the plan.

(b) Performance shall be measured by applying the percentage goals to the total actual subcontracting dollars or, if a commercial plan is involved, to the pro rata share of actual subcontracting dollars attributable to Government contracts covered by the commercial plan. If, at contract completion or, in the case of a commercial plan, at the close of the fiscal year for which the plan is applicable, the Contractor has failed to meet its subcontracting goals and the Contracting Officer decides in accordance with paragraph (c) of this clause that the Contractor failed to make a good faith effort to comply with its subcontracting plan, established in accordance with the clause in this contract entitled “Small Business Subcontracting Plan,” the Contractor shall pay the Government liquidated damages in an amount stated. The amount of probable damages attributable to the Contractor's failure to comply shall be an amount equal to the actual dollar amount by which the Contractor failed to achieve each subcontract goal.

(c) Before the Contracting Officer makes a final decision that the Contractor has failed to make such good faith effort, the Contracting Officer shall give the Contractor written notice specifying the failure and permitting the Contractor to demonstrate what good faith efforts have been made and to discuss the matter. Failure to respond to the notice may be taken as an admission that no valid explanation exists. If, after consideration of all the pertinent data, the Contracting Officer finds that the Contractor failed to make a good faith effort to comply with the subcontracting plan, the Contracting Officer shall issue a final decision to that effect and require that the Contractor pay the Government liquidated damages as provided in paragraph (b) of this clause.

(d) With respect to commercial plans, the Contracting Officer who approved the plan will perform the functions of the Contracting Officer under this clause on behalf of all agencies with contracts covered by the commercial plan.

(e) The Contractor shall have the right of appeal, under the clause in this contract entitled Disputes, from any final decision of the Contracting Officer.

(f) Liquidated damages shall be in addition to any other remedies that the Government may have.

(End of clause)

52.222-1 NOTICE TO THE GOVERNMENT OF LABOR DISPUTES (FEB 1997)

If the Contractor has knowledge that any actual or potential labor dispute is delaying or threatens to delay the timely performance of this contract, the Contractor shall immediately give notice, including all relevant information, to the Contracting Officer.

(End of clause)

52.222-3 CONVICT LABOR (JUN 2003)

(a) Except as provided in paragraph (b) of this clause, the Contractor shall not employ in the performance of this contract any person undergoing a sentence of imprisonment imposed by any court of a State, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, or the U.S. Virgin Islands.

(b) The Contractor is not prohibited from employing persons--

(1) On parole or probation to work at paid employment during the term of their sentence;

(2) Who have been pardoned or who have served their terms; or

(3) Confined for violation of the laws of any of the States, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, or the U.S. Virgin Islands who are authorized to work at paid employment in the community under the laws of such jurisdiction, if--

(i) The worker is paid or is in an approved work training program on a voluntary basis;

(ii) Representatives of local union central bodies or similar labor union organizations have been consulted;

(iii) Such paid employment will not result in the displacement of employed workers, or be applied in skills, crafts, or trades in which there is a surplus of available gainful labor in the locality, or impair existing contracts for services;

(iv) The rates of pay and other conditions of employment will not be less than those paid or provided for work of a similar nature in the locality in which the work is being performed; and

(v) The Attorney General of the United States has certified that the work-release laws or **regulations** of the jurisdiction involved are in conformity with the requirements of Executive Order 11755, as amended by Executive Orders 12608 and 12943.

(End of clause)

52.222-4 CONTRACT WORK HOURS AND SAFETY STANDARDS ACT - OVERTIME COMPENSATION. (SEP 2000)

(a) Overtime requirements. No Contractor or subcontractor employing laborers or mechanics (see Federal Acquisition Regulation 22.300) shall require or permit them to work over 40 hours in any workweek unless they are paid at least 1 and 1/2 times the basic rate of pay for each hour worked over 40 hours.

(b) Violation; liability for unpaid wages; liquidated damages. The responsible Contractor and subcontractor are liable for unpaid wages if they violate the terms in paragraph (a) of this clause. In addition, the Contractor and subcontractor are liable for liquidated damages payable to the Government. The Contracting Officer will assess liquidated damages at the rate of $10 per affected employee for each calendar day on which the employer required or permitted the employee to work in excess of the standard workweek of 40 hours without paying overtime wages required by the Contract Work Hours and Safety Standards Act.

(c) Withholding for unpaid wages and liquidated damages. The Contracting Officer will withhold from payments due under the contract sufficient funds required to satisfy any Contractor or subcontractor liabilities for unpaid wages and liquidated damages. If amounts withheld under the contract are insufficient to satisfy Contractor or subcontractor liabilities, the Contracting Officer will withhold payments from other Federal or Federally assisted contracts held by the same Contractor that are subject to the Contract Work Hours and Safety Standards Act.

(d) Payrolls and basic records.

(1) The Contractor and its subcontractors shall maintain payrolls and basic payroll records for all laborers and mechanics working on the contract during the contract and shall make them available to the Government until 3 years after contract completion. The records shall contain the name and address of each employee, social security number, labor classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. The records need not duplicate those required for construction work by Department of Labor regulations at 29 CFR 5.5(a)(3) implementing the Davis-Bacon Act.

(2) The Contractor and its subcontractors shall allow authorized representatives of the Contracting Officer or the Department of Labor to inspect, copy, or transcribe records maintained under paragraph (d)(1) of this clause. The Contractor or subcontractor also shall allow authorized representatives of the Contracting Officer or Department of Labor to interview employees in the workplace during working hours.

(e) Subcontracts. The Contractor shall insert the provisions set forth in paragraphs (a) through (d) of this clause in subcontracts exceeding $100,000 and require subcontractors to include these provisions in any lower tier subcontracts. The Contractor shall be responsible for compliance by any subcontractor or lower-tier subcontractor with the provisions set forth in paragraphs (a) through (d) of this clause.

(End of clause)

52.222-6 DAVIS-BACON ACT (FEB 1995)

(a) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (d) of this clause; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred

during such period. Such laborers and mechanics shall be paid not less than the appropriate wage rate and fringe benefits in the wage determination for the classification of work actually performed, without regard to skill, except as provided in the clause entitled Apprentices and Trainees. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein; provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph (b) of this clause) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(b)(1) The Contracting Officer shall require that any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The Contracting Officer shall approve an additional classification and wage rate and fringe benefits therefor only when all the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination.

(ii) The classification is utilized in the area by the construction industry.

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the Contracting Officer agree on the classification and wage rate (including the amount designated for fringe benefits, where appropriate), a report of the action taken shall be sent by the Contracting Officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator or an authorized representative will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the Contracting Officer or will notify the Contracting Officer within the 30-day period that additional time is necessary.

(3) In the event the Contractor, the laborers or mechanics to be employed in the classification, or their representatives, and the Contracting Officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the Contracting Officer shall refer the questions, including the views of all interested parties and the recommendation of the Contracting Officer, to the Administrator of the Wage and Hour Division for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the Contracting Officer or will notify the Contracting Officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits, where appropriate) determined pursuant to subparagraphs (b)(2) and (b)(3) of this clause shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(c) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(d) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program; provided, That the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(End of clause)

52.222-7 WITHHOLDING OF FUNDS (FEB 1988)

The Contracting Officer shall, upon his or her own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the Contractor under this contract or any other Federal contract with the same Prime Contractor, or any other Federally assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same Prime Contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the Contracting Officer may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(End of clause)

52.222-8 PAYROLLS AND BASIC RECORDS (FEB 1988)

(a) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of 3 years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made, and actual wages paid. Whenever the Secretary of Labor has found, under paragraph (d) of the clause entitled Davis-Bacon Act, that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(b)(1) The Contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Contracting Officer. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under paragraph (a) of this clause. This information may be submitted in any form desired. Optional Form WH-347 (Federal Stock Number 029-005-00014-1) is available for this purpose and may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. The Prime Contractor is responsible for the submission of copies of payrolls by all subcontractors.

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify--

(i) That the payroll for the payroll period contains the information required to be maintained under paragraph (a) of this clause and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in the Regulations, 29 CFR Part 3; and

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by subparagraph (b)(2) of this clause.

(4) The falsification of any of the certifications in this clause may subject the Contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 3729 of Title 31 of the United States Code.

(c) The Contractor or subcontractor shall make the records required under paragraph (a) of this clause available for inspection, copying, or transcription by the Contracting Officer or authorized representatives of the Contracting Officer or the Department of Labor. The Contractor or subcontractor shall permit the Contracting Officer or representatives of the Contracting Officer or the Department of Labor to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit required records or to make them available, the Contracting Officer may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(End of clause)

52.222-9 APPRENTICES AND TRAINEES (FEB 1988)

(a) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in this paragraph, shall be paid not less than the applicable wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of

Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(b) Trainees. Exc ept as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed in the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate in the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate in the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate in the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(c) Equal employment opportunity. The utilization of apprentices, trainees, and journeymen under this clause shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

(End of clause)

52.222-10 COMPLIANCE WITH COPELAND ACT REQUIREMENTS (FEB 1988)

The Contractor shall comply with the requirements of 29 CFR Part 3, which are hereby incorporated by reference in this contract.

(End of clause)

52.222-11 SUBCONTRACTS (LABOR STANDARDS (FEB 1988)

(a) The Contractor or subcontractor shall insert in any subcontracts the clauses entitled Davis -Bacon Act, Contract Work Hours and Safety Standards Act-Overtime Compensation, Apprentices and Trainees, Payrolls and Basic Records, Compliance with Copeland Act Requirements, Withholding of Funds, Subcontracts (Labor Standards), Contract Termination-Debarment, Disputes Concerning Labor Standards, Compliance with Davis -Bacon and Related Act Regulations, and Certification of Eligibility, and such other clauses as the Contracting Officer may, by appropriate instructions, require, and also a clause requiring subcontractors to include these clauses in any lower tier subcontracts. The Prime Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with all the contract clauses cited in this paragraph.

(b)(1) Within 14 days after award of the contract, the Contractor shall deliver to the Contracting Officer a completed Statement and Acknowledgment Form (SF 1413) for each subcontract, including the subcontractor's signed and

dated acknowledgment that the clauses set forth in paragraph (a) of this clause have been included in the subcontract.

(2) Within 14 days after the award of any subsequently awarded subcontract the Contractor shall deliver to the Contracting Officer an updated completed SF 1413 for such additional subcontract.

(End of clause)

52.222-12 CONTRACT TERMINATION--DEBARMENT (FEB 1988)

A breach of the contract clauses entitled Davis-Bacon Act, Contract Work Hours and Safety Standards Act--Overtime Compensation, Apprentices and Trainees, Payrolls and Basic Records, Compliance with Copeland Act Requirements, Subcontracts (Labor Standards), Compliance with Davis-Bacon and Related Act Regulations, or Certification of Eligibility may be grounds for termination of the contract, and for debarment as a Contractor and subcontractor as provided in 29 CFR 5.12.

(End of clause)

52.222-13 COMPLIANCE WITH DAVIS-BACON AND RELATED ACT REGULATIONS (FEB 1988)

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are hereby incorporated by reference in this contract.

(End of clause)

52.222-14 DISPUTES CONCERNING LABOR STANDARDS (FEB 1988)

The United States Department of Labor has set forth in 29 CFR Parts 5, 6, and 7 procedures for resolving disputes concerning labor standards requirements. Such disputes shall be resolved in accordance with those procedures and not the Disputes clause of this contract. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

(End of clause)

52.222-15 CERTIFICATION OF ELIGIBILITY (FEB 1988)

(a) By entering into this contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(b) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(e) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

(End of clause)

52.222-21 PROHIBITION OF SEGREGATED FACILITIES (FEB 1999)

(a) Segregated facilities, as used in this clause, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex, or national origin because of written or oral policies or employee custom. The term does not include separate or single-user rest rooms or necessary dressing or sleeping areas provided to assure privacy between the sexes.

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

(c) The Contractor shall include this clause in every subcontract and purchase order that is subject to the Equal Opportunity clause of this contract.

(End of clause)

52.222-26 EQUAL OPPORTUNITY (APR 2002)

(a) Definition. United States, as used in this clause, means the 50 States, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, the U.S. Virgin Islands, and Wake Island.

(b) If, during any 12-month period (including the 12 months preceding the award of this contract), the Contractor has been or is awarded nonexempt Federal contracts and/or subcontracts that have an aggregate value in excess of $10,000, the Contractor shall comply with paragraphs (b)(1) through (b)(11) of this clause, except for work performed outside the United States by employees who were not recruited within the United States. Upon request, the Contractor shall provide information necessary to determine the applicability of this clause.

(1) The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. However, it shall not be a violation of this clause for the Contractor to extend a publicly announced preference in employment to Indians living on or near an Indian reservation, in connection with employment opportunities on or near an Indian reservation, as permitted by 41 CFR 60-1.5.

(2) The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. This shall include, but not be limited to, (i) employment, (ii) upgrading, (iii) demotion, (iv) transfer, (v) recruitment or recruitment advertising, (vi) layoff or termination, (vii) rates of pay or other forms of compensation, and (viii) selection for training, including apprenticeship.

(3) The Contractor shall post in conspicuous places available to employees and applicants for employment the notices to be provided by the Contracting Officer that explain this clause.

(4) The Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex,

or national origin.

(5) The Contractor shall send, to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, the notice to be provided by the Contracting Officer advising the labor union or workers' representative of the Contractor's commitments under this clause, and post copies of the notice in conspicuous places available to employees and applicants for employment.

(6) The Contractor shall comply with Executive Order 11246, as amended, and the rules, regulations, and orders of the Secretary of Labor.

(7) The Contractor shall furnish to the contracting agency all information required by Executive Order 11246, as amended, and by the rules, regulations, and orders of the Secretary of Labor. The Contractor shall also file Standard Form 100 (EEO-1), or any successor form, as prescribed in 41 CFR part 60-1. Unless the Contractor has filed within the 12 months preceding the date of contract award, the Contractor shall, within 30 days after contract award, apply to either the regional Office of Federal Contract Compliance Programs (OFCCP) or the local office of the Equal Employment Opportunity Commission for the necessary forms.

(8) The Contractor shall permit access to its premises, during normal business hours, by the contracting agency or the OFCCP for the purpose of conducting on-site compliance evaluations and complaint investigations. The Contractor shall permit the Government to inspect and copy any books, accounts, records (including computerized records), and other material that may be relevant to the matter under investigation and pertinent to compliance with Executive Order 11246, as amended, and rules and regulations that implement the Executive Order.

(9) If the OFCCP determines that the Contractor is not in compliance with this clause or any rule, regulation, or order of the Secretary of Labor, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts, under the procedures authorized in Executive Order 11246, as amended. In addition, sanctions may be imposed and remedies invoked against the Contractor as provided in Executive Order 11246, as amended; in the rules, regulations, and orders of the Secretary of Labor; or as otherwise provided by law.

(10) The Contractor shall include the terms and conditions of subparagraphs (b)(1) through (11) of this clause in every subcontract or purchase order that is not exempted by the rules, regulations, or orders of the Secretary of Labor issued under Executive Order 11246, as amended, so that these terms and conditions will be binding upon each subcontractor or vendor.

(11) The Contractor shall take such action with respect to any subcontract or purchase order as the contracting officer may direct as a means of enforcing these terms and conditions, including sanctions for noncompliance; provided, that if the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of any direction, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

(c) Notwithstanding any other clause in this contract, disputes relative to this clause will be governed by the procedures in 41 CFR 60-1.1.

(End of clause)

52.222-27 AFFIRMATIVE ACTION COMPLIANCE REQUIREMENTS FOR CONSTRUCTION (FEB 1999)

(a) Definitions. "Covered area," as used in this clause, means the geographical area described in the solicitation for this contract.

"Deputy Assistant Secretary," as used in this clause, means Deputy Assistant Secretary for Federal Contract Compliance, U.S. Department of Labor, or a designee.

"Employer's identification number," as used in this clause, means the Federal Social Security number used on the employer's quarterly federal tax return, U.S. Treasury Department Form 941.

"Minority," as used in this clause, means--

(1) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

(2) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands);

(3) Black (all persons having origins in any of the black African racial groups not of Hispanic origin); and

(4) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race).

(b) If the Contractor, or a subcontractor at any tier, subcontracts a portion of the work involving any construction trade, each such subcontract in excess of $10,000 shall include this clause and the Notice containing the goals for minority and female participation stated in the solicitation for this contract.

(c) If the Contractor is participating in a Hometown Plan (41 CFR 60-4) approved by the U.S. Department of Labor in a covered area, either individually or through an association, its affirmative action obligations on all work in the plan area (including goals) shall comply with the plan for those trades that have unions participating in the plan. Contractors must be able to demonstrate participation in, and compliance with, the provisions of the plan. Each Contractor or subcontractor participating in an approved plan is also required to comply with its obligations under the Equal Opportunity clause, and to make a good faith effort to achieve each goal under the plan in each trade in which it has employees. The overall good-faith performance by other Contractors or subcontractors toward a goal in an approved plan does not excuse any Contractor's or subcontractor's failure to make good-faith efforts to achieve the plan's goals.

(d) The Contractor shall implement the affirmative action procedures in subparagraphs (g)(1) through (16) of this clause. The goals stated in the solicitation for this contract are expressed as percentages of the total hours of employment and training of minority and female utilization that the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for the geographical area where that work is actually performed. The Contractor is expected to make substantially uniform progress toward its goals in each craft.

(e) Neither the terms and conditions of any collective bargaining agreement, nor the failure by a union with which the Contractor has a collective bargaining agreement, to refer minorities or women shall excuse the Contractor's obligations under this clause, Executive Order 11246, as amended, or the regulations thereunder.

(f) In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

(g) The Contractor shall take affirmative action to ensure equal employment opportunity. The evaluation of the Contractor's compliance with this clause shall be based upon its effort to achieve maximum results from its actions.

The Contractor shall document these efforts fully and implement affirmative action steps at least as extensive as the following:

(1) Ensure a working environment free of harassment, intimidation, and coercion at all sites and in all facilities where the Contractor's employees are assigned to work. The Contractor, if possible, will assign two or more women to each construction project. The Contractor shall ensure that foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at these sites or facilities.

(2) Establish and maintain a current list of sources for minority and female recruitment. Provide written notification to minority and female recruitment sources and community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

(3) Establish and maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant, referrals of minorities or females from unions, recruitment sources, or community organizations, and the action taken with respect to each individual. If an individual was sent to the union hiring hall for referral and not referred back to the Contractor by the union or, if referred back, not employed by the Contractor, this shall be documented in the file, along with whatever additional actions the Contractor may have taken.

(4) Immediately notify the Deputy Assistant Secretary when the union or unions with which the Contractor has a collective bargaining agreement has not referred back to the Contractor a minority or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

(5) Develop on-the-job training opportunities and/or participate in training programs for the area that expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under subparagraph (g)(2) of this clause.

(6) Disseminate the Contractor's equal employment policy by--

(i) Providing notice of the policy to unions and to training, recruitment, and outreach programs, and requesting their cooperation in assisting the Contractor in meeting its contract obligations;

(ii) Including the policy in any policy manual and in collective bargaining agreements;

(iii) Publicizing the policy in the company newspaper, annual report, etc.;

(iv) Reviewing the policy with all management personnel and with all minority and female employees at least once a year; and

(v) Posting the policy on bulletin boards accessible to employees at each location where construction work is performed.

(7) Review, at least annually, the Contractor's equal employment policy and affirmative action obligations with all employees having responsibility for hiring, assignment, layoff, termination, or other employment decisions. Conduct review of this policy with all on-site supervisory personnel before initiating construction work at a job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

(8) Disseminate the Contractor's equal employment policy externally by including it in any advertising in the news media, specifically including minority and female news media. Provide written notification to, and discuss this policy

with, other Contractors and subcontractors with which the Contractor does or anticipates doing business.

(9) Direct recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students, and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than 1 month before the date for acceptance of applications for apprenticeship or training by any recruitment source, send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

(10) Encourage present minority and female employees to recruit minority persons and women. Where reasonable, provide after-school, summer, and vacation employment to minority and female youth both on the site and in other areas of the Contractor's workforce.

(11) Validate all tests and other selection requirements where required under 41 CFR 60-3.

(12) Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities. Encourage these employees to seek or to prepare for, through appropriate training, etc., opportunities for promotion.

(13) Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment-related activities to ensure that the Contractor's obligations under this contract are being carried out.

(14) Ensure that all facilities and company activities are nonsegregated except that separate or single-user rest rooms and necessary dressing or sleeping areas shall be provided to assure privacy between the sexes.

(15) Maintain a record of solicitations for subcontracts for minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

(16) Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's equal employment policy and affirmative action obligations.

(h) The Contractor is encouraged to participate in voluntary associations that may assist in fulfilling one or more of the affirmative action obligations contained in subparagraphs (g)(1) through (16) of this clause. The efforts of a contractor association, joint contractor-union, contractor-community, or similar group of which the contractor is a member and participant may be asserted as fulfilling one or more of its obligations under subparagraphs (g)(1) through (16) of this clause, provided the Contractor--

(1) Actively participates in the group;

(2) Makes every effort to ensure that the group has a positive impact on the employment of minorities and women in the industry;

(3) Ensures that concrete benefits of the program are reflected in the Contractor's minority and female workforce participation;

(4) Makes a good-faith effort to meet its individual goals and timetables; and

(5) Can provide access to documentation that demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply is the Contractor's, and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

(i) A single goal for minorities and a separate single goal for women shall be established. The Contractor is required

to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and nonminority. Consequently, the Contractor may be in violation of Executive Order 11246, as amended, if a particular group is employed in a substantially disparate manner.

(j) The Contractor shall not use goals or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

(k) The Contractor shall not enter into any subcontract with any person or firm debarred from Government contracts under Executive Order 11246, as amended.

(l) The Contractor shall carry out such sanctions and penalties for violation of this clause and of the Equal Opportunity clause, including suspension, termination, and cancellation of existing subcontracts, as may be imposed or ordered under Executive Order 11246, as amended, and its implementing regulations, by the OFCCP. Any failure to carry out these sanctions and penalties as ordered shall be a violation of this clause and Executive Order 11246, as amended.

(m) The Contractor in fulfilling its obligations under this clause shall implement affirmative action procedures at least as extensive as those prescribed in paragraph (g) of this clause, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of Executive Order 11246, as amended, the implementing regulations, or this clause, the Deputy Assistant Secretary shall take action as prescribed in 41 CFR 60-4.8.

(n) The Contractor shall designate a responsible official to--

(1) Monitor all employment-related activity to ensure that the Contractor's equal employment policy is being carried out;

(2) Submit reports as may be required by the Government; and

(3) Keep records that shall at least include for each employee the name, address, telephone number, construction trade, union affiliation (if any), employee identification number, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, separate records are not required to be maintained.

Nothing contained herein shall be construed as a limitation upon the application of other laws that establish different standards of compliance or upon the requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

(End of clause)

52.222-35 EQUAL OPPORTUNITY FOR SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS (DEC 2001)

(a) Definitions. As used in this clause--

All employment openings means all positions except executive and top management, those positions that will be filled from within the Contractor's organization, and positions lasting 3 days or less. This term includes full-time employment, temporary employment of more than 3 days duration, and part-time employment.

Executive and top management means any employee--

(1) Whose primary duty consists of the management of the enterprise in which the individual is employed or of a customarily recognized department or subdivision thereof;

(2) Who customarily and regularly directs the work of two or more other employees;

(3) Who has the authority to hire or fire other employees or whose suggestions and recommendations as to the hiring or firing and as to the advancement and promotion or any other change of status of other employees will be given particular weight;

(4) Who customarily and regularly exercises discretionary powers; and

(5) Who does not devote more than 20 percent or, in the case of an employee of a retail or service establishment, who does not devote more than 40 percent of total hours of work in the work week to activities that are not directly and closely related to the performance of the work described in paragraphs (1) through (4) of this definition. This paragraph (5) does not apply in the case of an employee who is in sole charge of an establishment or a physically separated branch establishment, or who owns at least a 20 percent interest in the enterprise in which the individual is employed.

Other eligible veteran means any other veteran who served on active duty during a war or in a campaign or expedition for which a campaign badge has been authorized.

Positions that will be filled from within the Contractor's organization means employment openings for which the Contractor will give no consideration to persons outside the Contractor's organization (including any affiliates, subsidiaries, and parent companies) and includes any openings the Contractor proposes to fill from regularly established “recall” lists. The exception does not apply to a particular opening once an employer decides to consider applicants outside of its organization.

Qualified special disabled veteran means a special disabled veteran who satisfies the requisite skill, experience, education, and other job-related requirements of the employment position such veteran holds or desires, and who, with or without reasonable accommodation, can perform the essential functions of such position.

Special disabled veteran means--

(1) A veteran who is entitled to compensation (or who but for the receipt of military retired pay would be entitled to compensation) under laws administered by the Department of Veterans Affairs for a disability--

(i) Rated at 30 percent or more; or

(ii) Rated at 10 or 20 percent in the case of a veteran who has been determined under 38 U.S.C. 3106 to have a serious employment handicap (i.e., a significant impairment of the veteran's ability to prepare for, obtain, or retain employment consistent with the veteran's abilities, aptitudes, and interests); or

(2) A person who was discharged or released from active duty because of a service-connected disability.

Veteran of the Vietnam era means a person who--

(1) Served on active duty for a period of more than 180 days and was discharged or released from active duty with other than a dishonorable discharge, if any part of such active duty occurred--

(i) In the Republic of Vietnam between February 28, 1961, and May 7, 1975; or

(ii) Between August 5, 1964, and May 7, 1975, in all other cases; or

(2) Was discharged or released from active duty for a service-connected disability if any part of the active duty was performed--

(i) In the Republic of Vietnam between February 28, 1961, and May 7, 1975; or

(ii) Between August 5, 1964, and May 7, 1975, in all other cases.
(b) General. (1) The Contractor shall not discriminate against the individual because the individual is a special disabled veteran, a veteran of the Vietnam era, or other eligible veteran, regarding any position for which the employee or applicant for employment is qualified. The Contractor shall take affirmative action to employ, advance in employment, and otherwise treat qualified special disabled veterans, veterans of the Vietnam era, and other eligible veterans without discrimination based upon their disability or veterans' status in all employment practices such as--

(i) Recruitment, advertising, and job application procedures;

(ii) Hiring, upgrading, promotion, award of tenure, demotion, transfer, layoff, termination, right of return from layoff and rehiring;

(iii) Rate of pay or any other form of compensation and changes in compensation;

(iv) Job assignments, job classifications, organizational structures, position descriptions, lines of progression, and seniority lists;

(v) Leaves of absence, sick leave, or any other leave;

(vi) Fringe benefits available by virtue of employment, whether or not administered by the Contractor;

(vii) Selection and financial support for training, including apprenticeship, and on-the-job training under 38 U.S.C. 3687, professional meetings, conferences, and other related activities, and selection for leaves of absence to pursue training;

(viii) Activities sponsored by the Contractor including social or recreational programs; and

(ix) Any other term, condition, or privilege of employment.

(2) The Contractor shall comply with the rules, regulations, and relevant orders of the Secretary of Labor issued under the Vietnam Era Veterans' Readjustment Assistance Act of 1972 (the Act), as amended (38 U.S.C. 4211 and 4212).

(c) Listing openings. (1) The Contractor shall immediately list all employment openings that exist at the time of the execution of this contract and those which occur during the performance of this contract, including those not generated by this contract, and including those occurring at an establishment of the Contractor other than the one where the contract is being performed, but excluding those of independently operated corporate affiliates, at an appropriate local public employment service office of the State wherein the opening occurs. Listing employment openings with the U.S. Department of Labor's America's Job Bank shall satisfy the requirement to list jobs with the local employment service office.

(2) The Contractor shall make the listing of employment openings with the local employment service office at least concurrently with using any other recruitment source or effort and shall involve the normal obligations of placing a bona fide job order, including accepting referrals of veterans and nonveterans. This listing of employment openings does not require hiring any particular job applicant or hiring from any particular group of job applicants and is not

intended to relieve the Contractor from any requirements of Executive orders or regulations concerning nondiscrimination in employment.

(3) Whenever the Contractor becomes contractually bound to the listing terms of this clause, it shall advise the State public employment agency in each State where it has establishments of the name and location of each hiring location in the State. As long as the Contractor is contractually bound to these terms and has so advised the State agency, it need not advise the State agency of subsequent contracts. The Contractor may advise the State agency when it is no longer bound by this contract clause.

(d) Applicability. This clause does not apply to the listing of employment openings that occur and are filled outside the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, American Samoa, Guam, the Virgin Islands of the United States, and Wake Island.

(e) Postings. (1) The Contractor shall post employment notices in conspicuous places that are available to employees and applicants for employment.

(2) The employment notices shall--

(i) State the rights of applicants and employees as well as the Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified employees and applicants who are special disabled veterans, veterans of the Vietnam era, and other eligible veterans; and

(ii) Be in a form prescribed by the Deputy Assistant Secretary for Federal Contract Compliance Programs, Department of Labor (Deputy Assistant Secretary of Labor), and provided by or through the Contracting Officer.

(3) The Contractor shall ensure that applicants or employees who are special disabled veterans are informed of the contents of the notice (e.g., the Contractor may have the notice read to a visually disabled veteran, or may lower the posted notice so that it can be read by a person in a wheelchair).

(4) The Contractor shall notify each labor union or representative of workers with which it has a collective bargaining agreement, or other contract understanding, that the Contractor is bound by the terms of the Act and is committed to take affirmative action to employ, and advance in employment, qualified special disabled veterans, veterans of the Vietnam era, and other eligible veterans.

(f) Noncompliance. If the Contractor does not comply with the requirements of this clause, the Government may take appropriate actions under the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Act.

(g) Subcontracts. The Contractor shall insert the terms of this clause in all subcontracts or purchase orders of $25,000 or more unless exempted by rules, regulations, or orders of the Secretary of Labor. The Contractor shall act as specified by the Deputy Assistant Secretary of Labor to enforce the terms, including action for noncompliance.

(End of clause)

52.222-36 AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES (JUN 1998)

(a) General. (1) Regarding any position for which the employee or applicant for employment is qualified, the Contractor shall not discriminate against any employee or applicant because of physical or mental disability. The Contractor agrees to take affirmative action to employ, advance in employment, and otherwise treat qualified individuals with disabilities without discrimination based upon their physical or mental disability in all employment practices such as--

(i) Recruitment, advertising, and job application procedures;

(ii) Hiring, upgrading, promotion, award of tenure, demotion, transfer, layoff, termination, right of return from layoff, and rehiring;

(iii) Rates of pay or any other form of compensation and changes in compensation;

(iv) Job assignments, job classifications, organizational structures, position descriptions, lines of progression, and seniority lists;

(v) Leaves of absence, sick leave, or any other leave;

(vi) Fringe benefits available by virtue of employment, whether or not administered by the Contractor;

(vii) Selection and financial support for training, including apprenticeships, professional meetings, conferences, and other related activities, and selection for leaves of absence to pursue training;

(viii) Activities sponsored by the Contractor, including social or recreational programs; and

(ix) Any other term, condition, or privilege of employment.

(2) The Contractor agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor (Secretary) issued under the Rehabilitation Act of 1973 (29 U.S.C. 793) (the Act), as amended.

(b) Postings. (1) The Contractor agrees to post employment notices stating--

(i) The Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified individuals with disabilities; and

(ii) The rights of applicants and employees.

(2) These notices shall be posted in conspicuous places that are available to employees and applicants for employment. The Contractor shall ensure that applicants and employees with disabilities are informed of the contents of the notice (e.g., the Contractor may have the notice read to a visually disabled individual, or may lower the posted notice so that it might be read by a person in a wheelchair). The notices shall be in a form prescribed by the Deputy Assistant Secretary for Federal Contract Compliance of the U.S. Department of Labor (Deputy Assistant Secretary) and shall be provided by or through the Contracting Officer.

(3) The Contractor shall notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the Contractor is bound by the terms of Section 503 of the Act and is committed to take affirmative action to employ, and advance in employment, qualified individuals with physical or mental disabilities.

(c) Noncompliance. If the Contractor does not comply with the requirements of this clause, appropriate actions may be taken under the rules, regulations, and relevant orders of the Secretary issued pursuant to the Act.

(d) Subcontracts. The Contractor shall include the terms of this clause in every subcontract or purchase order in excess of $10,000 unless exempted by rules, regulations, or orders of the Secretary. The Contractor shall act as specified by the Deputy Assistant Secretary to enforce the terms, including action for noncompliance.

(End of clause)

52.222-37 EMPLOYMENT REPORTS ON SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS (DEC 2001)

(a) Unless the Contractor is a State or local government agency, the Contractor shall report at least annually, as required by the Secretary of Labor, on--

(1) The number of disabled veterans and the number of veterans of the Vietnam era in the workforce of the contractor by job category and hiring location; and

(2) The total number of new employees hired during the period covered by the report, and of that total, the number of disabled veterans, and the number of veterans of the Vietnam era.

(b) The above items shall be reported by completing the form entitled "Federal Contractor Veterans' Employment Report VETS-100."

(c) Reports shall be submitted no later than September 30 of each year beginning September 30, 1988.

(d) The employment activity report required by paragraph (a)(2) of this clause shall reflect total hires during the most recent 12-month period as of the ending date selected for the employment profile report required by paragraph (a)(1) of this clause. Contractors may select an ending date: (1) As of the end of any pay period during the period January through March 1st of the year the report is due, or (2) as of December 31, if the contractor has previous written approval from the Equal Employment Opportunity Commission to do so for purposes of submitting the Employer Information Report EEO-1 (Standard Form 100).

(e) The count of veterans reported according to paragraph (a) of this clause shall be based on voluntary disclosure. Each Contractor subject to the reporting requirements at 38 U.S.C. 4212 shall invite all disabled veterans and veterans of the Vietnam era who wish to benefit under the affirmative action program at 38 U.S.C. 4212 to identify themselves to the Contractor. The invitation shall state that the information is voluntarily provided; that the information will be kept confidential; that disclosure or refusal to provide the information will not subject the applicant or employee to any adverse treatment; and that the information will be used only in accordance with the regulations promulgated under 38 U.S.C. 4212.

(f) Subcontracts. The Contractor shall include the terms of this clause in every subcontract or purchase order of $10,000 or more unless exempted by rules, regulations, or orders of the Secretary.

(End of clause)

52.223-3 HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY DATA (JAN 1997)

(a) "Hazardous material", as used in this clause, includes any material defined as hazardous under the latest version of Federal Standard No. 313 (including revisions adopted during the term of the contract).

(b) The offeror must list any hazardous material, as defined in paragraph (a) of this clause, to be delivered under this contract. The hazardous material shall be properly identified and include any applicable identification number, such as National Stock Number or Special Item Number. This information shall also be included on the Material Safety Data Sheet submitted under this contract.

Material (If none, insert "None")	Identification No.

_____ _____

_____ _____

_____ _____

(c) This list must be updated during performance of the contract whenever the Contractor determines that any other material to be delivered under this contract is hazardous.

(d) The apparently successful offeror agrees to submit, for each item as required prior to award, a Material Safety Data Sheet, meeting the requirements of 29 CFR 1910.1200(g) and the latest version of Federal Standard No. 313, for all hazardous material identified in paragraph (b) of this clause. Data shall be submitted in accordance with Federal Standard No. 313, whether or not the apparently successful offeror is the actual manufacturer of these items. Failure to submit the Material Safety Data Sheet prior to award may result in the apparently successful offeror being considered nonresponsible and ineligible for award.

(e) If, after award, there is a change in the composition of the item(s) or a revision to Federal Standard No. 313, which renders incomplete or inaccurate the data submitted under paragraph (d) of this clause, the Contractor shall promptly notify the Contracting Officer and resubmit the data.

(f) Neither the requirements of this clause nor any act or failure to act by the Government shall relieve the Contractor of any responsibility or liability for the safety of Government, Contractor, or subcontractor personnel or property.

(g) Nothing contained in this clause shall relieve the Contractor from complying with applicable Federal, State, and local laws, codes, ordinances, and regulations (including the obtaining of licenses and permits) in connection with hazardous material.

(h) The Government's rights in data furnished under this contract with respect to hazardous material are as follows:

(1) To use, duplicate and disclose any data to which this clause is applicable. The purposes of this right are to--

(i) Apprise personnel of the hazards to which they may be exposed in using, handling, packaging, transporting, or disposing of hazardous materials;

(ii) Obtain medical treatment for those affected by the material; and

(iii) Have others use, duplicate, and disclose the data for the Government for these purposes.

(2) To use, duplicate, and disclose data furnished under this clause, in accordance with subparagraph (h)(1) of this clause, in precedence over any other clause of this contract providing for rights in data.

(3) The Government is not precluded from using similar or identical data acquired from other sources.

(End of clause)

52.223-5 POLLUTION PREVENTION AND RIGHT-TO-KNOW INFORMATION (AUG 2003)

(a) Definitions. As used in this clause--

Priority chemical means a chemical identified by the Interagency Environmental Leadership Workgroup or, alternatively, by an agency pursuant to section 503 of Executive Order 13148 of April 21, 2000, Greening the Government through Leadership in Environmental Management.

“Toxic chemical means a chemical or chemical category listed in 40 CFR 372.65.”

(b) Executive Order 13148 requires Federal facilities to comply with the provisions of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11001-11050) and the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13101-13109).

(c) The Contractor shall provide all information needed by the Federal facility to comply with the following:

(1) The emergency planning reporting requirements of section 302 of EPCRA.

(2) The emergency notice requirements of section 304 of EPCRA.

(3) The list of Material Safety Data Sheets, required by section 311 of EPCRA.

(4) The emergency and hazardous chemical inventory forms of section 312 of EPCRA.

(5) The toxic chemical release inventory of section 313 of EPCRA, which includes the reduction and recycling information required by section 6607 of PPA.

(6) The toxic chemical, priority chemical, and hazardous substance release and use reduction goals of sections 502 and 503 of Executive Order 13148.

(End of clause)

52.223-6 DRUG-FREE WORKPLACE (MAY 2001)

(a) Definitions. As used in this clause --

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

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

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

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

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

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

(b) The Contractor, if other than an individual, shall-- within 30 days after award (unless a longer period is agreed to in writing for contracts of 30 days or more performance duration), or as soon as possible for contracts of less than 30 days performance duration--

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

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

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

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

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

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

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

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

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

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

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

(6) Within 30 days after receiving notice under subdivision (b)(4)(ii) of this clause of a conviction, take one of the following actions with respect to any employee who is convicted of a drug abuse violation occurring in the workplace:

(i) Taking appropriate personnel action against such employee, up to and including termination; or

(ii) Require such employee to satisfactorily participate in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency; and

(7) Make a good faith effort to maintain a drug-free workplace through implementation of subparagraphs (b)(1) though (b)(6) of this clause.

(c) The Contractor, if an individual, agrees by award of the contract or acceptance of a purchase order, not to engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance while performing this contract.

(d) In addition to other remedies available to the Government, the Contractor's failure to comply with the requirements of paragraph (b) or (c) of this clause may, pursuant to FAR 23.506, render the Contractor subject to suspension of contract payments, termination of the contract for default, and suspension or debarment.

(End of clause)

52.223-9 ESTIMATE OF PERCENTAGE OF RECOVERED MATERIAL CONTENT FOR EPA-DESIGNATED PRODUCTS (AUG 2000)

(a) Definitions. As used in this clause--

Postconsumer material means a material or finished product that has served its intended use and has been discarded for disposal or recovery, having completed its life as a consumer item. Postconsumer material is a part of the broader category of "recovered material."

Recovered material means waste materials and by-products recovered or diverted from solid waste, but the term does not include those materials and by-products generated from, and commonly reused within, an original manufacturing process.

(b) The Contractor, on completion of this contract, shall--

(1) Estimate the percentage of the total recovered material used in contract performance, including, if applicable, the percentage of postconsumer material content; and

(2) Submit this estimate to: TBD per Task Order..

(End of clause)

52.223-14 TOXIC CHEMICAL RELEASE REPORTING (AUG 2003)

(a) Unless otherwise exempt, the Contractor, as owner or operator of a facility used in the performance of this contract, shall file by July 1 for the prior calendar year an annual Toxic Chemical Release Inventory Form (Form R) as described in sections 313(a) and (g) of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11023(a) and (g)), and section 6607 of the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13106). The Contractor shall file, for each facility subject to the Form R filing and reporting requirements, the annual Form R throughout the life of the contract.

(b) A Contractor-owned or -operated facility used in the performance of this contract is exempt from the requirement to file an annual Form R if--

(1) The facility does not manufacture, process, or otherwise use any toxic chemicals listed in 40 CFR 372.65;

(2) The facility does not have 10 or more full-time employees as specified in section 313(b)(1)(A) of EPCRA, 42 U.S.C. 11023(b)(1)(A);

(3) The facility does not meet the reporting thresholds of toxic chemicals established under of EPCRA, 42 U.S.C. 11023(f) (including the alternate thresholds at 40 CFR 372.27, provided an appropriate certification form has been filed with EPA);

(4) The facility does not fall within the following Standard Industrial Classification (SIC) codes or their corresponding North American Industry Classification System sectors:

(i) Major group code 10 (except 1011, 1081, and 1094.

(ii) Major group code 12 (except 1241).

(iii) Major group codes 20 through 39.

(iv) Industry code 4911, 4931, or 4939 (limited to facilities that combust coal and/or oil for the purpose of generating power for distribution in commerce).

(v) Industry code 4953 (limited to facilities regulated under the Resource Conservation and Recovery Act, Subtitle C (42 U.S.C. 6921, et seq.)), 5169, 5171, or 7389 (limited to facilities primarily engaged in solvent recovery services on a contract or fee basis); or

(5) The facility is not located in the United States or its outlying areas.

(c) If the Contractor has certified to an exemption in accordance with one or more of the criteria in paragraph (b) of this clause, and after award of the contract circumstances change so that any of its owned or operated facilities used in the performance of this contract is no longer exempt--

(1) The Contractor shall notify the Contracting Officer; and

(2) The Contractor, as owner or operator of a facility used in the performance of this contract that is no longer exempt, shall (i) submit a Toxic Chemical Release Inventory Form (Form R) on or before July 1 for the prior calendar year during which the facility becomes eligible; and (ii) continue to file the annual Form R for the life of the contract for such facility.

(d) The Contracting Officer may terminate this contract or take other action as appropriate, if the Contractor fails to comply accurately and fully with the EPCRA and PPA toxic chemical release filing and reporting requirements.

(e) Except for acquisitions of commercial items, as defined in FAR Part 2, the Contractor shall--

(1) For competitive subcontracts expected to exceed $100,000 (including all options), include a solicitation provision substantially the same as the provision at FAR 52.223-13, Certification of Toxic Chemical Release Reporting; and

(2) Include in any resultant subcontract exceeding $100,000 (including all options), the substance of this clause, except this paragraph (e).

(End of clause)

52.225-9 BUY AMERICAN ACT—CONSTRUCTION MATERIALS (JAN 2005)

(a) Definitions. As used in this clause--

Component means an article, material, or supply incorporated directly into a construction material.

Construction material means an article, material, or supply brought to the construction site by the Contractor or a subcontractor for incorporation into the building or work. The term also includes an item brought to the site preassembled from articles, materials, or supplies. However, emergency life safety systems, such as emergency lighting, fire alarm, and audio evacuation systems, that are discrete systems incorporated into a public building or work and that are produced as complete systems, are evaluated as a single and distinct construction material regardless of when or how the individual parts or components of those systems are delivered to the construction site. Materials purchased directly by the Government are supplies, not construction material.

Cost of components means--

(1) For components purchased by the Contractor, the acquisition cost, including transportation costs to the place of incorporation into the construction material (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or

(2) For components manufactured by the Contractor, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (1) of this definition, plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the construction material.

Domestic construction material means--

(1) An unmanufactured construction material mined or produced in the United States; or

(2) A construction material manufactured in the United States, if the cost of its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. Components of foreign origin of the same class or kind for which nonavailability determinations have been made are treated as domestic.

Foreign construction material means a construction material other than a domestic construction material.

United States means the 50 States, the District of Columbia, and outlying areas.

(b) Domestic preference. (1) This clause implements the Buy American Act (41 U.S.C. 10a-10d) by providing a preference for domestic construction material. The Contractor shall use only domestic construction material in performing this contract, except as provided in paragraphs (b)(2) and (b)(3) of this clause.

(2) This requirement does not apply to the construction material or components listed by the Government as follows: None

(3) The Contracting Officer may add other foreign construction material to the list in paragraph (b)(2) of this clause if the Government determines that

(i) The cost of domestic construction material would be unreasonable. The cost of a particular domestic construction material subject to the requirements of the Buy American Act is unreasonable when the cost of such material exceeds the cost of foreign material by more than 6 percent;

(ii) The application of the restriction of the Buy American Act to a particular construction material would be impracticable or inconsistent with the public interest; or

(iii) The construction material is not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities of a satisfactory quality.

(c) Request for determination of inapplicability of the Buy American Act. (1)(i) Any Contractor request to use foreign construction material in accordance with paragraph (b)(3) of this clause shall include adequate information for Government evaluation of the request, including--

(A) A description of the foreign and domestic construction materials;

(B) Unit of measure;

(C) Quantity;

(D) Price;

(E) Time of delivery or availability;

(F) Location of the construction project;

(G) Name and address of the proposed supplier; and

(H) A detailed justification of the reason for use of foreign construction materials cited in accordance with paragraph (b)(3) of this clause.

(ii) A request based on unreasonable cost shall include a reasonable survey of the market and a completed price comparison table in the format in paragraph (d) of this clause.

(iii) The price of construction material shall include all delivery costs to the construction site and any applicable duty (whether or not a duty-free certificate may be issued).

(iv) Any Contractor request for a determination submitted after contract award shall explain why the Contractor could not reasonably foresee the need for such determination and could not have requested the determination before contract award. If the Contractor does not submit a satisfactory explanation, the Contracting Officer need not make a determination.

(2) If the Government determines after contract award that an exception to the Buy American Act applies and the Contracting Officer and the Contractor negotiate adequate consideration, the Contracting Officer will modify the contract to allow use of the foreign construction material. However, when the basis for the exception is the unreasonable price of a domestic construction material, adequate consideration is not less than the differential established in paragraph (b)(3)(i) of this clause.

(3) Unless the Government determines that an exception to the Buy American Act applies, use of foreign construction material is noncompliant with the Buy American Act.

(d) Data. To permit evaluation of requests under paragraph (c) of this clause based on unreasonable cost, the Contractor shall include the following information and any applicable supporting data based on the survey of suppliers:

Foreign and Domestic Construction Materials Price Comparison

Construction material description	Unit of measure	Quantity	Price (dollars) \1\
Item 1			
Foreign construction material....	.....	.....	.....
Domestic construction material...	.....	.....	.....
Item 2			
Foreign construction material....	.....	.....	.....
Domestic construction material...	.....	.....	.....

Include all delivery costs to the construction site and any applicable duty (whether or not a duty-free entry certificate is issued).
List name, address, telephone number, and contact for suppliers surveyed. Attach copy of response; if oral, attach summary.
Include other applicable supporting information.

(End of clause)

52.225-10 NOTICE OF BUY AMERICAN ACT REQUIREMENT--CONSTRUCTION MATERIALS (MAY 2002)

(a) Definitions. Construction material, domestic construction material, and foreign construction material, as used in this provision, are defined in the clause of this solicitation entitled "Buy American Act--Construction Materials" (Federal Acquisition Regulation (FAR) clause 52.225-9).

(b) Requests for determinations of inapplicability. An offeror requesting a determination regarding the inapplicability of the Buy American Act should submit the request to the Contracting Officer in time to allow a determination before submission of offers. The offeror shall include the information and applicable supporting data required by paragraphs (c) and (d) of the clause at FAR 52.225-9 in the request. If an offeror has not requested a determination regarding the inapplicability of the Buy American Act before submitting its offer, or has not received a response to a previous request, the offeror shall include the information and supporting data in the offer.

(c) Evaluation of offers. (1) The Government will evaluate an offer requesting exception to the requirements of the Buy American Act, based on claimed unreasonable cost of domestic construction material, by adding to the offered price the appropriate percentage of the cost of such foreign construction material, as specified in paragraph (b)(3)(i) of the clause at FAR 52.225-9.

(2) If evaluation results in a tie between an offeror that requested the substitution of foreign construction material based on unreasonable cost and an offeror that did not request an exception, the Contracting Officer will award to the offeror that did not request an exception based on unreasonable cost.

(d) Alternate offers.

(1) When an offer includes foreign construction material not listed by the Government in this solicitation in paragraph (b)(2) of the clause at FAR 52.225-9, the offeror also may submit an alternate offer based on use of equivalent domestic construction material.

(2) If an alternate offer is submitted, the offeror shall submit a separate Standard Form 1442 for the alternate offer, and a separate price comparison table prepared in accordance with paragraphs (c) and (d) of the clause at FAR 52.225-9 for the offer that is based on the use of any foreign construction material for which the Government has not yet determined an exception applies.

(3) If the Government determines that a particular exception requested in accordance with paragraph (c) of the clause at FAR 52.225-9 does not apply, the Government will evaluate only those offers based on use of the equivalent domestic construction material, and the offeror shall be required to furnish such domestic construction material. An offer based on use of the foreign construction material for which an exception was requested--

(i) Will be rejected as nonresponsive if this acquisition is conducted by sealed bidding; or

(ii) May be accepted if revised during negotiations.

(End of provision)

52.225-11 BUY AMERICAN ACT--CONSTRUCTION MATERIALS UNDER TRADE AGREEMENTS (JAN 2005)

(a) Definitions. As used in this clause--

Caribbean Basin country construction material means a construction material that--

(1) Is wholly the growth, product, or manufacture of a Caribbean Basin country; or

(2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a Caribbean Basin country into a new and different construction material distinct from the materials from which it was transformed.

Component means an article, material, or supply incorporated directly into a construction material.

Construction material means an article, material, or supply brought to the construction site by the Contractor or subcontractor for incorporation into the building or work. The term also includes an item brought to the site preassembled from articles, materials, or supplies. However, emergency life safety systems, such as emergency lighting, fire alarm, and audio evacuation systems, that are discrete systems incorporated into a public building or work and that are produced as complete systems, are evaluated as a single and distinct construction material regardless of when or how the individual parts or components of those systems are delivered to the construction site. Materials purchased directly by the Government are supplies, not construction material.

Cost of components means--

(1) For components purchased by the Contractor, the acquisition cost, including transportation costs to the place of incorporation into the construction material (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or

(2) For components manufactured by the Contractor, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (1) of this definition, plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the construction material.

Designated country means any of the following countries:

(1) A World Trade Organization Government Procurement Agreement country (Aruba, Austria, Belgium, Canada, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hong Kong, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea (Republic of), Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Singapore, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, or United Kingdom);

(2) A Free Trade Agreement country (Australia, Canada, Chile, Mexico, Morocco, or Singapore);

(3) A least developed country (Afghanistan, Angola, Bangladesh, Benin, Bhutan, Burkina Faso, Burundi, Cambodia, Cape Verde, Central African Republic, Chad, Comoros, Democratic Republic of Congo, Djibouti, East Timor, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Haiti, Kiribati, Laos, Lesotho, Madagascar, Malawi, Maldives, Mali, Mauritania, Mozambique, Nepal, Niger, Rwanda, Samoa, Sao Tome and Principe, Senegal, Sierra Leone, Solomon Islands, Somalia, Tanzania, Togo, Tuvalu, Uganda, Vanuatu, Yemen, or Zambia); or

(4) A Caribbean Basin country (Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, British Virgin Islands, Costa Rica, Dominica, Dominican Republic, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Montserrat, Netherlands Antilles, Nicaragua, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, or Trinidad and Tobago).

Designated country construction material means a construction material that is a WTO GPA country construction material, an FTA country construction material, a least developed country construction material, or a Caribbean Basin country construction material.

Domestic construction material means--

(1) An unmanufactured construction material mined or produced in the United States; or

(2) A construction material manufactured in the United States, if the cost of its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. Components of foreign origin of the same class or kind for which nonavailability determinations have been made are treated as domestic.

Foreign construction material means a construction material other than a domestic construction material.

Least developed country construction material means a construction material that--

(1) Is wholly the growth, product, or manufacture of a least developed country; or

(2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a least developed country into a new and different construction material distinct from the materials from which it was transformed.

United States means the 50 States, the District of Columbia, and outlying areas.

WTO GPA country construction material means a construction material that--

(1) Is wholly the growth, product, or manufacture of a WTO GPA country; or

(2) In the case of a construction material that consists in whole or in part of materials from another country, has been substantially transformed in a WTO GPA country into a new and different construction material distinct from the materials from which it was transformed.

(b) Construction materials. (1) This clause implements the Buy American Act (41 U.S.C. 10a-10d) by providing a preference for domestic construction material. In addition, the Contracting Officer has determined that the WTO GPA and Free Trade Agreements (FTAs) apply to this acquisition. Therefore, the Buy American Act restrictions are waived for designated country construction materials.

(2) The Contractor shall use only domestic, designated country construction material in performing this contract, except as provided in paragraphs (b)(3) and (b)(4) of this clause.

(3) The requirement in paragraph (b)(2) of this clause does not apply to the construction materials or components listed by the Government as follows: None

(4) The Contracting Officer may add other foreign construction material to the list in paragraph (b)(3) of this clause if the Government determines that--

(i) The cost of domestic construction material would be unreasonable. The cost of a particular domestic construction material subject to the restrictions of the Buy American Act is unreasonable when the cost of such material exceeds the cost of foreign material by more than 6 percent;

(ii) The application of the restriction of the Buy American Act to a particular construction material would be impracticable or inconsistent with the public interest; or

(iii) The construction material is not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities of a satisfactory quality.

(c) Request for determination of inapplicability of the Buy American Act.

(1)(i) Any Contractor request to use foreign construction material in accordance with paragraph (b)(4) of this clause shall include adequate information for Government evaluation of the request, including--

(A) A description of the foreign and domestic construction materials;

(B) Unit of measure;

(C) Quantity;

(D) Price;

(E) Time of delivery or availability;

(F) Location of the construction project;

(G) Name and address of the proposed supplier; and

(H) A detailed justification of the reason for use of foreign construction materials cited in accordance with paragraph (b)(3) of this clause.

(ii) A request based on unreasonable cost shall include a reasonable survey of the market and a completed price comparison table in the format in paragraph (d) of this clause.

(iii) The price of construction material shall include all delivery costs to the construction site and any applicable duty (whether or not a duty-free certificate may be issued).

(iv) Any Contractor request for a determination submitted after contract award shall explain why the Contractor could not reasonably foresee the need for such determination and could not have requested the determination before contract award. If the Contractor does not submit a satisfactory explanation, the Contracting Officer need not make a determination.

(2) If the Government determines after contract award that an exception to the Buy American Act applies and the Contracting Officer and the Contractor negotiate adequate consideration, the Contracting Officer will modify the contract to allow use of the foreign construction material. However, when the basis for the exception is the unreasonable price of a domestic construction material, adequate consideration is not less than the differential established in paragraph (b)(4)(i) of this clause.

(3) Unless the Government determines that an exception to the Buy American Act applies, use of foreign construction material is noncompliant with the Buy American Act.

(d) Data. To permit evaluation of requests under paragraph (c) of this clause based on unreasonable cost, the Contractor shall include the following information and any applicable supporting data based on the survey of suppliers:

Foreign and Domestic Construction Materials Price Comparison

Construction material description	Unit of measure	Quantity	Price (dollars) \1\
Item 1:			
Foreign construction material....	.....	.....	.....
Domestic construction material...	.....	.....	.....

Item 2:
Foreign construction material.... ....
Domestic construction material... ....

\1\ Include all delivery costs to the construction site and any applicable duty (whether or not a duty-free entry certificate is issued).
List name, address, telephone number, and contact for suppliers surveyed. Attach copy of response; if oral, attach summary.
Include other applicable supporting information.

(End of clause)

52.225-12 NOTICE OF BUY AMERICAN ACT REQUIREMENT-- CONSTRUCTION MATERIALS UNDER TRADE AGREEMENTS (JAN 2005)

(a) Definitions. ``Construction material,'' ``designated country construction material,'' ``domestic construction material,'' and ``foreign construction material,'' as used in this provision, are defined in the clause of this solicitation entitled ``Buy American Act--Construction Materials Under Trade Agreements'' (Federal Acquisition Regulation (FAR) clause 52.225-11).

(b) Requests for determination of inapplicability. An offeror requesting a determination regarding the inapplicability of the Buy American Act should submit the request to the Contracting Officer in time to allow a determination before submission of offers. The offeror shall include the information and applicable supporting data required by paragraphs (c) and (d) of FAR clause 52.225-11 in the request. If an offeror has not requested a determination regarding the inapplicability of the Buy American Act before submitting its offer, or has not received a response to a previous request, the offeror shall include the information and supporting data in the offer.

(c) Evaluation of offers. (1) The Government will evaluate an offer requesting exception to the requirements of the Buy American Act, based on claimed unreasonable cost of domestic construction materials, by adding to the offered price the appropriate percentage of the cost of such foreign construction material, as specified in paragraph (b)(4)(i) of FAR clause 52.225-11.

(2) If evaluation results in a tie between an offeror that requested the substitution of foreign construction material based on unreasonable cost and an offeror that did not request an exception, the Contracting Officer will award to the offeror that did not request an exception based on unreasonable cost.

(d) Alternate offers. (1) When an offer includes foreign construction material, other than designated country construction material, that is not listed by the Government in this solicitation in paragraph (b)(3) of FAR clause 52.225-11, the offeror also may submit an alternate offer based on use of equivalent domestic or designated country construction material.

(2) If an alternate offer is submitted, the offeror shall submit a separate Standard Form 1442 for the alternate offer, and a separate price comparison table prepared in accordance with paragraphs (c) and (d) of FAR clause 52.225-11 for the offer that is based on the use of any foreign construction material for which the Government has not yet determined an exception applies.

(3) If the Government determines that a particular exception requested in accordance with paragraph (c) of FAR clause 52.225-11 does not apply, the Government will evaluate only those offers based on use of the equivalent domestic or designated country construction material, and the offeror shall be required to furnish such domestic or designated country construction material. An offer based on use of the foreign construction material for which an exception was requested-- (i) Will be rejected as nonresponsive if this acquisition is conducted by sealed bidding; or

(ii) May be accepted if revised during negotiations.

(End of provision)

52.225-13 RESTRICTIONS ON CERTAIN FOREIGN PURCHASES (DEC 2003)

(a) Except as authorized by the Office of Foreign Assets Control (OFAC) in the Department of the Treasury, the Contractor shall not acquire, for use in the performance of this contract, any supplies or services if any proclamation, Executive order, or statute administered by OFAC, or if OFAC's implementing regulations at 31 CFR chapter V, would prohibit such a transaction by a person subject to the jurisdiction of the United States.

(b) Except as authorized by OFAC, most transactions involving Cuba, Iran, Libya, and Sudan are prohibited, as are most imports from North Korea, into the United States or its outlying areas. Lists of entities and individuals subject to economic sanctions are included in OFAC's List of Specially Designated Nationals and Blocked Persons at TerList1.html. More information about these restrictions, as well as updates, is available in the OFAC's regulations at 31 CFR chapter V and/or on OFAC's Web site at http://www.treas.gov/ofac.

(c) The Contractor shall insert this clause, including this paragraph (c), in all subcontracts.

(End of clause)

52.227-1 AUTHORIZATION AND CONSENT (JUL 1995)

(a) The Government authorizes and consents to all use and manufacture, in performing this contract or any subcontract at any tier, of any invention described in and covered by a United States patent (1) embodied in the structure or composition of any article the delivery of which is accepted by the Government under this contract or (2) used in machinery, tools, or methods whose use necessarily results from compliance by the Contractor or a subcontractor with (i) specifications or written provisions forming a part of this contract or (ii) specific written instructions given by the Contracting Officer directing the manner of performance. The entire liability to the Government for infringement of a patent of the United States shall be determined solely by the provisions of the indemnity clause, if any, included in this contract or any subcontract hereunder (including any lower-tier subcontract), and the Government assumes liability for all other infringement to the extent of the authorization and consent hereinabove granted.

(b) The Contractor agrees to include, and require inclusion of, this clause, suitably modified to identify the parties, in all subcontracts at any tier for supplies or services (including construction, architect-engineer services, and materials, supplies, models, samples, and design or testing services expected to exceed the simplified acquisition threshold (however, omission of this clause from any subcontract, including those at or below the simplified acquisition threshold, does not affect this authorization and consent.)

(End of clause)

52.227-2 NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT (AUG 1996)

(a) The Contractor shall report to the Contracting Officer, promptly and in reasonable written detail, each notice or claim of patent or copyright infringement based on the performance of this contract of which the Contractor has knowledge.

(b) In the event of any claim or suit against the Government on account of any alleged patent or copyright infringement arising out of the performance of this contract or out of the use of any supplies furnished or work or services performed under this contract, the Contractor shall furnish to the Government, when requested by the Contracting Officer, all evidence and information in possession of the Contractor pertaining to such suit or claim. Such evidence and information shall be furnished at the expense of the Government except where the Contractor has agreed to indemnify the Government.

(f) The Contractor agrees to include, and require inclusion of, this clause in all subcontracts at any tier for supplies or services (including construction and architect-engineer subcontracts and those for material, supplies, models, samples, or design or testing services) expected to exceed the simplified acquisition threshold at (FAR) 2.101.to exceed the dollar amount set forth in 13.000 of the Federal Acquisition Regulation (FAR).

(End of clause)

52.227-4 PATENT INDEMNITY--CONSTRUCTION CONTRACTS (APR 1984)

Except as otherwise provided, the Contractor agrees to indemnify the Government and its officers, agents, and employees against liability, including costs and expenses, for infringement upon any United States patent (except a patent issued upon an application that is now or may hereafter be withheld from issue pursuant to a Secrecy Order under 35 U.S.C. 181) arising out of performing this contract or out of the use or disposal by or for the account of the Government of supplies furnished or work performed under this contract.

(End of clause)

52.227-23 RIGHTS TO PROPOSAL DATA (TECHNICAL) (JUN 1987)

Except for data contained on pages TBD per Task Order, it is agreed that as a condition of award of this contract, and notwithstanding the conditions of any notice appearing thereon, the Government shall have unlimited rights (as defined in the "Rights in Data--General" clause contained in this contract) in and to the technical data contained in the proposal dated TBD per Task Order, upon which this contract is based.

(End of clause)

52.228-1 BID GUARANTEE (SEP 1996)

(a) Failure to furnish a bid guarantee in the proper form and amo unt, by the time set for opening of bids, may be cause for rejection of the bid.

(b) The bidder shall furnish a bid guarantee in the form of a firm commitment, e.g., bid bond supported by good and sufficient surety or sureties acceptable to the Government, postal money order, certified check, cashier's check, irrevocable letter of credit, or, under Treasury Department regulations, certain bonds or notes of the United States. The Contracting Officer will return bid guarantees, other than bid bonds, (1) to unsuccessful bidders as soon as

practicable after the opening of bids, and (2) to the successful bidder upon execution of contractual documents and bonds (including any necessary coinsurance or reinsurance agreements), as required by the bid as accepted.-

(c) The amount of the bid guarantee shall be 20 percent of the bid price or $3,000,000, whichever is less.-

(d) If the successful bidder, upon acceptance of its bid by the Government within the period specified for acceptance, fails to execute all contractual documents or furnish executed bond(s) within 10 days after receipt of the forms by the bidder, the Contracting Officer may terminate the contract for default.-

(e) In the event the contract is terminated for default, the bidder is liable for any cost of acquiring the work that exceeds the amount of its bid, and the bid guarantee is available to offset the difference.

(End of clause)

52.228-2 ADDITIONAL BOND SECURITY (OCT 1997)

The Contractor shall promptly furnish additional security required to protect the Government and persons supplying labor or materials under this contract if--

(a) Any surety upon any bond, or issuing financial institution for other security, furnished with this contract becomes unacceptable to the Government.

(b) Any surety fails to furnish reports on its financial condition as required by the Government;

(c) The contract price is increased so that the penal sum of any bond becomes inadequate in the opinion of the Contracting Officer; or

(d) An irrevocable letter of credit (ILC) used as security will expire before the end of the period of required security. If the Contractor does not furnish an acceptable extension or replacement ILC, or other acceptable substitute, at least 30 days before an ILC's scheduled expiration, the Contracting officer has the right to immediately draw on the ILC.

(End of clause)

52.228-5 INSURANCE--WORK ON A GOVERNMENT INSTALLATION (JAN 1997)

(a) The Contractor shall, at its own expense, provide and maintain during the entire performance 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 notify 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.

(End of clause)

52.228-11 PLEDGES OF ASSETS (FEB 1992)

(a) Offerors shall obtain from each person acting as an individual surety on a bid guarantee, a performance bond, or a payment bond--

(1) Pledge of assets; and

(2) Standard Form 28, Affidavit of Individual Surety.

(b) Pledges of assets from each person acting as an individual surety shall be in the form of--

(1) Evidence of an escrow account containing cash, certificates of deposit, commercial or Government securities, or other assets described in FAR 28.203-2 (except see 28.203-2(b)(2) with respect to Government securities held in book entry form) and/or;

(2) A recorded lien on real estate. The offeror will be required to provide--

(i) Evidence of title in the form of a certificate of title prepared by a title insurance company approved by the United States Department of Justice. This title evidence must show fee simple title vested in the surety along with any concurrent owners; whether any real estate taxes are due and payable; and any recorded encumbrances against the property, including the lien filed in favor of the Government as required by FAR 28.203-3(d);

(ii) Evidence of the amount due under any encumbrance shown in the evidence of title;

(iii) A copy of the current real estate tax assessment of the property or a current appraisal dated no earlier than 6 months prior to the date of the bond, prepared by a professional appraiser who certifies that the appraisal has been conducted in accordance with the generally accepted appraisal standards as reflected in the Uniform Standards of Professional Appraisal Practice, as promulgated by the Appraisal Foundation.

(End of clause)

52.228-12 PROSPECTIVE SUBCONTRACTOR REQUESTS FOR BONDS. (OCT 1995)

In accordance with Section 806(a)(3) of Pub. L. 102-190, as amended by Sections 2091 and 8105 of Pub. L. 103-355, upon the request of a prospective subcontractor or supplier offering to furnish labor or material for the performance of this contract for which a payment bond has been furnished to the Government pursuant to the Miller Act, the Contractor shall promptly provide a copy of such payment bond to the requester.

(End of clause)

52.228-14 IRREVOCABLE LETTER OF CREDIT (DEC 1999)

(a) “Irrevocable letter of credit” (ILC), as used in this clause, means a written commitment by a federally insured financial institution to pay all or part of a stated amount of money, until the expiration date of the letter, upon presentation by the Government (the beneficiary) of a written demand therefor. Neither the financial institution nor the offeror/Contractor can revoke or condition the letter of credit.

(b) If the offeror intends to use an ILC in lieu of a bid bond, or to secure other types of bonds such as performance and payment bonds, the letter of credit and letter of confirmation formats in paragraphs (e) and (f) of this clause shall be used.

(c) The letter of credit shall be irrevocable, shall require presentation of no document other than a written demand and the ILC (including confirming letter, if any), shall be issued/confirmed by an acceptable federally insured financial institution as provided in paragraph (d) of this clause, and--

(1) If used as a bid guarantee, the ILC shall expire no earlier than 60 days after the close of the bid acceptance period;

(2) If used as an alternative to corporate or individual sureties as security for a performance or payment bond, the offeror/Contractor may submit an ILC with an initial expiration date estimated to cover the entire period for which financial security is required or may submit an ILC with an initial expiration date that is a minimum period of one year from the date of issuance. The ILC shall provide that, unless the issuer provides the beneficiary written notice of non-renewal at least 60 days in advance of the current expiration date, the ILC is automatically extended without amendment for one year from the expiration date, or any future expiration date, until the period of required coverage is completed and the Contracting Officer provides the financial institution with a written statement waiving the right to payment. The period of required coverage shall be:

(i) For contracts subject to the Miller Act, the later of--

(A) One year following the expected date of final payment;

(B) For performance bonds only, until completion of any warranty period; or

(C) For payment bonds only, until resolution of all claims filed against the payment bond during the one-year period following final payment.

(ii) For contracts not subject to the Miller Act, the later of--

(A) 90 days following final payment; or

(B) For performance bonds only, until completion of any warranty period.

(d) Only federally insured financial institutions rated investment grade or higher shall issue or confirm the ILC. The offeror/Contractor shall provide the Contracting Officer a credit rating that indicates the financial institution has the required rating(s) as of the date of issuance of the ILC. Unless the financial institution issuing the ILC had letter of credit business of less than $25 million in the past year, ILCs over $5 million mu st be confirmed by another acceptable financial institution that had letter of credit business of less than $25 million in the past year.

(e) The following format shall be used by the issuing financial institution to create an ILC:

_____

[Issuing Financial Institution's Letterhead or Name and Address]

Issue Date _____

IRREVOCABLE LETTER OF CREDIT NO. _____

Account party's name _____

Account party's address _____

For Solicitation No. _____(for reference only)

TO: [U.S. Government agency]

[U.S. Government agency's address]

1. We hereby establish this irrevocable and transferable Letter of Credit in your favor for one or more drawings up to United States $_____. This Letter of Credit is payable at [issuing financial institution's and, if any, confirming financial institution's] office at [issuing financial institution's address and, if any, confirming financial institution's address] and expires with our close of business on _____, or any automatically extended expiration date.

2. We hereby undertake to honor your or the transferee's sight draft(s) drawn on the issuing or, if any, the confirming financial institution, for all or any part of this credit if presented with this Letter of Credit and confirmation, if any, at the office specified in paragraph 1 of this Letter of Credit on or before the expiration date or any automatically extended expiration date.

3. [This paragraph is omitted if used as a bid guarantee, and subsequent paragraphs are renumbered.] It is a condition of this Letter of Credit that it is deemed to be automatically extended without amendment for one year from the expiration date hereof, or any future expiration date, unless at least 60 days prior to any expiration date, we notify you or the transferee by registered mail, or other receipted means of delivery, that we elect not to consider this Letter of Credit renewed for any such additional period. At the time we notify you, we also agree to notify the account party (and confirming financial institution, if any) by the same means of delivery.

4. This Letter of Credit is transferable. Transfers and assignments of proceeds are to be effected without charge to either the beneficiary or the transferee/assignee of proceeds. Such transfer or assignment shall be only at the written direction of the Government (the beneficiary) in a form satisfactory to the issuing financial institution and the confirming financial institution, if any.

5. This Letter of Credit is subject to the Uniform Customs and Practice (UCP) for Documentary Credits, 1993 Revision, International Chamber of Commerce Publication No. 500, and to the extent not inconsistent therewith, to the laws of _____ [state of confirming financial institution, if any, otherwise state of issuing financial institution].

6. If this credit expires during an interruption of business of this financial institution as described in Article 17 of the UCP, the financial institution specifically agrees to effect payment if this credit is drawn against within 30 days after the resumption of our business.

Sincerely,

_____

[Issuing financial institution]

(f) The following format shall be used by the financial institution to confirm an ILC:

_____

[Confirming Financial Institution's Letterhead or Name and Address]

(Date) _____

Our Letter of Credit Advice Number _____

Beneficiary: _____ [U.S. Government agency]

Issuing Financial Institution: _____

Issuing Financial Institution's LC No.: _____

Gentlemen:

1. We hereby confirm the above indicated Letter of Credit, the original of which is attached, issued by _____ [name of issuing financial institution] for drawings of up to United States dollars _____/U.S. $_____ and expiring with our close of business on _____ [the expiration date], or any automatically extended expiration date.

2. Draft(s) drawn under the Letter of Credit and this Confirmation are payable at our office located at _____.

3. We hereby undertake to honor sight draft(s) drawn under and presented with the Letter of Credit and this Confirmation at our offices as specified herein.

4. [This paragraph is omitted if used as a bid guarantee, and subsequent paragraphs are renumbered.] It is a condition of this confirmation that it be deemed automatically extended without amendment for one year from the expiration date hereof, or any automatically extended expiration date, unless:

(a) At least 60 days prior to any such expiration date, we shall notify the Contracting Officer, or the transferee and the issuing financial institution, by registered mail or other receipted means of delivery, that we elect not to consider this confirmation extended for any such additional period; or

(b) The issuing financial institution shall have exercised its right to notify you or the transferee, the account party, and ourselves, of its election not to extend the expiration date of the Letter of Credit.

5. This confirmation is subject to the Uniform Customs and Practice (UCP) for Documentary Credits, 1993 Revision, International Chamber of Commerce Publication No. 500, and to the extent not inconsistent therewith, to the laws of _____ [state of confirming financial institution].

6. If this confirmation expires during an interruption of business of this financial institution as described in Article 17 of the UCP, we specifically agree to effect payment if this credit is drawn against within 30 days after the resumption of our business.

Sincerely,

_____

[Confirming financial institution]

(g) The following format shall be used by the Contracting Officer for a sight draft to draw on the Letter of Credit:

SIGHT DRAFT

_____

[City, State]

(Date) _____

[Name and address of financial institution]

Pay to the order of _____ [Beneficiary Agency] _____ the sum of United States $_____. This draft is drawn under Irrevocable Letter of Credit No. _____.

_____

[Beneficiary Agency]

By: _____

(End of clause)

52.228-15 PERFORMANCE AND PAYMENT BONDS--CONSTRUCTION (JUL 2000)-

(a) Definitions. As used in this clause--

Original contract price means the award price of the contract; or, for requirements contracts, the price payable for the estimated total quantity; or, for indefinite-quantity contracts, the price payable for the specified minimum quantity. Original contract price does not include the price of any options, except those options exercised at the time of contract award.

(b) Amount of required bonds. Unless the resulting contract price is $100,000 or less, the successful offeror shall furnish performance and payment bonds to the Contracting Officer as follows:

(1) Performance bonds (Standard Form 25). The penal amount of performance bonds at the time of contract award shall be 100 percent of the original contract price.

(2) Payment Bonds (Standard Form 25-A). The penal amount of payment bonds at the time of contract award shall be 100 percent of the original contract price.

(3) Additional bond protection. (i) The Government may require additional performance and payment bond protection if the contract price is increased. The increase in protection generally will equal 100 percent of the increase in contract price.

(ii) The Government may secure the additional protection by directing the Contractor to increase the penal amount of the existing bond or to obtain an additional bond.

(c) Furnishing executed bonds. The Contractor shall furnish all executed bonds, including any necessary reinsurance agreements, to the Contracting Officer, within the time period specified in the Bid Guarantee provision of the solicitation, or otherwise specified by the Contracting Officer, but in any event, before starting work.

(d) Surety or other security for bonds. The bonds shall be in the form of firm commitment, supported by corporate sureties whose names appear on the list contained in Treasury Department Circular 570, individual sureties, or by other acceptable security such as postal money order, certified check, cashier's check, irrevocable letter of credit, or, in accordance with Treasury Department regulations, certain bonds or notes of the United States. Treasury Circular 570 is published in the Federal Register or may be obtained from the U.S. Department of Treasury, Financial Management Service, Surety Bond Branch, 401 14th Street, NW, 2nd Floor, West Wing, Washington, DC 20227.

(e) Notice of subcontractor waiver of protection (40 U.S.C. 270b(c). Any waiver of the right to sue on the payment bond is void unless it is in writing, signed by the person whose right is waived, and executed after such person has first furnished labor or material for use in the performance of the contract.

(End of clause)

52.229-3 FEDERAL, STATE, AND LOCAL TAXES (APR 2003)

(a) As used in this clause--

"Contract date" means the date set for bid opening or, if this is a negotiated contract or a modification, the effective date of this contract or modification.

"All applicable Federal, State, and local taxes and duties" means all taxes and duties, in effect on the contract date, that the taxing authority is imposing and collecting on the transactions or property covered by this contract.

"After-imposed Federal tax" means any new or increased Federal excise tax or duty, or tax that was exempted or excluded on the contract date but whose exemption was later revoked or reduced during the contract period, on the transactions or property covered by this contract that the Contractor is required to pay or bear as the result of legislative, judicial, or administrative action taking effect after the contract date. It does not include social security tax or other employment taxes.

"After-relieved Federal tax" means any amount of Federal excise tax or duty, except social security or other employment taxes, that would otherwise have been payable on the transactions or property covered by this contract, but which the Contractor is not required to pay or bear, or for which the Contractor obtains a refund or drawback, as the result of legislative, judicial, or administrative action taking effect after the contract date.

Local taxes includes taxes imposed by a possession or territory of the United States, Puerto Rico, or the Northern Mariana Islands, if the contract is performed wholly or partly in any of those areas.

(b) The contract price includes all applicable Federal, State, and local taxes and duties.

(c) The contract price shall be increased by the amount of any after-imposed Federal tax, provided the Contractor warrants in writing that no amount for such newly imposed Federal excise tax or duty or rate increase was included in the contract price, as a contingency reserve or otherwise.

(d) The contract price shall be decreased by the amount of any after-relieved Federal tax.

(e) The contract price shall be decreased by the amount of any Federal excise tax or duty, except social security or other employment taxes, that the Contractor is required to pay or bear, or does not obtain a refund of, through the Contractor's fault, negligence, or failure to follow instructions of the Contracting Officer.

(f) No adjustment shall be made in the contract price under this clause unless the amount of the adjustment exceeds $250.

(g) The Contractor shall promptly notify the Contracting Officer of all matters relating to any Federal excise tax or duty that reasonably may be expected to result in either an increase or decrease in the contract price and shall take appropriate action as the Contracting Officer directs.

(h) The Government shall, without liability, furnish evidence appropriate to establish exemption from any Federal, State, or local tax when the Contractor requests such evidence and a reasonable basis exists to sustain the exemption.

(End of clause)

52.231-5000 EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE
MAR 1995)--EFARS

(a) This clause does not apply to terminations. See 52.249-5000, Basis for Settlement of Proposals and FAR Part 49.

(b) Allowable cost for construction and marine plant and equipment in sound workable condition owned or controlled and furnished by a contractor or subcontractor at any tier shall be based on actual cost data for each piece of equipment or groups of similar serial and series for which the Government can determine both ownership and operating costs from the contractor's accounting records. When both ownership and operating costs cannot be determined for any piece of equipment or groups of similar serial or series equipment from the contractor's accounting records, costs for that equipment shall be based upon the applicable provisions of EP 1110-1-8, Construction Equipment Ownership and Operating Expense Schedule, Region IX Working conditions shall be considered to be average for determining equipment rates using the schedule unless specified otherwise by the contracting officer. For equipment not included in the schedule, rates for comparable pieces of equipment may be used or a rate may be developed using the formula provided in the schedule. For forward pricing, the schedule in effect at the time of negotiations shall apply. For retroactive pricing, the schedule in effect at the time the work was performed shall apply.

(c) Equipment rental costs are allowable, subject to the provisions of FAR 31.105(d)(ii) and FAR 31.205-36. Rates for equipment rented from an organization under common control, lease-purchase arrangements, and sale-leaseback arrangements, will be determined using the schedule, except that actual rates will be used for equipment leased from an organization under common control that has an established practice of leasing the same or similar equipment to unaffiliated lessees.

(d) When actual equipment costs are proposed and the total amount of the pricing action exceeds the small purchase threshold, the contracting officer shall request the contractor to submit either certified cost or pricing data, or partial/limited data, as appropriate. The data shall be submitted on Standard Form 1411, Contract Pricing Proposal Cover Sheet.

(End of clause)

52.232-5 PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS (SEP 2002)

(a) Payment of price. The Government shall pay the Contractor the contract price as provided in this contract.

(b) Progress payments. The Government shall make progress payments monthly as the work proceeds, or at more frequent intervals as determined by the Contracting Officer, on estimates of work accomplished which meets the standards of quality established under the contract, as approved by the Contracting Officer.

(1) The Contractor's request for progress payments shall include the following substantiation:

(i) An itemization of the amounts requested, related to the various elements of work required by the contract covered

by the payment requested.

(ii) A listing of the amount included for work performed by each subcontractor under the contract.

(iii) A listing of the total amount of each subcontract under the contract.

(iv) A listing of the amounts previously paid to each such subcontractor under the contract.

(v) Additional supporting data in a form and detail required by the Contracting Officer.

(2) In the preparation of estimates, the Contracting Officer may authorize material delivered on the site and preparatory work done to be taken into consideration. Material delivered to the Contractor at locations other than the site also may be taken into consideration if--

(i) Consideration is specifically authorized by this contract; and

(ii) The Contractor furnishes satisfactory evidence that it has acquired title to such material and that the material will be used to perform this contract.

(c) Contractor certification. Along with each request for progress payments, the Contractor shall furnish the following certification, or payment shall not be made: (However, if the Contractor elects to delete paragraph (c)(4) from the certification, the certification is still acceptable.)

I hereby certify, to the best of my knowledge and belief, that--

(1) The amounts requested are only for performance in accordance with the specifications, terms, and conditions of the contract;

(2) All payments due to subcontractors and suppliers from previous payments received under the contract have been made, and timely payments will be made from the proceeds of the payment covered by this certification, in accordance with subcontract agreements and the requirements of chapter 39 of Title 31, United States Code;

(3) This request for progress payments does not include any amounts which the prime contractor intends to withhold or retain from a subcontractor or supplier in accordance with the terms and conditions of the subcontract; and

(4) This certification is not to be construed as final acceptance of a subcontractor's performance.

_____

(Name)

_____

(Title)

_____

(Date)

(d) Refund of unearned amounts. If the Contractor, after making a certified request for progress payments, discovers that a portion or all of such request constitutes a payment for performance by the Contractor that fails to conform to the specifications, terms, and conditions of this contract (hereinafter referred to as the "unearned amount"), the Contractor shall--

(1) Notify the Contracting Officer of such performance deficiency; and

(2) Be obligated to pay the Government an amount (computed by the Contracting Officer in the manner provided in paragraph (j) of this clause) equal to interest on the unearned amount from the 8th day after the date of receipt of the unearned amount until--

(i) The date the Contractor notifies the Contracting Officer that the performance deficiency has been corrected; or

(ii) The date the Contractor reduces the amount of any subsequent certified request for progress payments by an amount equal to the unearned amount.

(e) Retainage. If the Contracting Officer finds that satisfactory progress was achieved during any period for which a progress payment is to be made, the Contracting Officer shall authorize payment to be made in full. However, if satisfactory progress has not been made, the Contracting Officer may retain a maximum of 10 percent of the amount of the payment until satisfactory progress is achieved. When the work is substantially complete, the Contracting Officer may retain from previously withheld funds and future progress payments that amount the Contracting Officer considers adequate for protection of the Government and shall release to the Contractor all the remaining withheld funds. Also, on completion and acceptance of each separate building, public work, or other division of the contract, for which the price is stated separately in the contract, payment shall be made for the completed work without retention of a percentage.

(f) Title, liability, and reservation of rights. All material and work covered by progress payments made shall, at the time of payment, become the sole property of the Government, but this shall not be construed as--

(1) Relieving the Contractor from the sole responsibility for all material and work upon which payments have been made or the restoration of any damaged work; or

(2) Waiving the right of the Government to require the fulfillment of all of the terms of the contract.

(g) Reimbursement for bond premiums. In making these progress payments, the Government shall, upon request, reimburse the Contractor for the amount of premiums paid for performance and payment bonds (including coinsurance and reinsurance agreements, when applicable) after the Contractor has furnished evidence of full payment to the surety. The retainage provisions in paragraph (e) of this clause shall not apply to that portion of progress payments attributable to bond premiums.

(h) Final payment. The Government shall pay the amount due the Contractor under this contract after--

(1) Completion and acceptance of all work;

(2) Presentation of a properly executed voucher; and

(3) Presentation of release of all claims against
the Government arising by virtue of this contract, other than claims, in stated amounts, that the Contractor has specifically excepted from the operation of the release. A release may also be required of the assignee if the Contractor's claim to amounts payable under this contract has been assigned under the Assignment of Claims Act of 1940 (31 U.S.C. 3727 and 41 U.S.C. 15).

(i) Limitation because of undefinitized work. Notwithstanding any provision of this contract, progress payments shall not exceed 80 percent on work accomplished on undefinitized contract actions. A "contract action" is any action resulting in a contract, as defined in FAR Subpart 2.1, including contract modifications for additional supplies or services, but not including contract modifications that are within the scope and under the terms of the contract, such as contract modifications issued pursuant to the Changes clause, or funding and other administrative changes.

(j) Interest computation on unearned amounts. In accordance with 31 U.S.C. 3903(c)(1), the amount payable under subparagraph (d)(2) of this clause shall be--

(1) Computed at the rate of average bond equivalent rates of 91-day Treasury bills auctioned at the most recent auction of such bills prior to the date the Contractor receives the unearned amount; and

(2) Deducted from the next available payment to the Contractor.

(End of clause)

52.232-17 INTEREST (JUNE 1996)

(a) Except as otherwise provided in this contract under a Price Reduction for Defective Cost or Pricing Data clause or a Cost Accounting Standards clause, all amounts that become payable by the Contractor to the Government under this contract (net of any applicable tax credit under the Internal Revenue Code (26 U.S.C. 1481)) shall bear simple interest from the date due until paid unless paid within 30 days of becoming due. The interest rate shall be the interest rate established by the Secretary of the Treasury as provided in Section 12 of the Contract Disputes Act of 1978 (Public Law 95-563), which is applicable to the period in which the amount becomes due, as provided in paragraph (b) of this clause, and then at the rate applicable for each six-month period as fixed by the Secretary until the amount is paid. reproduce, prepare derivative works, distribute copies to the public, and (b) Amounts shall be due at the earliest of the following dates:

(1) The date fixed under this contract.

(2) The date of the first written demand for payment consistent with this contract, including any demand resulting from a default termination.

(3) The date the Government transmits to the Contractor a proposed supplemental agreement to confirm completed negotiations establishing the amount of debt.

(4) If this contract provides for revision of prices, the date of written notice to the Contractor stating the amount of refund payable in connection with a pricing proposal or a negotiated pricing agreement not confirmed by contract modification.

(c) The interest charge made under this clause may be reduced under the procedures prescribed in 32.614-2 of the Federal Acquisition Regulation in effect on the date of this contract.

(End of clause)

52.232-18 AVAILABILITY OF FUNDS (APR 1984)

Funds are not presently available for this contract. The Government's obligation under this contract is contingent upon the availability of appropriated funds from which payment for contract purposes can be made. No legal liability on the part of the Government for any payment may arise until funds are made available to the Contracting Officer for this contract and until the Contractor receives notice of such availability, to be confirmed in writing by the Contracting Officer.

(End of clause)

52.232-23 ASSIGNMENT OF CLAIMS (JAN 1986)

(a) The Contractor, under the Assignment of Claims Act, as amended, 31 U.S.C. 3727, 41 U.S.C. 15 (hereafter referred to as "the Act"), may assign its rights to be paid amounts due or to become due as a result of the performance of this contract to a bank, trust company, or other financing institution, including any Federal lending agency. The assignee under such an assignment may thereafter further assign or reassign its right under the original assignment to any type of financing institution described in the preceding sentence.

(b) Any assignment or reassignment authorized under the Act and this clause shall cover all unpaid amounts payable under this contract, and shall not be made to more than one party, except that an assignment or reassignment may be made to one party as agent or trustee for two or more parties participating in the financing of this contract.

(c) The Contractor shall not furnish or disclose to any assignee under this contract any classified document (including this contract) or information related to work under this contract until the Contracting Officer authorizes such action in writing.

(End of clause)

52.232-27 PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS (OCT 2003)

Notwithstanding any other payment terms in this contract, the Government will make invoice payments under the terms and conditions specified in this clause. The Government considers payment as being made on the day a check is dated or the date of an electronic funds transfer. Definitions of pertinent terms are set forth in sections 2.101, 32.001, and 32.902 of the Federal Acquisition Regulation. All days referred to in this clause are calendar days, unless otherwise specified. (However, see paragraph (a)(3) concerning payments due on Saturdays, Sundays, and legal holidays.)

(a) Invoice payments--(1) Types of invoice payments. For purposes of this clause, there are several types of invoice payments that may occur under this contract, as follows:

(i) Progress payments, if provided for elsewhere in this contract, based on Contracting Officer approval of the estimated amount and value of work or services performed, including payments for reaching milestones in any project.

(A) The due date for making such payments is 14 days after the designated billing office receives a proper payment request. If the designated billing office fails to annotate the payment request with the actual date of receipt at the time of receipt, the payment due date is the 14th day after the date of the Contractor's payment request, provided the designated billing office receives a proper payment request and there is no disagreement over quantity, quality, or Contractor compliance with contract requirements.

(B) The due date for payment of any amounts retained by the Contracting Officer in accordance with the clause at 52.232-5, Payments Under Fixed-Price Construction Contracts, is as specified in the contract or, if not specified, 30 days after approval by the Contracting Officer for release to the Contractor.

(ii) Final payments based on completion and acceptance of all work and presentation of release of all claims against the Government arising by virtue of the contract, and payments for partial deliveries that have been accepted by the Government (e.g., each separate building, public work, or other division of the contract for which the price is stated separately in the contract).

(A) The due date for making such payments is the later of the following two events:

(1) The 30th day after the designated billing office receives a proper invoice from the Contractor.

(2) The 30th day after Government acceptance of the work or services completed by the Contractor. For a final invoice when the payment amount is subject to contract settlement actions (e.g., release of claims), acceptance is deemed to occur on the effective date of the contract settlement.

(B) If the designated billing office fails to annotate the invoice with the date of actual receipt at the time of receipt, the invoice payment due date is the 30th day after the date of the Contractor's invoice, provided the designated billing office receives a proper invoice and there is no disagreement over quantity, quality, or Contractor compliance with contract requirements.

(2) Contractor's invoice. The Contractor shall prepare and submit invoices to the designated billing office specified in the contract. A proper invoice must include the items listed in paragraphs (a)(2)(i) through (a)(2)(xi) of this clause. If the invoice does not comply with these requirements, the designated billing office must return it within 7 days after receipt, with the reasons why it is not a proper invoice. When computing any interest penalty owed the Contractor, the Government will take into account if the Government notifies the Contractor of an improper invoice in an untimely manner.

(i) Name and address of the Contractor.

(ii) Invoice date and invoice number. (The Contractor should date invoices as close as possible to the date of mailing or transmission.)

(iii) Contract number or other authorization for work or services performed (including order number and contract line item number).

(iv) Description of work or services performed.

(v) Delivery and payment terms (e.g., discount for prompt payment terms).

(vi) Name and address of Contractor official to whom payment is to be sent (must be the same as that in the contract or in a proper notice of assignment).

(vii) Name (where practicable), title, phone number, and mailing address of person to notify in the event of a defective invoice.

(viii) For payments described in paragraph (a)(1)(i) of this clause, substantiation of the amounts requested and certification in accordance with the requirements of the clause at 52.232-5, Payments Under Fixed-Price Construction Contracts.

(ix) Taxpayer Identification Number (TIN). The Contractor shall include its TIN on the invoice only if required elsewhere in this contract.

(x) Electronic funds transfer (EFT) banking information.

(A) The Contractor shall include EFT banking information on the invoice only if required elsewhere in this contract.

(B) If EFT banking information is not required to be on the invoice, in order for the invoice to be a proper invoice, the Contractor shall have submitted correct EFT banking information in accordance with the applicable solicitation provision (e.g., 52.232-38, Submission of Electronic Funds Transfer Information with Offer), contract clause (e.g.,

52.232-33, Payment by Electronic Funds Transfer--Central Contractor Registration, or 52.232-34, Payment by Electronic Funds Transfer--Other Than Central Contractor Registration), or applicable agency procedures.

(C) EFT banking information is not required if the Government waived the requirement to pay by EFT.

(xi) Any other information or documentation required by the contract.

(3) Interest penalty. The designated payment office will pay an interest penalty automatically, without request from the Contractor, if payment is not made by the due date and the conditions listed in paragraphs (a)(3)(i) through (a)(3)(iii) of this clause are met, if applicable. However, when the due date falls on a Saturday, Sunday, or legal holiday, the designated payment office may make payment on the following working day without incurring a late payment interest penalty.

(i) The designated billing office received a proper invoice.

(ii) The Government processed a receiving report or other Government documentation authorizing payment and there was no disagreement over quantity, quality, Contractor compliance with any contract term or condition, or requested progress payment amount.

(iii) In the case of a final invoice for any balance of funds due the Contractor for work or services performed, the amount was not subject to further contract settlement actions between the Government and the Contractor.

(4) Computing penalty amount. The Government will compute the interest penalty in accordance with the Office of Management and Budget prompt payment regulations at 5 CFR part 1315.

(i) For the sole purpose of computing an interest penalty that might be due the Contractor for payments described in paragraph (a)(1)(ii) of this clause, Government acceptance or approval is deemed to occur constructively on the 7th day after the Contractor has completed the work or services in accordance with the terms and conditions of the contract. If actual acceptance or approval occurs within the constructive acceptance or approval period, the Government will base the determination of an interest penalty on the actual date of acceptance or approval. Constructive acceptance or constructive approval requirements do not apply if there is a disagreement over quantity, quality, or Contractor compliance with a contract provision. These requirements also do not compel Government officials to accept work or services, approve Contractor estimates, perform contract administration functions, or make payment prior to fulfilling their responsibilities.

(ii) The prompt payment regulations at 5 CFR 1315.10(c) do not require the Government to pay interest penalties if payment delays are due to disagreement between the Government and the Contractor over the payment amount or other issues involving contract compliance, or on amounts temporarily withheld or retained in accordance with the terms of the contract. The Government and the Contractor shall resolve claims involving disputes, and any interest that may be payable in accordance with the clause at FAR 52.233-1, Disputes.

(5) Discounts for prompt payment. The designated payment office will pay an interest penalty automatically, without request from the Contractor, if the Government takes a discount for prompt payment improperly. The Government will calculate the interest penalty in accordance with the prompt payment regulations at 5 CFR part 1315.

(6) Additional interest penalty. (i) The designated payment office will pay a penalty amount, calculated in accordance with the prompt payment regulations at 5 CFR part 1315 in addition to the interest penalty amount only if--

(A) The Government owes an interest penalty of $1 or more;

(B) The designated payment office does not pay the interest penalty within 10 days after the date the invoice amount is paid; and

(C) The Contractor makes a written demand to the designated payment office for additional penalty payment, in accordance with paragraph (a)(6)(ii) of this clause, postmarked not later than 40 days after the date the invoice amount is paid.

(ii)(A) The Contractor shall support written demands for additional penalty payments with the following data. The Government will not request any additional data. The Contractor shall--

(1) Specifically assert that late payment interest is due under a specific invoice, and request payment of all overdue late payment interest penalty and such additional penalty as may be required;

(2) Attach a copy of the invoice on which the unpaid late payment interest was due; and

(3) State that payment of the principal has been received, including the date of receipt.

(B) If there is no postmark or the postmark is illegible--

(1) The designated payment office that receives the demand will annotate it with the date of receipt provided the demand is received on or before the 40th day after payment was made; or

(2) If the designated payment office fails to make the required annotation, the Government will determine the demand's validity based on the date the Contractor has placed on the demand, provided such date is no later than the 40th day after payment was made.

(b) Contract financing payments. If this contract provides for contract financing, the Government will make contract financing payments in accordance with the applicable contract financing clause.

(c) Subcontract clause requirements. The Contractor shall include in each subcontract for property or services (including a material supplier) for the purpose of performing this contract the following:

(1) Prompt payment for subcontractors. A payment clause that obligates the Contractor to pay the subcontractor for satisfactory performance under its subcontract not later than 7 days from receipt of payment out of such amounts as are paid to the Contractor under this contract.

(2) Interest for subcontractors. An interest penalty clause that obligates the Contractor to pay to the subcontractor an interest penalty for each payment not made in accordance with the payment clause--

(i) For the period beginning on the day after the required payment date and ending on the date on which payment of the amount due is made; and

(ii) Computed at the rate of interest established by the Secretary of the Treasury, and published in the Federal Register, for interest payments under section 12 of the Contract Disputes Act of 1978 (41 U.S.C. 611) in effect at the time the Contractor accrues the obligation to pay an interest penalty.

(3) Subcontractor clause flowdown. A clause requiring each subcontractor to use:

(i) Include a payment clause and an interest penalty clause conforming to the standards set forth in paragraphs (c)(1) and (c)(2) of this clause in each of its subcontracts; and

(ii) Require each of its subcontractors to include such clauses in their subcontracts with each lower-tier subcontractor or supplier.

(d) Subcontract clause interpretation. The clauses required by paragraph (c) of this clause shall not be construed to impair the right of the Contractor or a subcontractor at any tier to negotiate, and to include in their subcontract, provisions that--

(1) Retainage permitted. Permit the Contractor or a subcontractor to retain (without cause) a specified percentage of each progress payment otherwise due to a subcontractor for satisfactory performance under the subcontract without incurring any obligation to pay a late payment interest penalty, in accordance with terms and conditions agreed to by the parties to the subcontract, giving such recognition as the parties deem appropriate to the ability of a subcontractor to furnish a performance bond and a payment bond;

(2) Withholding permitted. Permit the Contractor or subcontractor to make a determination that part or all of the subcontractor's request for payment may be withheld in accordance with the subcontract agreement; and

(3) Withholding requirements. Permit such withholding without incurring any obligation to pay a late payment penalty if--

(i) A notice conforming to the standards of paragraph (g) of this clause previously has been furnished to the subcontractor; and

(ii) The Contractor furnishes to the Contracting Officer a copy of any notice issued by a Contractor pursuant to paragraph (d)(3)(i) of this clause.

(e) Subcontractor withholding procedures. If a Contractor, after making a request for payment to the Government but before making a payment to a subcontractor for the subcontractor's performance covered by the payment request, discovers that all or a portion of the payment otherwise due such subcontractor is subject to withholding from the subcontractor in accordance with the subcontract agreement, then the Contractor shall--

(1) Subcontractor notice. Furnish to the subcontractor a notice conforming to the standards of paragraph (g) of this clause as soon as practicable upon ascertaining the cause giving rise to a withholding, but prior to the due date for subcontractor payment;

(2) Contracting Officer notice. Furnish to the Contracting Officer, as soon as practicable, a copy of the notice furnished to the subcontractor pursuant to paragraph (e)(1) of this clause;

(3) Subcontractor progress payment reduction. Reduce the subcontractor's progress payment by an amount not to exceed the amount specified in the notice of withholding furnished under paragraph (e)(1) of this clause;

(4) Subsequent subcontractor payment. Pay the subcontractor as soon as practicable after the correction of the identified subcontract performance deficiency, and--

(i) Make such payment within--

(A) Seven days after correction of the identified subcontract performance deficiency (unless the funds therefor must be recovered from the Government because of a reduction under paragraph
(e)(5)(i)) of this clause; or

(B) Seven days after the Contractor recovers such funds from the Government; or

(ii) Incur an obligation to pay a late payment interest penalty computed at the rate of interest established by the Secretary of the Treasury, and published in the Federal Register, for interest payments under section 12 of the Contracts Disputes Act of 1978 (41 U.S.C. 611) in effect at the time the Contractor accrues the obligation to pay an interest penalty;

(5) Notice to Contracting Officer. Notify the Contracting Officer upon--

(i) Reduction of the amount of any subsequent certified application for payment; or

(ii) Payment to the subcontractor of any withheld amounts of a progress payment, specifying--

(A) The amounts withheld under paragraph (e)(1) of this clause; and

(B) The dates that such withholding began and ended; and

(6) Interest to Government. Be obligated to pay to the Government an amount equal to interest on the withheld payments (computed in the manner provided in 31 U.S.C. 3903(c)(1)), from the 8th day after receipt of the withheld amounts from the Government until--

(i) The day the identified subcontractor performance deficiency is corrected; or

(ii) The date that any subsequent payment is reduced under paragraph (e)(5)(i) of this clause.

(f) Third-party deficiency reports--(1) Withholding from subcontractor. If a Contractor, after making payment to a first-tier subcontractor, receives from a supplier or subcontractor of the first-tier subcontractor (hereafter referred to as a “second-tier subcontractor”) a written notice in accordance with section 2 of the Act of August 24, 1935 (40 U.S.C. 270b, Miller Act), asserting a deficiency in such first-tier subcontractor's performance under the contract for which the Contractor may be ultimately liable, and the Contractor determines that all or a portion of future payments otherwise due such first-tier subcontractor is subject to withholding in accordance with the subcontract agreement, the Contractor may, without incurring an obligation to pay an interest penalty under paragraph (e)(6) of this clause--

(i) Furnish to the first-tier subcontractor a notice conforming to the standards of paragraph (g) of this clause as soon as practicable upon making such determination; and

(ii) Withhold from the first-tier subcontractor's next available progress payment or payments an amount not to exceed the amount specified in the notice of withholding furnished under paragraph (f)(1)(i) of this clause.

(2) Subsequent payment or interest charge. As soon as practicable, but not later than 7 days after receipt of satisfactory written notification that the identified subcontract performance deficiency has been corrected, the Contractor shall--

(i) Pay the amount withheld under paragraph (f)(1)(ii) of this clause to such first-tier subcontractor; or

(ii) Incur an obligation to pay a late payment interest penalty to such first-tier subcontractor computed at the rate of interest established by the Secretary of the Treasury, and published in the Federal Register, for interest payments under section 12 of the Contracts DisputesAct of 1978 (41 U.S.C. 611) in effect at the time the Contractor accrues the obligation to pay an interest penalty.

(g) Written notice of subcontractor withholding. The Contractor shall issue a written notice of any withholding to a subcontractor (with a copy furnished to the Contracting Officer), specifying--

(1) The amount to be withheld;

(2) The specific causes for the withholding under the terms of the subcontract; and

(3) The remedial actions to be taken by the subcontractor in order to receive payment of the amounts withheld.

(h) Subcontractor payment entitlement. The Contractor may not request payment from the Government of any amount withheld or retained in accordance with paragraph (d) of this clause until such time as the Contractor has determined and certified to the Contracting Officer that the subcontractor is entitled to the payment of such amount.

(i) Prime-subcontractor disputes. A dispute between the Contractor and subcontractor relating to the amount or entitlement of a subcontractor to a payment or a late payment interest penalty under a clause included in the subcontract pursuant to paragraph (c) of this clause does not constitute a dispute to which the Government is a party. The Government may not be interpleaded in any judicial or administrative proceeding involving such a dispute.

(j) Preservation of prime-subcontractor rights. Except as provided in paragraph (i) of this clause, this clause shall not limit or impair any contractual, administrative, or judicial remedies otherwise available to the Contractor or a subcontractor in the event of a dispute involving late payment or nonpayment by the Contractor or deficient subcontract performance or nonperformance by a subcontractor.

(k) Non-recourse for prime contractor interest penalty. The Contractor's obligation to pay an interest penalty to a subcontractor pursuant to the clauses included in a subcontract under paragraph (c) of this clause shall not be construed to be an obligation of the Government for such interest penalty. A cost-reimbursement claim may not include any amount for reimbursement of such interest penalty.

(l) Overpayments. If the Contractor becomes aware of a duplicate contract financing or invoice payment or that the Government has otherwise overpaid on a contract financing or invoice payment, the Contractor shall immediately notify the Contracting Officer and request instructions for disposition of the overpayment.

(End of clause)

52.232-33 PAYMENT BY ELECTRONIC FUNDS TRANSFER—CENTRAL CONTRACTOR REGISTRATION (OCT 2003)

(a) Method of payment. (1) All payments by the Government under this contract shall be made by electronic funds transfer (EFT), except as provided in paragraph (a)(2) of this clause. As used in this clause, the term “EFT” refers to the funds transfer and may also include the payment information transfer.

(2) In the event the Government is unable to release one or more payments by EFT, the Contractor agrees to either--

(i) Accept payment by check or some other mutually agreeable method of payment; or

(ii) Request the Government to extend the payment due date until such time as the Government can make payment by EFT (but see paragraph (d) of this clause).

(b) Contractor's EFT information. The Government shall make payment to the Contractor using the EFT information contained in the Central Contractor Registration (CCR) database. In the event that the EFT information changes, the Contractor shall be responsible for providing the updated information to the CCR database.

(c) Mechanisms for EFT payment. The Government may make payment by EFT through either the Automated Clearing House (ACH) network, subject to the rules of the National Automated Clearing House Association, or the Fedwire Transfer System. The rules governing Federal payments through the ACH are contained in 31 CFR part 210.

(d) Suspension of payment. If the Contractor's EFT information in the CCR database is incorrect, then the Government need not make payment to the Contractor under this contract until correct EFT information is entered into the CCR database; and any invoice or contract financing request shall be deemed not to be a proper invoice for

the purpose of prompt payment under this contract. The prompt payment terms of the contract regarding notice of an improper invoice and delays in accrual of interest penalties apply.

(e) Liability for uncompleted or erroneous transfers. (1) If an uncompleted or erroneous transfer occurs because the Government used the Contractor's EFT information incorrectly, the Government remains responsible for--

(i) Making a correct payment;

(ii) Paying any prompt payment penalty due; and

(iii) Recovering any erroneously directed funds.

(2) If an uncompleted or erroneous transfer occurs because the Contractor's EFT information was incorrect, or was revised within 30 days of Government release of the EFT payment transaction instruction to the Federal Reserve System, and--

(i) If the funds are no longer under the control of the payment office, the Government is deemed to have made payment and the Contractor is responsible for recovery of any erroneously directed funds; or

(ii) If the funds remain under the control of the payment office, the Government shall not make payment, and the provisions of paragraph (d) of this clause shall apply.

(f) EFT and prompt payment. A payment shall be deemed to have been made in a timely manner in accordance with the prompt payment terms of this contract if, in the EFT payment transaction instruction released to the Federal Reserve System, the date specified for settlement of the payment is on or before the prompt payment due date, provided the specified payment date is a valid date under the rules of the Federal Reserve System.

(g) EFT and assignment of claims. If the Contractor assigns the proceeds of this contract as provided for in the assignment of claims terms of this contract, the Contractor shall require as a condition of any such assignment, that the assignee shall register separately in the CCR database and shall be paid by EFT in accordance with the terms of this clause. Notwithstanding any other requirement of this contract, payment to an ultimate recipient other than the Contractor, or a financial institution properly recognized under an assignment of claims pursuant to subpart 32.8, is not permitted. In all respects, the requirements of this clause shall apply to the assignee as if it were the Contractor. EFT information that shows the ultimate recipient of the transfer to be other than the Contractor, in the absence of a proper assignment of claims acceptable to the Government, is incorrect EFT information within the meaning of paragraph (d) of this clause.

(h) Liability for change of EFT information by financial agent. The Government is not liable for errors resulting from changes to EFT information made by the Contractor's financial agent.

(i) Payment information. The payment or disbursing office shall forward to the Contractor available payment information that is suitable for transmission as of the date of release of the EFT instruction to the Federal Reserve System. The Government may request the Contractor to designate a desired format and method(s) for delivery of payment information from a list of formats and methods the payment office is capable of executing. However, the Government does not guarantee that any particular format or method of delivery is available at any particular payment office and retains the latitude to use the format and delivery method most convenient to the Government. If the Government makes payment by check in accordance with paragraph (a) of this clause, the Government shall mail the payment information to the remittance address contained in the CCR database.

(End of Clause)

52.233-1 DISPUTES. (JUL 2002)

(a) This contract is subject to the Contract Disputes Act of 1978, as amended (41 U.S.C. 601-613).

(b) Except as provided in the Act, all disputes arising under or relating to this contract shall be resolved under this clause.

(c) Claim, as used in this clause, means a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to this contract. However, a written demand or written assertion by the Contractor seeking the payment of money exceeding $100,000 is not a claim under the Act until certified. A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim under the Act. The submission may be converted to a claim under the Act, by complying with the submission and certification requirements of this clause, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.

(d)(1) A claim by the Contractor shall be made in writing and, unless otherwise stated in this contract, submitted within 6 years after accrual of the claim to the Contracting Officer for a written decision. A claim by the Government against the Contractor shall be subject to a written decision by the Contracting Officer.

(2)(i) The contractors shall provide the certification specified in subparagraph (d)(2)(iii) of this clause when submitting any claim -

(A) Exceeding $100,000; or

(B) Regardless of the amount claimed, when using -

(1) Arbitration conducted pursuant to 5 U.S.C. 575-580; or

(2) Any other alternative means of dispute resolution (ADR) technique that the agency elects to handle in accordance with the Administrative Dispute Resolution Act (ADRA).

(ii) The certification requirement does not apply to issues in controversy that have not been submitted as all or part of a claim.

(iii) The certification shall state as follows: "I certify that the claim is made in good faith; that the supporting data are accurate and complete to the best of my knowledge and belief; that the amount requested accurately reflects the contract adjustment for which the Contractor believes the Government is liable; and that I am duly authorized to certify the claim on behalf of the Contractor.

(3) The certification may be executed by any person duly authorized to bind the Contractor with respect to the claim.

(e) For Contractor claims of $100,000 or less, the Contracting Officer must, if requested in writing by the Contractor, render a decision within 60 days of the request. For Contractor-certified claims over $100,000, the Contracting Officer must, within 60 days, decide the claim or notify the Contractor of the date by which the decision will be made.

(f) The Contracting Officer's decision shall be final unless the Contractor appeals or files a suit as provided in the Act.

(g) If the claim by the Contractor is submitted to the Contracting Officer or a claim by the Government is presented to the Contractor, the parties, by mutual consent, may agree to use alternative disput resolution (ADR). If the Contractor refuses an offer for ADR, the Contractor shall inform the Contracting Officer, in writing, of the Contractor's specific reasons for rejecting the request.

(h) The Government shall pay interest on the amount found due and unpaid from (1) the date the Contracting Officer receives the claim (certified, if required); or (2) the date that payment otherwise would be due, if that date is later, until the date of payment. With regard to claims having defective certifications, as defined in (FAR) 48 CFR 33.201, interest shall be paid from the date that the Contracting Officer initially receives the claim. Simple interest on claims shall be paid at the rate, fixed by the Secretary of the Treasury as provided in the Act, which is applicable to the period during which the Contracting Officer receives the claim and then at the rate applicable for each 6-month period as fixed by the Treasury Secretary during the pendency of the claim.

(i) The Contractor shall proceed diligently with performance of this contract, pending final resolution of any request for relief, claim, appeal, or action arising under the contract, and comply with any decision of the Contracting Officer.

(End of clause)

52.233-3 PROTEST AFTER AWARD (AUG. 1996)

(a) Upon receipt of a notice of protest (as defined in FAR 33.101) or a determination that a protest is likely (see FAR 33.102(d)), the Contracting Officer may, by written order to the Contractor, direct the Contractor to stop performance of the work called for by this contract. The order shall be specifically identified as a stop-work order issued under this clause. Upon receipt of the order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during the period of work stoppage. Upon receipt of the final decision in the protest, the Contracting Officer shall either--

(1) Cancel the stop-work order; or

(2) Terminate the work covered by the order as provided in the Default, or the Termination for Convenience of the Government, clause of this contract.

(b) If a stop-work order issued under this clause is canceled either before or after a final decision in the protest, the Contractor shall resume work. The Contracting Officer shall make an equitable adjustment in the delivery schedule or contract price, or both, and the contract shall be modified, in writing, accordingly, if--

(1) The stop-work order results in an increase in the time required for, or in the Contractor's cost properly allocable to, the performance of any part of this contract; and

(2) The Contractor asserts its right to an adjustment within 30 days after the end of the period of work stoppage; provided, that if the Contracting Officer decides the facts justify the action, the Contracting Officer may receive and act upon a proposal at any time before final payment under this contract.

(c) If a stop-work order is not canceled and the work covered by the order is terminated for the convenience of the Government, the Contracting Officer shall allow reasonable costs resulting from the stop-work order in arriving at the termination settlement.

(d) If a stop-work order is not canceled and the work covered by the order is terminated for default, the Contracting Officer shall allow, by equitable adjustment or otherwise, reasonable costs resulting from the stop-work order.

(e) The Government's rights to terminate this contract at any time are not affected by action taken under this clause.

(f) If, as the result of the Contractor's intentional or negligent misstatement, misrepresentation, or miscertification, a protest related to this contract is sustained, and the Government pays costs, as provided in FAR 33.102(b)(2) or 33.104(h)(1), the Government may require the Contractor to reimburse the Government the amount of such costs. In addition to any other remedy available, and pursuant to the requirements of Subpart 32.6, the Government may collect

this debt by offsetting the amount against any payment due the Contractor under any contract between the Contractor and the Government.

(End of clause)

52.236-1 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 FIFTEEN(15) 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.

(End of clause)

52.236-2 DIFFERING SITE CONDITIONS (APR 1984)

As prescribed in 36.502, insert the following clause in solicitations and contracts when a fixed-price construction contract or a fixed-price dismantling, demolition, or removal of improvements contract is contemplated and the contract amount is expected to exceed the small purchase limitation. The Contracting Officer may insert the clause in solicitations and contracts when a fixed-price construction or a fixed-price contract for dismantling, demolition, or removal of improvements is contemplated and the contract amount is expected to be within the small purchase limitation.

(a) The Contractor shall promptly, and before the conditions are disturbed, give a written notice to the Contracting Officer of

(1) subsurface or latent physical conditions at the site which differ materially from those indicated in this contract, or

(2) unknown physical conditions at the site, of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the contract.

(b) The Contracting Officer shall investigate the site conditions promptly after receiving the notice. If the conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performing any part of the work under this contract, whether or not changed as a result of the conditions, an equitable adjustment shall be made under this clause and the contract modified in writing accordingly.

(c) No request by the Contractor for an equitable adjustment to the contract under this clause shall be allowed, unless the Contractor has given the written notice required; provided, that the time prescribed in (a) above for giving written notice may be extended by the Contracting Officer.

(d) No request by the Contractor for an equitable adjustment to the contract for differing site conditions shall be allowed if made after final payment under this contract.

(End of clause)

52.236-3 SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK (APR 1984)

(a) The Contractor acknowledges that it has taken steps reasonably necessary to ascertain the nature and location of the work, and that it has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to

(1) conditions bearing upon transportation, disposal, handling, and storage of materials;

(2) the availability of labor, water, electric power, and roads;

(3) uncertainties of weather, river stages, tides, or similar physical conditions at the site;

(4) the conformation and conditions of the ground; and (5) the character of equipment and facilities needed preliminary to and during work performance. The Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the Government, as well as from the drawings and specifications made a part of this contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the Government.

(b) The Government assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available by the Government. Nor does the Government assume responsibility for any understanding reached or representation made concerning conditions which can affect the work by any of its officers or agents before the execution of this contract, unless that understanding or representation is expressly stated in this contract.

(End of clause)

52.236-5 MATERIAL AND WORKMANSHIP (APR 1984)

(a) All equipment, material, and articles incorporated into the work covered by this contract shall be new and of the most suitable grade for the purpose intended, unless otherwise specifically provided in this contract. References in the specifications to equipment, material, articles, or patented processes by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition. The Contractor may, at its option, use any equipment, material, article, or process that, in the judgment of the Contracting Officer, is equal to that named in the specifications, unless otherwise specifically provided in this contract.

(b) The Contractor shall obtain the Contracting Officer's approval of the machinery and mechanical and other equipment to be incorporated into the work. When requesting approval, the Contractor shall furnish to the Contracting Officer the name of the manufacturer, the model number, and other information concerning the performance, capacity, nature, and rating of the machinery and mechanical and other equipment. When required by this contract or by the Contracting Officer, the Contractor shall also obtain the Contracting Officer's approval of the material or articles which the Contractor contemplates incorporating into the work. When requesting approval, the Contractor shall provide full information concerning the material or articles. When directed to do so, the Contractor shall submit samples for approval at the Contractor's expense, with all shipping charges prepaid. Machinery, equipment, material, and articles that do not have the required approval shall be installed or used at the risk of subsequent rejection.

(c) All work under this contract shall be performed in a skillful and workmanlike manner. The Contracting Officer may require, in writing, that the Contractor remove from the work any employee the Contracting Officer deems incompetent, careless, or otherwise objectionable.

(End of clause)

52.236-6 SUPERINTENDENCE BY THE CONTRACTOR (APR 1984)

At all times during performance of this contract and until the work is completed and accepted, the Contractor shall directly superintend the work or assign and have on the worksite a competent superintendent who is satisfactory to the Contracting Officer and has authority to act for the Contractor.

(End of clause)

52.236-7 PERMITS AND RESPONSIBILITIES (NOV 1991)

The Contractor shall, without additional expense to the Government, be responsible for obtaining any necessary licenses and permits, and for complying with any Federal, State, and municipal laws, codes, and regulations applicable to the performance of the work. The Contractor shall also be responsible for all damages to persons or property that occur as a result of the Contractor's fault or negligence. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work which may have been accepted under the contract.

(End of clause)

52.236-8 OTHER CONTRACTS (APR 1984)

The Government may undertake or award other contracts for additional work at or near the site of the work under this contract. The Contractor shall fully cooperate with the other contractors and with Government employees and shall carefully adapt scheduling and performing the work under this contract to accommodate the additional work, heeding any direction that may be provided by the Contracting Officer. The Contractor shall not commit or permit any act that will interfere with the performance of work by any other contractor or by Government employees.

(End of clause)

52.236-9 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS (APR 1984)

(a) The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed and which do not unreasonably interfere with the work required under this contract. The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during contract performance, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.

(b) The Contractor shall protect from damage all existing improvements and utilities

(1) at or near the work site, and

(2) on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. The Contractor shall repair any damage to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.

(End of clause)

52.236-10 OPERATIONS AND STORAGE AREAS (APR 1984)

(a) The Contractor shall confine all operations (including storage of materials) on Government premises to areas authorized or approved by the Contracting Officer. The Contractor shall hold and save the Government, its officers and agents, free and harmless from liability of any nature occasioned by the Contractor's performance.

(b) Temporary buildings (e.g., storage sheds, shops, offices) and utilities may be erected by the Contractor only with the approval of the Contracting Officer and shall be built with labor and materials furnished by the Contractor without expense to the Government. The temporary buildings and utilities shall remain the property of the Contractor and shall be removed by the Contractor at its expense upon completion of the work. With the written consent of the Contracting Officer, the buildings and utilities may be abandoned and need not be removed.

(c) The Contractor shall, under regulations prescribed by the Contracting Officer, use only established roadways, or use temporary roadways constructed by the Contractor when and as authorized by the Contracting Officer. When materials are transported in prosecuting the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any Federal, State, or local law or regulation. When it is necessary to cross curbs or sidewalks, the Contractor shall protect them from damage. The Contractor shall repair or pay for the repair of any damaged curbs, sidewalks, or roads.

(End of clause)

52.236-11 USE AND POSSESSION PRIOR TO COMPLETION (APR 1984)

(a) The Government shall have the right to take possession of or use any completed or partially completed part of the work. Before taking possession of or using any work, the Contracting Officer shall furnish the Contractor a list of items of work remaining to be performed or corrected on those portions of the work that the Government intends to take possession of or use. However, failure of the Contracting Officer to list any item of work shall not relieve the Contractor of responsibility for complying with the terms of the contract. The Government's possession or use shall not be deemed an acceptance of any work under the contract.

(b) While the Government has such possession or use, the Contractor shall be relieved of the responsibility for the loss of or damage to the work resulting from the Government's possession or use, notwithstanding the terms of the clause in this contract entitled "Permits and Responsibilities." If prior possession or use by the Government delays the progress of the work or causes additional expense to the Contractor, an equitable adjustment shall be made in the contract price or the time of completion, and the contract shall be modified in writing accordingly.

(End of clause)

52.236-12 CLEANING UP (APR 1984)

The Contractor shall at all times keep the work area, including storage areas, free from accumulations of waste materials. Before completing the work, the Contractor shall remove from the work and premises any rubbish, tools, scaffolding, equipment, and materials that are not the property of the Government. Upon completing the work, the Contractor shall leave the work area in a clean, neat, and orderly condition satisfactory to the Contracting Officer.

(End of clause)

52.236-13 ACCIDENT PREVENTION (NOV 1991)

(a) The Contractor shall provide and maintain work environments and procedures which will

(1) safeguard the public and Government personnel, property, materials, supplies, and equipment exposed to Contractor operations and activities;

(2) avoid interruptions of Government operations and delays in project completion dates; and

(3) control costs in the performance of this contract.

(b) For these purposes on contracts for construction or dismantling, demolition, or removal of improvements, the Contractor shall-

(1) Provide appropriate safety barricades, signs, and signal lights;

(2) Comply with the standards issued by the Secretary of Labor at 29 CFR Part 1926 and 29 CFR Part 1910; and

(3) Ensure that any additional measures the Contracting Officer determines to be reasonably necessary for the purposes are taken.

(c) If this contract is for construction or dismantling, demolition or removal of improvements with any Department of Defense agency or component, the Contractor shall comply with all pertinent provisions of the latest version of U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, in effect on the date of the solicitation.

(d) Whenever the Contracting Officer becomes aware of any noncompliance with these requirements or any condition which poses a serious or imminent danger to the health or safety of the public or Government personnel, the Contracting Officer shall notify the Contractor orally, with written confirmation, and request immediate initiation of corrective action. This notice, when delivered to the Contractor or the Contractor's representative at the work site, shall be deemed sufficient notice of the noncompliance and that corrective action is required. After receiving the notice, the Contractor shall immediately take corrective action. If the Contractor fails or refuses to promptly take corrective action, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor shall not be entitled to any equitable adjustment of the contract price or extension of the performance schedule on any stop work order issued under this clause.

(g) The Contractor shall insert this clause, including this paragraph (e), with appropriate changes in the designation of the parties, in subcontracts.

(End of clause)

52.236-14 AVAILABILITY AND USE OF UTILITY SERVICES (APR 1984)

(a) The Government shall make all reasonably required amounts of utilities available to the Contractor from existing outlets and supplies, as specified in the contract. Unless otherwise provided in the contract, the amount of each utility service consumed shall be charged to or paid for by the Contractor at prevailing rates charged to the Government or, where the utility is produced by the Government, at reasonable rates determined by the Contracting Officer. The Contractor shall carefully conserve any utilities furnished without charge.

(b) The Contractor, at its expense and in a workmanlike manner satisfactory to the Contracting Officer, shall install and maintain all necessary temporary connections and distribution lines, and all meters required to measure the amount of each utility used for the purpose of determining charges. Before final acceptance of the work by the Government, the Contractor shall remove all the temporary connections, distribution lines, meters, and associated paraphernalia.

(End of clause)

52.236-15 SCHEDULES FOR CONSTRUCTION CONTRACTS (APR 1984)

(a) The Contractor shall, within five days after the work commences on the contract or another period of time determined by the Contracting Officer, prepare and submit to the Contracting Officer for approval three copies of a practicable schedule showing the order in which the Contractor proposes to perform the work, and the dates on which the Contractor contemplates starting and completing the several salient features of the work (including acquiring materials, plant, and equipment). The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion by any given date during the period. If the Contractor fails to submit a schedule within the time prescribed, the Contracting Officer may withhold approval of progress payments until the Contractor submits the required schedule.

(b) The Contractor shall enter the actual progress on the chart as directed by the Contracting Officer, and upon doing so shall immediately deliver three copies of the annotated schedule to the Contracting Officer. If, in the opinion of the Contracting Officer, the Contractor falls behind the approved schedule, the Contractor shall take steps necessary to improve its progress, including those that may be required by the Contracting Officer, without additional cost to the Government. In this circumstance, the Contracting Officer may require the Contractor to increase the number of shifts, overtime operations, days of work, and/or the amount of construction plant, and to submit for approval any supplementary schedule or schedules in chart form as the Contracting Officer deems necessary to demonstrate how the approved rate of progress will be regained.

(c) Failure of the Contractor to comply with the requirements of the Contracting Officer under this clause shall be grounds for a determination by the Contracting Officer that the Contractor is not prosecuting the work with sufficient diligence to ensure completion within the time specified in the contract. Upon making this determination, the Contracting Officer may terminate the Contractor's right to proceed with the work, or any separable part of it, in accordance with the default terms of this contract.

(End of clause)

52.236-16 QUANTITY SURVEYS (APR 1984)

(a) Quantity surveys shall be conducted, and the data derived from these surveys shall be used in computing the quantities of work performed and the actual construction completed and in place.

(b) The Government shall conduct the original and final surveys and make the computations based on them. The Contractor shall conduct the surveys for any periods for which progress payments are requested and shall make the computations based on these surveys. All surveys conducted by the Contractor shall be conducted under the direction of a representative of the Contracting Officer, unless the Contracting Officer waives this requirement in a specific instance.

(c) Promptly upon completing a survey, the Contractor shall furnish the originals of all field notes and all other records relating to the survey or to the layout of the work to the Contracting Officer, who shall use them as necessary to determine the amount of progress payments. The Contractor shall retain copies of all such material furnished to the Contracting Officer.

(End of clause)

52.236-17 LAYOUT OF WORK (APR 1984)

The Contractor shall lay out its work from Government established base lines and bench marks indicated on the drawings, and shall be responsible for all measurements in connection with the layout. The Contractor shall furnish, at its own expense, all stakes, templates, platforms, equipment, tools, materials, and labor required to lay out any part of the work. The Contractor shall be responsible for executing the work to the lines and grades that may be established or indicated by the Contracting Officer. The Contractor shall also be responsible for maintaining and preserving all stakes and other marks established by the Contracting Officer until authorized to remove them. If such marks are destroyed by the Contractor or through its negligence before their removal is authorized, the Contracting Officer may replace them and deduct the expense of the replacement from any amounts due or to become due to the Contractor.

(End of clause)

52.236-21 SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (FEB 1997)

(a) The Contractor shall keep on the work site a copy of the drawings and specifications and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy in the figures, in the drawings, or in the specifications, the matter shall be promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at its own risk and expense. The Contracting Officer shall furnish from time to time such detailed drawings and other information as considered necessary, unless otherwise provided.

(b) Wherever in the specifications or upon the drawings the words "directed", "required", "ordered", "designated", "prescribed", or words of like import are used, it shall be understood that the "direction", "requirement", "order", "designation", or "prescription", of the Contracting Officer is intended and similarly the words "approved", "acceptable", "satisfactory", or words of like import shall mean "approved by," or "acceptable to", or "satisfactory to" the Contracting Officer, unless otherwise expressly stated.

(c) Where "as shown," as indicated", "as detailed", or words of similar import are used, it shall be understood that the reference is made to the drawings accompanying this contract unless stated otherwise. The word "provided" as used herein shall be understood to mean "provide complete in place," that is "furnished and installed".

(d) Shop drawings means drawings, submitted to the Government by the Contractor, subcontractor, or any lower tier

subcontractor pursuant to a construction contract, showing in detail (1) the proposed fabrication and assembly of structural elements, and (2) the installation (i.e., fit, and attachment details) of materials or equipment. It includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the contractor to explain in detail specific portions of the work required by the contract. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(e) If this contract requires shop drawings, the Contractor shall coordinate all such drawings, and review them for accuracy, completeness, and compliance with contract requirements and shall indicate its approval thereon as evidence of such coordination and review. Shop drawings submitted to the Contracting Officer without evidence of the Contractor's approval may be returned for resubmission. The Contracting Officer will indicate an approval or disapproval of the shop drawings and if not approved as submitted shall indicate the Government's reasons therefor. Any work done before such approval shall be at the Contractor's risk. Approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract, except with respect to variations described and approved in accordance with (f) below.

(f) If shop drawings show variations from the contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the Contracting Officer approves any such variation, the Contracting Officer shall issue an appropriate contract modification, except that, if the variation is minor or does not involve a change in price or in time of performance, a modification need not be issued.

(g) The Contractor shall submit to the Contracting Officer for approval four copies (unless otherwise indicated) of all shop drawings as called for under the various headings of these specifications. Three sets (unless otherwise indicated) of all shop drawings, will be retained by the Contracting Officer and one set will be returned to the Contractor.

(End of clause)

52.236-22 DESIGN WITHIN FUNDING LIMITATIONS (APR 1984)

(a) The Contractor shall accomplish the design services required under this contract so as to permit the award of a contract, using standard Federal Acquisition Regulation procedures for the construction of the facilities designed at a price that does not exceed the estimated construction contract price as set forth in paragraph (c) below. When bids or proposals for the construction contract are received that exceed the estimated price, the contractor shall perform such redesign and other services as are necessary to permit contract award within the funding limitation. These additional services shall be performed at no increase in the price of this contract. However, the Contractor shall not be required to perform such additional services at no cost to the Government if the unfavorable bids or proposals are the result of conditions beyond its reasonable control.

(b) The Contractor will promptly advise the Contracting Officer if it finds that the project being designed will exceed or is likely to exceed the funding limitations and it is unable to design a usable facility within these limitations. Upon receipt of such information, the Contracting Officer will review the Contractor's revised estimate of construction cost. The Government may, if it determines that the estimated construction contract price set forth in this contract is so low that award of a construction contract not in excess of such estimate is improbable, authorize a change in scope or materials as required to reduce the estimated construction cost to an amount within the estimated construction contract price set forth in paragraph (c) below, or the Government may adjust such estimated construction contract price. When bids or proposals are not solicited or are unreasonably delayed, the Government shall prepare an estimate of constructing the design submitted and such estimate shall be used in lieu of bids or proposals to determine compliance with the funding limitation.

(c) The estimated construction contract price for the project described in this contract is TBD per Task Order

(End of clause)

52.236-25 REQUIREMENTS FOR REGISTRATION OF DESIGNERS (JUN 2003)

Architects or engineers registered to practice in the particular professional field involved in a State, the District of Columbia, or an outlying area of the United States shall prepare or review and approve the design of architectural, structural, mechanical, electrical, civil, or other engineering features of the work.

(End of clause)

52.236-26 PRECONSTRUCTION CONFERENCE (FEB 1995)

If the Contracting Officer decides to conduct a preconstruction conference, the successful offeror will be notified and will be required to attend. The Contracting Officer's notification will include specific details regarding the date, time, and location of the conference, any need for attendance by subcontractors, and information regarding the items to be discussed.

(End of clause)

52.242-13 BANKRUPTCY (JUL 1995)

In the event the Contractor enters into proceedings relating to bankruptcy, whether voluntary or involuntary, the Contractor agrees to furnish, by certified mail or electronic commerce method authorized by the contract, written notification of the bankruptcy to the Contracting Officer responsible for administering the contract. This notification shall be furnished within five days of the initiation of the proceedings relating to bankruptcy filing. This notification shall include the date on which the bankruptcy petition was filed, the identity of the court in which the bankruptcy petition was filed, and a listing of Government contract numbers and contracting offices for all Government contracts against which final payment has not been made. This obligation remains in effect until final payment under this contract.

(End of clause)

52.242-14 SUSPENSION OF WORK (APR 1984)

(a) The Contracting Officer may order the Contractor, in writing, to suspend, delay, or interrupt all or any part of the work of this contract for the period of time that the Contracting Officer determines appropriate for the convenience of the Government.

(b) If the performance of all or any part of the work is, for an unreasonable period of time, suspended, delayed, or interrupted (1) by an act of the Contracting Officer in the administration of this contract, or (2) by the Contracting Officer's failure to act within the time specified in this contract (or within a reasonable time if not specified), an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) necessarily caused by the unreasonable suspension, delay, or interruption, and the contract modified in writing accordingly. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent that

performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor, or for which an equitable adjustment is provided for or excluded under any other term or condition of this contract. (c) A claim under this clause shall not be allowed (1) for any costs incurred more than 20 days before the Contractor shall have notified the Contracting Officer in writing of the act or failure to act involved (but this requirement shall not apply as to a claim resulting from a suspension order), and (2) unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of the suspension, delay, or interruption, but not later than the date of final payment under the contract.

(End of clause)

52.243-4 CHANGES (AUG 1987)

(a) The Contracting Officer may, at any time, without notice to the sureties, if any, by written order designated or indicated to be a change order, make changes in the work within the general scope of the contract, including changes--

(1) In the specifications (including drawings and designs);

(2) In the method or manner of performance of the work;

(3) In the Government-furnished facilities, equipment, materials, services, or site; or

(4) Directing acceleration in the performance of the work.

(b) Any other written or oral order (which, as used in this paragraph (b), includes direction, instruction, interpretation, or determination) from the Contracting Officer that causes a change shall be treated as a change order under this clause; provided, that the Contractor gives the Contracting Officer written notice stating

(1) the date, circumstances, and source of the order and

(2) that the Contractor regards the order as a change order.

(c) Except as provided in this clause, no order, statement, or conduct of the Contracting Officer shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment.

(d) If any change under this clause causes an increase or decrease in the Contractor's cost of, or the time required for, the performance of any part of the work under this contract, whether or not changed by any such order, the Contracting Officer shall make an equitable adjustment and modify the contract in writing. However, except for an adjustment based on defective specifications, no adjustment for any change under paragraph (b) of this clause shall be made for any costs incurred more than 20 days before the Contractor gives written notice as required. In the case of defective specifications for which the Government is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the Contractor in attempting to comply with the defective specifications.

(e) The Contractor must assert its right to an adjustment under this clause within 30 days after

(1) receipt of a written change order under paragraph (a) of this clause or (2) the furnishing of a written notice under paragraph (b) of this clause, by submitting to the Contracting Officer a written statement describing the general nature and amount of the proposal, unless this period is extended by the Government. The statement of proposal for adjustment may be included in the notice under paragraph (b) above.

(f) No proposal by the Contractor for an equitable adjustment shall be allowed if asserted after final payment under

this contract.

(End of clause)

52.244-6 SUBCONTRACTS FOR COMMERCIAL ITEMS (DEC 2004)

(a) Definitions.

"Commercial item", has the meaning contained in Federal Acquistion Regulation 2.101, Definitions.

"Subcontract", includes a transfer of commercial items between divisions, subsidiaries, or affiliates of the Contractor or subcontractor at any tier.

(b) To the maximum extent practicable, the Contractor shall incorporate, and require its subcontractors at all tiers to incorporate, commercial items or nondevelopmental items as components of items to be supplied under this contract.

(c) (1) The Contractor shall insert the following clauses in subcontracts for commercial items:

(i) 52.219-8, Utilization of Small Business Concerns (MAY 2004) (15 U.S.C. 637(d)(2) and (3)), in all subcontracts that offer further subcontracting opportunities. If the subcontract (except subcontracts to small business concerns) exceeds $500,000 ($1,000,000 for construction of any public facility), the subcontractor must include 52.219-8 in lower tier subcontracts that offer subcontracting opportunities.

(ii) 52.222-26, Equal Opportunity (Apr 2002) (E.O. 11246).

(iii) 52.222-35, Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era and Other Eligible Veterans (DEC 2001) (38 U.S.C. 4212(a)).

(iv) 52.222-36, Affirmative Action for Workers with Disabilities (JUN 1998) (29 U.S.C. 793).

(v) 52.222-39, Notification of Employee Rights Concerning Payment of Union Dues or Fees (DEC 2004) (E.O. 13201). Flow down as required in accordance with paragraph (g) of FAR clause 52.222-39).

(vi) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (APR 2003) (46 U.S.C. Appx 1241 and 10 U.S.C. 2631) (flow down required in accordance with paragraph (d) of FAR clause 52.247-64).

(2) While not required, the Contractor may flow down to subcontracts for commercial items a minimal number of additional clauses necessary to satisfy its contractual obligations.

(d) The Contractor shall include the terms of this clause, including this paragraph (d), in subcontracts awarded under this contract.

(End of clause)

52.246-12 INSPECTION OF CONSTRUCTION (AUG 1996)

(a) Definition. "Work" includes, but is not limited to, materials, workmanship, and manufacture and fabrication of components.

(b) The Contractor shall maintain an adequate inspection system and perform such inspections as will ensure that the work performed under the contract conforms to contract requirements. The Contractor shall maintain complete inspection records and make them available to the Government. All work shall be conducted under the general direction of the Contracting Officer and is subject to Government inspection and test at all places and at all reasonable times before acceptance to ensure strict compliance with the terms of the contract.

(c) Government inspections and tests are for the sole benefit of the Government and do not--

(1) Relieve the Contractor of responsibility for providing adequate quality control measures;

(2) Relieve the Contractor of responsibility for damage to or loss of the material before acceptance;

(3) Constitute or imply acceptance; or

(4) Affect the continuing rights of the Government after acceptance of the completed work under paragraph (i) of this section.

(d) The presence or absence of a Government inspector does not relieve the Contractor from any contract requirement, nor is the inspector authorized to change any term or condition of the specification without the Contracting Officer's written authorization.

(e) The Contractor shall promptly furnish, at no increase in contract price, all facilities, labor, and material reasonably needed for performing such safe and convenient inspections and tests as may be required by the Contracting Officer. The Government may charge to the Contractor any additional cost of inspection or test when work is not ready at the time specified by the Contractor for inspection or test, or when prior rejection makes reinspection or retest necessary. The Government shall perform all inspections and tests in a manner that will not unnecessarily delay the work. Special, full size, and performance tests shall be performed as described in the contract.

(f) The Contractor shall, without charge, replace or correct work found by the Government not to conform to contract requirements, unless in the public interest the Government consents to accept the work with an appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.

(g) If the Contractor does not promptly replace or correct rejected work, the Government may (1) by contract or otherwise, replace or correct the work and charge the cost to the Contractor or (2) terminate for default the Contractor's right to proceed.

(h) If, before acceptance of the entire work, the Government decides to examine already completed work by removing it or tearing it out, the Contractor, on request, shall promptly furnish all necessary facilities, labor, and material. If the work is found to be defective or nonconforming in any material respect due to the fault of the Contractor or its subcontractors, the Contractor shall defray the expenses of the examination and of satisfactory reconstruction. However, if the work is found to meet contract requirements, the Contracting Officer shall make an equitable adjustment for the additional services involved in the examination and reconstruction, including, if completion of the work was thereby delayed, an extension of time.

(i) Unless otherwise specified in the contract, the Government shall accept, as promptly as practicable after completion and inspection, all work required by the contract or that portion of the work the Contracting Officer determines can be accepted separately. Acceptance shall be final and conclusive except for latent defects, fraud, gross mistakes amounting to fraud, or the Government's rights under any warranty or guarantee.

(End of clause)

52.248-3 VALUE ENGINEERING--CONSTRUCTION (FEB 2000)

(a) General. The Contractor is encouraged to develop, prepare, and submit value engineering change proposals (VECP's) voluntarily. The Contractor shall share in any instant contract savings realized from accepted VECP's, in accordance with paragraph (f) below.

(b) Definitions. "Collateral costs," as used in this clause, means agency costs of operation, maintenance, logistic support, or Government-furnished property.

"Collateral savings," as used in this clause, means those measurable net reductions resulting from a VECP in the agency's overall projected collateral costs, exclusive of acquisition savings, whether or not the acquisition cost changes.

"Contractor's development and implementation costs," as used in this clause, means those costs the Contractor incurs on a VECP specifically in developing, testing, preparing, and submitting the VECP, as well as those costs the Contractor incurs to make the contractual changes required by Government acceptance of a VECP.

"Government costs," as used in this clause, means those agency costs that result directly from developing and implementing the VECP, such as any net increases in the cost of testing, operations, maintenance, and logistic support. The term does not include the normal administrative costs of processing the VECP.

"Instant contract savings," as used in this clause, means the estimated reduction in Contractor cost of performance resulting from acceptance of the VECP, minus allowable Contractor's development and implementation costs, including subcontractors' development and implementation costs (see paragraph (h) below).

"Value engineering change proposal (VECP)" means a proposal that--

(1) Requires a change to this, the instant contract, to implement; and

(2) Results in reducing the contract price or estimated cost without impairing essential functions or characteristics; provided, that it does not involve a change--

(i) In deliverable end item quantities only; or

(ii) To the contract type only.

(c) VECP preparation. As a minimum, the Contractor shall include in each VECP the information described in subparagraphs (1) through (7) below. If the proposed change is affected by contractually required configuration management or similar procedures, the instructions in those procedures relating to format, identification, and priority assignment shall govern VECP preparation. The VECP shall include the following:

(1) A description of the difference between the existing contract requirement and that proposed, the comparative advantages and disadvantages of each, a justification when an item's function or characteristics are being altered, and the effect of the change on the end item's performance.

(2) A list and analysis of the contract requirements that must be changed if the VECP is accepted, including any suggested specification revisions.

(3) A separate, detailed cost estimate for

(i) the affected portions of the existing contract requirement and

(ii) the VECP. The cost reduction associated with the VECP shall take into account the Contractor's allowable development and implementation costs, including any amount attributable to subcontracts under paragraph (h) below.

(4) A description and estimate of costs the Government may incur in implementing the VECP, such as test and evaluation and operating and support costs.

(5) A prediction of any effects the proposed change would have on collateral costs to the agency.

(6) A statement of the time by which a contract modification accepting the VECP must be issued in order to achieve the maximum cost reduction, noting any effect on the contract completion time or delivery schedule.

(7) Identification of any previous submissions of the VECP, including the dates submitted, the agencies and contract numbers involved, and previous Government actions, if known.

(d) Submission. The Contractor shall submit VECP's to the Resident Engineer at the worksite, with a copy to the Contracting Officer.

(e) Government action.

(1) The Contracting Officer will notify the Contractor of the status of the VECP within 45 calendar days after the contracting office receives it. If additional time is required, the Contracting Officer will notify the Contractor within the 45-day period and provide the reason for the delay and the expected date of the decision. The Government will process VECP's expeditiously; however, it shall not be liable for any delay in acting upon a VECP.

If the VECP is not accepted, the Contracting Officer will notify the Contractor in writing, explaining the reasons for rejection. The Contractor may withdraw any VECP, in whole or in part, at any time before it is accepted by the Government. The Contracting Officer may require that the Contractor provide written notification before undertaking significant expenditures for VECP effort.

Any VECP may be accepted, in whole or in part, by the Contracting Officer's award of a modification to this contract citing this clause. The Contracting Officer may accept the VECP, even though an agreement on price reduction has not been reached, by issuing the Contractor a notice to proceed with the change. Until a notice to proceed is issued or a contract modification applies a VECP to this contract, the Contractor shall perform in accordance with the existing contract. The decision to accept or reject all or part of any VECP is a unilateral decision made solely at the discretion of the Contracting Officer.

(f) Sharing.

(1) Rates. The Government's share of savings is determined by subtracting Government costs from instant contract savings and multiplying the result by

(i) 45 percent for fixed-price contracts or

(ii) 75 percent for cost-reimbursement contracts.

(2) Payment. Payment of any share due the Contractor for use of a VECP on this contract shall be authorized by a modification to this contract to--

(i) Accept the VECP;

(ii) Reduce the contract price or estimated cost by the amount of instant contract savings; and

(iii) Provide the Contractor's share of savings by adding the amount calculated to the contract price or fee.

(g) Collateral savings. If a VECP is accepted, the Contracting Officer will increase the instant contract amount by 20 percent of any projected collateral savings determined to be realized in a typical year of use after subtracting any Government costs not previously offset. However, the Contractor's share of collateral savings will not exceed the contract's firm-fixed-price or estimated cost, at the time the VECP is accepted, or $100,000, whichever is greater. The Contracting Officer is the sole determiner of the amount of collateral savings.

(h) Subcontracts. The Contractor shall include an appropriate value engineering clause in any subcontract of $50,000 or more and may include one in subcontracts of lesser value. In computing any adjustment in this contract's price under paragraph (f) above, the Contractor's allowable development and implementation costs shall include any subcontractor's allowable development and implementation costs clearly resulting from a VECP accepted by the Government under this contract, but shall exclude any value engineering incentive payments to a subcontractor. The Contractor may choose any arrangement for subcontractor value engineering incentive payments; provided, that these payments shall not reduce the Government's share of the savings resulting from the VECP.

(i) Data. The Contractor may restrict the Government's right to use any part of a VECP or the supporting data by marking the following legend on the affected parts:

"These data, furnished under the Value Engineering-- Construction clause of contract . . . . . , shall not be disclosed outside the Government or duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate a value engineering change proposal submitted under the clause. This restriction does not limit the Government's right to use information contained in these data if it has been obtained or is otherwise available from the Contractor or from another source without limitations." If a VECP is accepted, the Contractor hereby grants the Government unlimited rights in the VECP and supporting data, except that, with respect to data qualifying and submitted as limited rights technical data, the Government shall have the rights specified in the contract modification implementing the VECP and shall appropriately mark the data. (The terms "unlimited rights" and "limited rights" are defined in Part 27 of the Federal Acquisition Regulation.)

(End of clause)

52.249-2 TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED-PRICE) (MAY 2004)

(a) The Government may terminate performance of work under this contract in whole or, from time to time, in part if the Contracting Officer determines that a termination is in the Government's interest. The Contracting Officer shall terminate by delivering to the Contractor a Notice of Termination specifying the extent of termination and the effective date.

(b) After receipt of a Notice of Termination, and except as directed by the Contracting Officer, the Contractor shall immediately proceed with the following obligations, regardless of any delay in determining or adjusting any amounts due under this clause:

(1) Stop work as specified in the notice.

(2) Place no further subcontracts or orders (referred to as subcontracts in this clause) for materials, services, or facilities, except as necessary to complete the continued portion of the contract.

(3) Terminate all subcontracts to the extent they relate to the work terminated.

(4) Assign to the Government, as directed by the Contracting Officer, all right, title, and interest of the Contractor under the subcontracts terminated, in which case the Government shall have the right to settle or to pay any termination settlement proposal arising out of those terminations.

(5) With approval or ratification to the extent required by the Contracting Officer, settle all outstanding liabilities and termination settlement proposals arising from the termination of subcontracts; the approval or ratification will be final for purposes of this clause.

(6) As directed by the Contracting Officer, transfer title and deliver to the Government (i) the fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced or acquired for the work terminated, and (ii) the completed or partially completed plans, drawings, information, and other property that, if the contract had been completed, would be required to be furnished to the Government.

(7) Complete performance of the work not terminated.

(8) Take any action that may be necessary, or that the Contracting Officer may direct, for the protection and preservation of the property related to this contract that is in the possession of the Contractor and in which the Government has or may acquire an interest.

(9) Use its best efforts to sell, as directed or authorized by the Contracting Officer, any property of the types referred to in subparagraph (b)(6) of this clause; provided, however, that the Contractor (i) is not required to extend credit to any purchaser and (ii) may acquire the property under the conditions prescribed by, and at prices approved by, the Contracting Officer. The proceeds of any transfer or disposition will be applied to reduce any payments to be made by the Government under this contract, credited to the price or cost of the work, or paid in any other manner directed by the Contracting Officer.

(c) The Contractor shall submit complete termination inventory schedules no later than 120 days from the effective date of termination, unless extended in writing by the Contracting Officer upon written request of the Contractor within this 120-day period.

(d) After expiration of the plant clearance period as defined in Subpart 49.001 of the Federal Acquisition Regulation, the Contractor may submit to the Contracting Officer a list, certified as to quantity and quality, of termination inventory not previously disposed of, excluding items authorized for disposition by the Contracting Officer. The Contractor may request the Government to remove those items or enter into an agreement for their storage. Within 15 days, the Government will accept title to those items and remove them or enter into a storage agreement. The Contracting Officer may verify the list upon removal of the items, or if stored, within 45 days from submission of the list, and shall correct the list, as necessary, before final settlement.

(e) After termination, the Contractor shall submit a final termination settlement proposal to the Contracting Officer in the form and with the certification prescribed by the Contracting Officer. The Contractor shall submit the proposal promptly, but no later than 1 year from the effective date of termination, unless extended in writing by the Contracting Officer upon written request of the Contractor within this 1-year period. However, if the Contracting Officer determines that the facts justify it, a termination settlement proposal may be received and acted on after 1 year or any extension. If the Contractor fails to submit the proposal within the time allowed, the Contracting Officer may determine, on the basis of information available, the amount, if any, due the Contractor because of the termination and shall pay the amount determined.

(f) Subject to paragraph (e) of this clause, the Contractor and the Contracting Officer may agree upon the whole or any part of the amount to be paid or remaining to be paid because of the termination. The amount may include a reasonable allowance for profit on work done. However, the agreed amount, whether under this paragraph (g) or paragraph (g) of this clause, exclusive of costs shown in subparagraph (g)(3) of this clause, may not exceed the total contract price as reduced by (1) the amount of payments previously made and (2) the contract price of work not terminated. The contract shall be modified, and the Contractor paid the agreed amount. Paragraph (g) of this clause shall not limit, restrict, or affect the amount that may be agreed upon to be paid under this paragraph.

(g) If the Contractor and the Contracting Officer fail to agree on the whole amount to be paid because of the termination of work, the Contracting Officer shall pay the Contractor the amounts determined by the Contracting Officer as follows, but without duplication of any amounts agreed on under paragraph (f) of this clause:

(1) The contract price for completed supplies or services accepted by the Government (or sold or acquired under subparagraph (b)(9) of this clause) not previously paid for, adjusted for any saving of freight and other charges.

(2) The total of--

(i) The costs incurred in the performance of the work terminated, including initial costs and preparatory expense allocable thereto, but excluding any costs attributable to supplies or services paid or to be paid under subparagraph (f)(1) of this clause;

(ii) The cost of settling and paying termination settlement proposals under terminated subcontracts that are properly chargeable to the terminated portion of the contract if not included in subdivision (g)(2)(i) of this clause; and

(iii) A sum, as profit on subdivision (g)(2)(i) of this clause, determined by the Contracting Officer under 49.202 of the Federal Acquisition Regulation, in effect on the date of this contract, to be fair and reasonable; however, if it appears that the Contractor would have sustained a loss on the entire contract had it been completed, the Contracting Officer shall allow no profit under this subdivision (iii) and shall reduce the settlement to reflect the indicated rate of loss.

(3) The reasonable costs of settlement of the work terminated, including--

(i) Accounting, legal, clerical, and other expenses reasonably necessary for the preparation of termination settlement proposals and supporting data;

(ii) The termination and settlement of subcontracts (excluding the amounts of such settlements); and

(iii) Storage, transportation, and other costs incurred, reasonably necessary for the preservation, protection, or disposition of the termination inventory.

(h) Except for normal spoilage, and except to the extent that the Government expressly assumed the risk of loss, the Contracting Officer shall exclude from the amounts payable to the Contractor under paragraph (g) of this clause, the fair value, as determined by the Contracting Officer, of property that is destroyed, lost, stolen, or damaged so as to become undeliverable to the Government or to a buyer.

(i) The cost principles and procedures of Part 31 of the Federal Acquisition Regulation, in effect on the date of this contract, shall govern all costs claimed, agreed to, or determined under this clause.

(j) The Contractor shall have the right of appeal, under the Disputes clause, from any determination made by the Contracting Officer under paragraph (e), (g), or (l) of this clause, except that if the Contractor failed to submit the termination settlement proposal or request for equitable adjustment within the time provided in paragraph (e) or (l), respectively, and failed to request a time extension, there is no right of appeal.

(k) In arriving at the amount due the Contractor under this clause, there shall be deducted--

(1) All unliquidated advance or other payments to the Contractor under the terminated portion of this contract;

(2) Any claim which the Government has against the Contractor under this contract; and

(3) The agreed price for, or the proceeds of sale of, materials, supplies, or other things acquired by the Contractor or sold under the provisions of this clause and not recovered by or credited to the Government.

(l) If the termination is partial, the Contractor may file a proposal with the Contracting Officer for an equitable adjustment of the price(s) of the continued portion of the contract. The Contracting Officer shall make any equitable adjustment agreed upon. Any proposal by the Contractor for an equitable adjustment under this clause shall be requested within 90 days from the effective date of termination unless extended in writing by the Contracting Officer.

(m)(1) The Government may, under the terms and conditions it prescribes, make partial payments and payments against costs incurred by the Contractor for the terminated portion of the contract, if the Contracting Officer believes the total of these payments will not exceed the amount to which the Contractor will be entitled.

(2) If the total payments exceed the amount finally determined to be due, the Contractor shall repay the excess to the Government upon demand, together with interest computed at the rate established by the Secretary of the Treasury under 50 U.S.C. App. 1215(b)(2). Interest shall be computed for the period from the date the excess payment is received by the Contractor to the date the excess is repaid. Interest shall not be charged on any excess payment due to a reduction in the Contractor's termination settlement proposal because of retention or other disposition of termination inventory until 10 days after the date of the retention or disposition, or a later date determined by the Contracting Officer because of the circumstances.

(n) Unless otherwise provided in this contract or by statute, the Contractor shall maintain all records and documents relating to the terminated portion of this contract for 3 years after final settlement. This includes all books and other evidence bearing on the Contractor's costs and expenses under this contract. The Contractor shall make these records and documents available to the Government, at the Contractor's office, at all reasonable times, without any direct charge. If approved by the Contracting Officer, photographs, microphotographs, or other authentic reproductions may be maintained instead of original records and documents.

(End of clause)

52.249-10 DEFAULT (FIXED-PRICE CONSTRUCTION) (APR 1984)

(a) If the Contractor refuses or fails to prosecute the work or any separable part, with the diligence that will insure its completion within the time specified in this contract including any extension, or fails to complete the work within this time, the Government may, by written notice to the Contractor, terminate the right to proceed with the work (or the separable part of the work) that has been delayed. In this event, the Government may take over the work and complete it by contract or otherwise, and may take possession of and use any materials, appliances, and plant on the work site necessary for completing the work. The Contractor and its sureties shall be liable for any damage to the Government resulting from the Contractor's refusal or failure to complete the work within the specified time, whether or not the Contractor's right to proceed with the work is terminated. This liability includes any increased costs incurred by the Government in completing the work.

(b) The Contractor's right to proceed shall not be terminated nor the Contractor charged with damages under this clause, if--

(1) The delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include

(i) acts of God or of the public enemy,

(ii) acts of the Government in either its sovereign or contractual capacity,

(iii) acts of another Contractor in the performance of a contract with the Government,

(iv) fires,

(v) floods,

(vi) epidemics,

(vii) quarantine restrictions,

(viii) strikes,

(ix) freight embargoes,

(x) unusually severe weather, or delays of subcontractors or suppliers at any tier arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and the subcontractors or suppliers; and

(2) The Contractor, within 10 days from the beginning of any delay (unless extended by the Contracting Officer), notifies the Contracting Officer in writing of the causes of delay. The Contracting Officer shall ascertain the facts and the extent of delay. If, in the judgment of the Contracting Officer, the findings of fact warrant such action, the time for completing the work shall be extended. The findings of the Contracting Officer shall be final and conclusive on the parties, but subject to appeal under the Disputes clause.

(c) If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been issued for the convenience of the Government.

The rights and remedies of the Government in this clause are in addition to any other rights and remedies provided by law or under this contract.

(End of clause)

52.253-1 COMPUTER GENERATED FORMS (JAN 1991)

(a) Any data required to be submitted on a Standard or Optional Form prescribed by the Federal Acquisition Regulation (FAR) may be submitted on a computer generated version of the form, provided there is no change to the name, content, or sequence of the data elements on the form, and provided the form carries the Standard or Optional Form number and edition date.

(b) Unless prohibited by agency regulations, any data required to be submitted on an agency unique form prescribed by an agency supplement to the FAR may be submitted on a computer generated version of the form provided there is no change to the name, content, or sequence of the data elements on the form and provided the form carries the agency form number and edition date.

(h) If the Contractor submits a computer generated version of a form that is different than the required form, then the rights and obligations of the parties will be determined based on the content of the required form.

(End of clause)

252.201-7000 CONTRACTING OFFICER'S REPRESENTATIVE (DEC 1991)

(a) "Definition. Contracting officer's representative" means an individual designated in accordance with subsection 201.602-2 of the Defense Federal Acquisition Regulation Supplement and authorized in writing by the contracting officer to perform specific technical or administrative functions.

(b) If the Contracting Officer designates a contracting officer's representative (COR), the Contractor will receive a copy of the written designation. It will specify the extent of the COR's authority to act on behalf of the contracting officer. The COR is not authorized to make any commitments or changes that will affect price, quality, quantity, delivery, or any other term or condition of the contract.

(End of clause)

252.203-7001 PROHIBITION ON PERSONS CONVICTED OF FRAUD OR OTHER DEFENSE-CONTRACT-RELATED FELONIES (DEC 2004)

(a) Definitions. As used in this clause—

(1) “Arising out of a contract with the DoD” means any act in connection with—

(i) Attempting to obtain;

(ii) Obtaining, or

(iii) Performing a contract or first-tier subcontract of any agency, department, or component of the Department of Defense (DoD).

(2) “Conviction of fraud or any other felony” means any conviction for fraud or a felony in violation of state or Federal criminal statutes, whether entered on a verdict or plea, including a plea of nolo contendere, for which sentence has been imposed.

(3) “Date of conviction” means the date judgment was entered against the individual.

(b) Any individual who is convicted after September 29, 1988, of fraud or any other felony arising out of a contract with the DoD is prohibited from serving--

(1) In a management or supervisory capacity on this contract;

(2) On the board of directors of the Contractor;

(3) As a consultant, agent, or representative for the Contractor; or

(4) In any other capacity with the authority to influence, advise, or control the decisions of the Contractor with regard to this contract.

(c) Unless waived, the prohibition in paragraph (b) of this clause applies for not less than 5 years from the date of conviction.

(d) 10 U.S.C. 2408 provides that the Contractor shall be subject to a criminal penalty of not more than $500,000 if convicted of knowingly--

(1) Employing a person under a prohibition specified in paragraph (b) of this clause; or

(2) Allowing such a person to serve on the board of directors of the contractor or first-tier subcontractor.

(e) In addition to the criminal penalties contained in 10 U.S.C. 2408, the Government may consider other available remedies, such as—

(1) Suspension or debarment;

(2) Cancellation of the contract at no cost to the Government; or

(3) Termination of the contract for default.

(f) The Contractor may submit written requests for waiver of the prohibition in paragraph (b) of this clause to the Contracting Officer. Requests shall clearly identify—

(1) The person involved;

(2) The nature of the conviction and resultant sentence or punishment imposed;

(3) The reasons for the requested waiver; and

(4) An explanation of why a waiver is in the interest of national security.

(g) The Contractor agrees to include the substance of this clause, appropriately modified to reflect the identity and relationship of the parties, in all first-tier subcontracts exceeding the simplified acquisition threshold in Part 2 of the Federal Acquisition Regulation, except those for commercial items or components.

(h) Pursuant to 10 U.S.C. 2408(c), defense contractors and subcontractors may obtain information as to whether a particular person has been convicted of fraud or any other felony arising out of a contract with the DoD by contacting The Office of Justice Programs, The Denial of Federal Benefits Office, U.S. Department of Justice, telephone (301) 809-4904.

(End of clause)

252.203-7002 DISPLAY OF DOD HOTLINE POSTER (DEC 1991)

(a) The Contractor shall display prominently in common work areas within business segments performing work under Department of Defense (DoD) contracts, DoD Hotline Posters prepared by the DoD Office of the Inspector General.

(b) DoD Hotline Posters may be obtained from the DoD Inspector General, ATTN: Defense Hotline, 400 Army Navy Drive, Washington, DC 22202-2884.

(i) The Contractor need not comply with paragraph (a) of this clause if it has established a mechanism, such as a hotline, by which employees may report suspected instances of improper conduct, and instructions that encourage employees to make such reports.

(End of clause)

252.204-7000 DISCLOSURE OF INFORMATION (DEC 1991)

(a) The Contractor shall not release to anyone outside the Contractor's organization any unclassified information, regardless of medium (e.g., film, tape, document), pertaining to any part of this contract or any program related to this contract, unless--

(1) The Contracting Officer has given prior written approval; or

(2) The information is otherwise in the public domain before the date of release.

(b) Requests for approval shall identify the specific information to be released, the medium to be used, and the purpose for the release. The Contractor shall submit its request to the Contracting Officer at least 45 days before the proposed date for release.

(c) The Contractor agrees to include a similar requirement in each subcontract under this contract. Subcontractors shall submit requests for authorization to release through the prime contractor to the Contracting Officer.

(End of clause)

252.204-7003 CONTROL OF GOVERNMENT PERSONNEL WORK PRODUCT (APR 1992)

The Contractor's procedures for protecting against unauthorized disclosure of information shall not require Department of Defense employees or members of the Armed Forces to relinquish control of their work products, whether classified or not, to the contractor.

(End of clause)

252.204-7004 CENTRAL CONTRACTOR REGISTRATION (52.204-7) ALTERNATE A (NOV 2003)

(a) Definitions. As used in this clause--

“Central Contractor Registration (CCR) database” means the primary Government repository for contractor information required for the conduct of business with the Government.

“Commercial and Government Entity (CAGE) code” means--

(1) A code assigned by the Defense Logistics Information Service (DLIS) to identify a commercial or Government entity; or

(2) A code assigned by a member of the North Atlantic Treaty Organization that DLIS records and maintains in the CAGE master file. This type of code is known as an “NCAGE code.”

“Data Universal Numbering System (DUNS) number” means the 9-digit number assigned by Dun and Bradstreet, Inc. (D&B) to identify unique business entities.

“Data Universal Numbering System +4 (DUNS+4) number” means the DUNS number assigned by D&B plus a 4-character suffix that may be assigned by a business concern. (D&B has no affiliation with this 4-character suffix.) This 4-character suffix may be assigned at the discretion of the business concern to establish additional CCR records for identifying alternative Electronic Funds Transfer (EFT) accounts (see Subpart 32.11 of the Federal Acquisition Regulation) for the same parent concern.

“Registered in the CCR database” means that--

(1) The Contractor has entered all mandatory information, including the DUNS number or the DUNS+4 number, into the CCR database;

(2) The Contractor's CAGE code is in the CCR database; and

(3) The Government has validated all mandatory data fields and has marked the records “Active.”

(b)(1) By submission of an offer, the offeror acknowledges the requirement that a prospective awardee shall be registered in the CCR database prior to award, during performance, and through final payment of any contract, basic agreement, basic ordering agreement, or blanket purchasing agreement resulting from this solicitation.

(2) The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation "DUNS" or "DUNS +4" followed by the DUNS or DUNS +4 number that identifies the offeror's name and address exactly as stated in the offer. The DUNS number will be used by the Contracting Officer to verify that the offeror is registered in the CCR database.

(c) If the offeror does not have a DUNS number, it should contact Dun and Bradstreet directly to obtain one.

(1) An offeror may obtain a DUNS number-

(i) If located within the United States, by calling Dun and Bradstreet at 1-866-705-5711 or via the Internet at http://www.dnb.com; or

(ii) If located outside the United States, by contacting the local Dun and Bradstreet office.

(2) The offeror should be prepared to provide the following information:

(i) Company legal business.

(ii) Tradestyle, doing business, or other name by which your entity is commonly recognized.

(iii) Company Physical Street Address, City, State, and Zip Code.

(iv) Company Mailing Address, City, State and Zip Code (if separate from physical).

(v) Company Telephone Number.

(vi) Date the company was started.

(vii) Number of employees at your location.

(viii) Chief executive officer/key manager.

(ix) Line of business (industry).

(x) Company Headquarters name and address (reporting relationship within your entity).

(d) If the Offeror does not become registered in the CCR database in the time prescribed by the Contracting Officer, the Contracting Officer will proceed to award to the next otherwise successful registered Offeror.

(e) Processing time, which normally takes 48 hours, should be taken into consideration when registering. Offerors who are not registered should consider applying for registration immediately upon receipt of this solicitation.

(f) The Contractor is responsible for the accuracy and completeness of the data within the CCR database, and for any liability resulting from the Government's reliance on inaccurate or incomplete data. To remain registered in the CCR database after the initial registration, the Contractor is required to review and update on an annual basis from the date of initial registration or subsequent updates its information in the CCR database to ensure it is current, accurate and complete. Updating information in the CCR does not alter the terms and conditions of this contract and is not a substitute for a properly executed contractual document.

(g)
(1)
(i) If a Contractor has legally changed its business name, "doing business as" name, or division name (whichever is shown on the contract), or has transferred the assets used in performing the contract, but has not completed the necessary requirements regarding novation and change-of-name agreements in Subpart 42.12, the Contractor shall provide the responsible Contracting Officer a minimum of one business day's written notification of its intention to (A) change the name in the CCR database; (B) comply with the requirements of Subpart 42.12 of the FAR; and (C) agree in writing to the timeline and procedures specified by the responsible Contracting Officer. The Contractor must provide with the notification sufficient documentation to support the legally changed name.

(ii) If the Contractor fails to comply with the requirements of paragraph (g)(1)(i) of this clause, or fails to perform the agreement at paragraph (g)(1)(i)(C) of this clause, and, in the absence of a properly executed novation or change-of-name agreement, the CCR information that shows the Contractor to be other than the Contractor indicated in the contract will be considered to be incorrect information within the meaning of the "Suspension of Payment" paragraph of the electronic funds transfer (EFT) clause of this contract.

(2) The Contractor shall not change the name or address for EFT payments or manual payments, as appropriate, in the CCR record to reflect an assignee for the purpose of assignment of claims (see FAR Subpart 32.8, Assignment of Claims). Assignees shall be separately registered in the CCR database. Information provided to the Contractor's CCR record that indicates payments, including those made by EFT, to an ultimate recipient other than that Contractor will be considered to be incorrect information within the meaning of the "Suspension of payment" paragraph of the EFT clause of this contract.

(h) Offerors and Contractors may obtain information on registration and annual confirmation requirements via the internet at http://www.ccr.gov or by calling 1-888-227-2423, or 269-961-5757.

(End of clause)

252.209-7004 SUBCONTRACTING WITH FIRMS THAT ARE OWNED OR CONTROLLED BY THE GOVERNMENT OF A TERRORIST COUNTRY (MAR 1998)

(a) Unless the Government determines that there is a compelling reason to do so, the Contractor shall not enter into any subcontract in excess of $25,000 with a firm, or subsidiary of a firm, that is identified, on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs, as being ineligible for the award of Defense contracts or subcontracts because it is owned or controlled by the government of a terrorist country.

(b) A corporate officer or a designee of the Contractor shall notify the Contracting Officer, in writing, before entering into a subcontract with a party that is identified, on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs, as being ineligible for the award of Defense contracts or subcontracts because it is owned or controlled by the government of a terrorist country. The notice must include the name of the proposed subcontractor notwithstanding its inclusion on the List of Parties Excluded From Federal Procurement and

Nonprocurement Programs.

(End of clause)

252.215-7000 PRICING ADJUSTMENTS (DEC 1991)

The term "pricing adjustment," as used in paragraph (a) of the clauses entitled "Price Reduction for Defective Cost or Pricing Data - Modifications," "Subcontractor Cost or Pricing Data," and "Subcontractor Cost or Pricing Data - Modifications," means the aggregate increases and/or decreases in cost plus applicable profits.

(End of clause)

252.219-7003 SMALL, SMALL DISADVANTAGED AND WOMEN-OWNED SMALL BUSINESS SUBCONTRACTING PLAN (DOD CONTRACTS) (APR. 1996)

This clause supplements the Federal Acquisition Regulation 52.219-9, Small, Small Disadvantaged and Women-Owned Small Business Subcontracting Plan, clause of this contract.

(a) *Definitions. Historically black colleges and universities,* as used in this clause, means institutions determined by the Secretary of Education to meet the requirements of 34 CFR 608.2. The term also means any nonprofit research institution that was an integral part of such a college or university before November 14, 1986.

Minority institutions, as used in this clause, means institutions meeting the requirements of section 1046(3) of the Higher Education Act of 1965 (20 U.S.C. 1135d-5(3)). The term also includes Hispanic-serving institutions as defined in section 316(b)(1) of such Act (20 U.S.C. 1059c(b)(1)).

(b) Except for company or division-wide commercial items subcontracting plans, the term *small disadvantaged business,* when used in the FAR 52.219-9 clause, includes historically black colleges and universities and minority institutions, in addition to small disadvantaged business concerns.

(c) Work under the contract or its subcontracts shall be credited toward meeting the small disadvantaged business concern goal required by paragraph (d) of the FAR 52.219-9 clause when:

(1) It is performed on Indian lands or in joint venture with an Indian tribe or a tribally-owned corporation, and

(2) It meets the requirements of 10 U.S.C. 2323a.

(d) Subcontracts awarded to workshops approved by the Committee for Purchase from People Who are Blind or Severely Disabled (41 U.S.C. 46-48), may be counted toward the Contractor's small business subcontracting goal.

(e) A mentor firm, under the Pilot Mentor-Protege Program established under Section 831 of Pub. L. 101-510, as amended, may count toward its small disadvantaged business goal, subcontracts awarded--

(f) The master plan approval referred to in paragraph (f) of the FAR 52.219-9 clause is approval by the Contractor's cognizant contract administration activity.

(g) In those subcontracting plans which specifically identify small, small disadvantaged, and women-owned small businesses, the Contractor shall notify the Administrative Contracting Officer of any substitutions of firms that are not small, small disadvantaged, or women-owned small businesses for the firms listed in the subcontracting plan.

Notifications shall be in writing and shall occur within a reasonable period of time after award of the subcontract. Contractor-specified formats shall be acceptable.

(End of clause)

252.222-7000 RESTRICTIONS ON EMPLOYMENT OF PERSONNEL (MAR 2000)

(a) The Contractor shall employ, for the purpose of performing that portion of the contract work in Alaska, individuals who are residents thereof and who, in the case of any craft or trade, possess or would be able to acquire promptly the necessary skills to perform the contract.

(b) The Contractor shall insert the substance of this clause, including this paragraph (b), in each subcontract awarded under this contract.

(End of clause)

252.223-7001 HAZARD WARNING LABELS (DEC 1991)

(a) "Hazardous material," as used in this clause, is defined in the Hazardous Material Identification and Material Safety Data clause of this contract.

(b) The Contractor shall label the item package (unit container) of any hazardous material to be delivered under this contract in accordance with the Hazard Communication Standard (29 CFR 1910.1200 et seq). The Standard requires that the hazard warning label conform to the requirements of the standard unless the material is otherwise subject to the labeling requirements of one of the following statutes:

(1) Federal Insecticide, Fungicide and Rodenticide Act;

(2) Federal Food, Drug and Cosmetics Act;

(3) Consumer Product Safety Act;

(4) Federal Hazardous Substances Act; or

(5) Federal Alcohol Administration Act.

(c) The Offeror shall list which hazardous material listed in the Hazardous Material Identification and Material Safety Data clause of this contract will be labeled in accordance with one of the Acts in paragraphs (b)(1) through (5) of this clause instead of the Hazard Communication Standard. Any hazardous material not listed will be interpreted to mean that a label is required in accordance with the Hazard Communication Standard.

MATERIAL (If None, Insert "None.")	ACT
_____	_____
_____	_____

(d) The apparently successful Offeror agrees to submit, before award, a copy of the hazard warning label for all hazardous materials not listed in paragraph (c) of this clause. The Offeror shall submit the label with the Material Safety Data Sheet being furnished under the Hazardous Material Identification and Material Safety Data clause of this contract.

(e) The Contractor shall also comply with MIL-STD-129, Marking for Shipment and Storage (including revisions adopted during the term of this contract).

(End of clause)

252.223-7004 DRUG-FREE WORK FORCE (SEP 1988)

(a) Definitions.

(1) "Employee in a sensitive position," as used in this clause, means an employee who has been granted access to classified information; or employees in other positions that the Contractor determines involve national security; health or safety, or functions other than the foregoing requiring a high degree of trust and confidence.

(2) "Illegal drugs," as used in this clause, means controlled substances included in Schedules I and II, as defined by section 802(6) of title 21 of the United States Code, the possession of which is unlawful under chapter 13 of that Title. The term "illegal drugs" does not mean the use of a controlled substance pursuant to a valid prescription or other uses authorized by law.

(b) The Contractor agrees to institute and maintain a program for achieving the objective of a drug-free work force. While this clause defines criteria for such a program, contractors are encouraged to implement alternative approaches comparable to the criteria in paragraph (c) that are designed to achieve the objectives of this clause.

(c) Contractor programs shall include the following, or appropriate alternatives:

(1) Employee assistance programs emphasizing high level direction, education, counseling, rehabilitation, and coordination with available community resources;

(2) Supervisory training to assist in identifying and addressing illegal drug use by Contractor employees;

(3) Provision for self-referrals as well as supervisory referrals to treatment with maximum respect for individual confidentiality consistent with safety and security issues;

(4) Provision for identifying illegal drug users, including testing on a controlled and carefully monitored basis. Employee drug testing programs shall be established taking account of the following:

(i) The Contractor shall establish a program that provides for testing for the use of illegal drugs by employees in sensitive positions. The extent of and criteria for such testing shall be determined by the Contractor based on considerations that include the nature of the work being performed under the contract, the employee's duties, and efficient use of Contractor resources, and the risks to health, safety, or national security that could result from the failure of an employee adequately to discharge his or her position.

(ii) In addition, the Contractor may establish a program for employee drug testing--

(A) When there is a reasonable suspicion that an employee uses illegal drugs; or

(B) When an employees has been involved in an accident or unsafe practice;

(C) As part of or as a follow-up to counseling or rehabilitation for illegal drug use;

(D) As part of a voluntary employee drug testing program.

(iii) The Contractor may establish a program to test applicants for employment for illegal drug use.

(iv) For the purpose of administering this clause, testing for illegal drugs may be limited to those substances for which testing is prescribed by section 2..1 of subpart B of the "Mandatory Guidelines for Federal Workplace Drug Testing Programs" (53 FR 11980 (April 11, 1988), issued by the Department of Health and Human Services.

(d) Contractors shall adopt appropriate personnel procedures to deal with employees who are found to be using drugs illegally. Contractors shall not allow any employee to remain on duty or perform in a sensitive position who is found to use illegal drugs until such times as the Contractor, in accordance with procedures established by the Contractor, determines that the employee may perform in such a position.

(e) The provisions of this clause pertaining to drug testing program shall not apply to the extent that are inconsistent with state or local law, or with an existing collective bargaining agreement; provided that with respect to the latter, the Contractor agrees those issues that are in conflict will be a subject of negotiation at the next collective bargaining session.

(End of clause)

252.223-7006 PROHIBITION ON STORAGE AND DISPOSAL OF TOXIC AND HAZARDOUS MATERIALS (APR 1993)

(a) "Definitions".

As used in this clause --

(1) "Storage" means a non-transitory, semi-permanent or permanent holding, placement, or leaving of material. It does not include a temporary accumulation of a limited quantity of a material used in or a waste generated or resulting from authorized activities, such as servicing, maintenance, or repair of Department of Defense (DoD) items, equipment, or facilities.

(2) "Toxic or hazardous materials" means:

(i) Materials referred to in section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 (42 U.S.C. 9601(14)) and materials designated under section 102 of CERCLA (42 U.S.C. 9602) (40 CFR part 302);

(ii) Materials that are of an explosive, flammable, or pyrotechnic nature; or

(iii) Materials otherwise identified by the Secretary of Defense as specified in DoD regulations.

(b) In accordance with 10 U.S.C. 2692, the Contractor is prohibited from storing or disposing of non-DoD-owned toxic or hazardous materials on a DoD installation, except to the extent authorized by a statutory exception to 10 U.S.C. 2692 or as authorized by the Secretary of Defense or his designee.

(End of clause)

252.226-7001 UTILIZATION OF INDIAN ORGANIZATIONS AND INDIAN-OWNED ECONOMIC ENTERPRISES, AND NATIVE HAWAIIAN SMALL BUSINESS CONCERNS (SEP 2004)

(a) Definitions. As used in this clause--

Indian means--

(1) Any person who is a member of any Indian tribe, band, group, pueblo, or community that is recognized by the Federal Government as eligible for services from the Bureau of Indian Affairs (BIA) in accordance with 25 U.S.C. 1452(c); and

(2) Any ``Native'' as defined in the Alaska Native Claims Settlement Act (43 U.S.C. 1601 et seq.).

Indian organization means the governing body of any Indian tribe or entity established or recognized by the governing body of an Indian tribe for the purposes of 25 U.S.C. chapter 17.

Indian-owned economic enterprise means any Indian-owned (as determined by the Secretary of the Interior) commercial, industrial, or business activity established or organized for the purpose of profit, provided that Indian ownership constitutes not less than 51 percent of the enterprise.

Indian tribe means any Indian tribe, band, group, pueblo, or community, including native villages and native groups (including corporations organized by Kenai, Juneau, Sitka, and Kodiak) as defined in the Alaska Native Claims Settlement Act, that is recognized by the Federal Government as eligible for services from BIA in accordance with 25 U.S.C. 1452(c).

Interested party means a contractor or an actual or prospective offeror whose direct economic interest would be affected by the award of a subcontract or by the failure to award a subcontract.

Native Hawaiian small business concern means an entity that is --

(1) A small business concern as defined in section 3 of the Small Business Act (15 U.S.C. 632) and relevant implementing regulations; and

(2) Owned and controlled by a Native Hawaiian as defined in 25 U.S.C. 4221(9).

(b) The Contractor shall use its best efforts to give Indian organizations, Indian-owned economic enterprises, and Native Hawaiian small business concerns the maximum practicable opportunity to participate in the subcontracts it awards, to the fullest extent consistent with efficient performance of the contract.

(c) The Contracting Officer and the Contractor, acting in good faith, may rely on the representation of an Indian organization, Indian-owned economic enterprise, or Native Hawaiian small business concern as to its eligibility, unless an interested party challenges its status or the Contracting Officer has independent reason to question that status.

(d) In the event of a challenge to the representation of a subcontractor, the Contracting Officer will refer the matter to--

(1) For matters relating to Indian organizations or Indian-owned economic enterprises: U.S. Department of the Interior, Bureau of Indian Affairs, Attn: Chief, Division of Contracting and Grants Administration, 1849 C Street NW, MS-2626-MIB, Washington, DC 20240-4000. The BIA will determine the eligibility and will notify the Contracting Officer.

(2) For matters relating to Native Hawaiian small business concerns: Department of Hawaiian Home Lands, PO Box 1879, Honolulu, HI 96805. The Department of Hawaiian Home Lands will determine the eligibility and will notify the Contracting Officer.

(e) No incentive payment will be made--

(1) While a challenge is pending; or

(2) If a subcontractor is determined to be an ineligible participant.

(f)(1) The Contractor, on its own behalf or on behalf of a subcontractor at any tier, may request an incentive payment in accordance with this clause.

(2) The incentive amount that may be requested is 5 percent of the estimated cost, target cost, or fixed price included in the subcontract at the time of award to the Indian organization, Indian-owned economic enterprise, or Native Hawaiian small business concern.

(3) In the case of a subcontract for commercial items, the Contractor may receive an incentive payment only if the subcontracted items are produced or manufactured in whole or in part by an Indian organization, Indian-owned economic enterprise, or Native Hawaiian small business concern.

(4) The Contractor has the burden of proving the amount claimed and shall assert its request for an incentive payment prior to completion of contract performance.

(5) The Contracting Officer, subject to the terms and conditions of the contract and the availability of funds, will authorize an incentive payment of 5 percent of the estimated cost, target cost, or fixed price included in the subcontract awarded to the Indian organization, Indian-owned economic enterprise, or Native Hawaiian small business concern.

(6) If the Contractor requests and receives an incentive payment on behalf of a subcontractor, the Contractor is obligated to pay the subcontractor the incentive amount.

(g) The Contractor shall insert the substance of this clause, including this paragraph (g), in all subcontracts exceeding $500,000.
(End of clause)

252.227-7022 GOVERNMENT RIGHTS (UNLIMITED) (MAR 1979)

The Government shall have unlimited rights, in all drawings, designs, specifications, notes and other works developed in the performance of this contract, including the right to use same on any other Government design or construction without additional compensation to the Contractor. The Contractor hereby grants to the Government a paid-up license throughout the world to all such works to which he may assert or establish any claim under design patent or copyright laws. The Contractor for a period of three (3) years after completion of the project agrees to furnish the original or copies of all such works on the request of the Contracting Officer.

(End of clause)

252.227-7024 NOTICE AND APPROVAL OF RESTRICTED DESIGNS (APR 1984)

In the performance of this contract, the Contractor shall, to the extent practicable, make maximum use of structures, machines, products, materials, construction methods, and equipment that are readily available through Government or competitive commercial channels, or through standard or proven production techniques, methods, and processes.

Unless approved by the Contracting Officer, the Contractor shall not produce a design or specification that requires in this construction work the use of structures, products, materials, construction equipment, or processes that are known by the Contractor to be available only from a sole source. The Contractor shall promptly report any such design or specification to the Contracting Officer and give the reason why it is considered necessary to so restrict the design or specification.

(End of clause)

252.227-7033 RIGHTS IN SHOP DRAWINGS (APR 1966)

(a) Shop drawings for construction means drawings, submitted to the Government by the Construction Contractor, subcontractor or any lower-tier subcontractor pursuant to a construction contract, showing in detail (i) the proposed fabrication and assembly of structural elements and (ii) the installation (i.e., form, fit, and attachment details) of materials or equipment. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(b) This clause, including this paragraph (b), shall be included in all subcontracts hereunder at any tier.

252.231-7000 SUPPLEMENTAL COST PRINCIPLES (DEC 1991)

When the allowability of costs under this contract is determined in accordance with part 31 of the Federal Acquisition Regulation (FAR), allowability shall also be determined in accordance with part 231 of the Defense FAR Supplement, in effect on the date of this contract.

(End of clause)

252.236-7000 MODIFICATION PROPOSALS - PRICE BREAKDOWN. (DEC 1991)

(a) The Contractor shall furnish a price breakdown, itemized as required and within the time specified by the Contracting Officer, with any proposal for a contract modification.

(b) The price breakdown --

(1) Must include sufficient detail to permit an analysis of profit, and of all costs for --

(i) Material;

(ii) Labor;

(iii) Equipment;

(iv) Subcontracts; and

(v) Overhead; and

(2) Must cover all work involved in the modification, whether the work was deleted, added, or changed.

(c) The Contractor shall provide similar price breakdowns to support any amounts claimed for subcontracts.

(d) The Contractor's proposal shall include a justification for any time extension proposed.

252.236-7001 CONTRACT DRAWINGS, MAPS, AND SPECIFICATIONS (AUG 2000)

(a) The Government will provide to the Contractor, without charge, one set of contract drawings and specifications, except publications incorporated into the technical provisions by reference, in electronic or paper media as chosen by the Contracting Officer.

(b) The Contractor shall--

(1) Check all drawings furnished immediately upon receipt;

(2) Compare all drawings and verify the figures before laying out the work;

(3) Promptly notify the Contracting Officer of any discrepancies;

(4) Be responsible for any errors that might have been avoided by complying with this paragraph (b); and

(5) Reproduce and print contract drawings and specifications as needed.

(c) In general--

(1) Large-scale drawings shall govern small-scale drawings; and

(2) The Contractor shall follow figures marked on drawings in preference to scale measurements.

(d) Omissions from the drawings or specifications or the misdescription of details of work that are manifestly necessary to carry out the intent of the drawings and specifications, or that are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of the work. The Contractor shall perform such details as if fully and correctly set forth and described in the drawings and specifications.

(e) The work shall conform to the specifications and the contract drawings identified on the following index of drawings:

Title File Drawing No.

**TBD per Task Order

(End of clause)

252.236-7003 PAYMENT FOR MOBILIZATION AND PREPARATORY WORK (JAN 1997)

(a)The Government will make payment to the Contractor under the procedures in this clause for mobilization and preparatory work under item no. SEE TASK ORDERS

(b)Payments will be made for actual payments by the Contractor on work preparatory to commencing actual work on the construction items for which payment is provided under the terms of this contract, as follows--

(1)For construction plant and equipment exceeding $25,000 in value per unit (as appraised by the Contracting Officer

at the work site) acquired for the execution of the work;

(2) Transportation of all plant and equipment to the site;

(3)Material purchased for the prosecution of the contract, but not to be incorporated in the work;

(4)Construction of access roads or railroads, camps, trailer courts, mess halls, dormitories or living quarters, field headquarters facilities, and construction yards;

(5) Personal services; and

(6) Hire of plant.

(c) Requests for payment must include--

(1) An account of the Contractor's actual expenditures;

(2)Supporting documentation, including receipted bills or certified copies of payrolls and freight bills; and

(3) The Contractor's documentation--

(i)Showing that it has acquired the construction plant, equipment, and material free from all encumbrances;

(ii)Agreeing that the construction plant, equipment, and material will not be removed from the site without the written permission of the Contracting Officer; and

(iii)Agreeing that structures and facilities prepared or erected for the prosecution of the contract work will be maintained and not dismantled prior to the completion and acceptance of the entire work, without the written permission of the Contracting Officer.

(d)Upon receiving a request for payment, the Government will make payment, less any prescribed retained percentage, if--

(1) The Contracting Officer finds the--

(i)Construction plant, material, equipment, and the mobilization and preparatory work performed are suitable and necessary to the efficient prosecution of the contract; and

(ii)Preparatory work has been done with proper economy and efficiency.

(2)Payments for construction plant, equipment, material, and structures and facilities prepared or erected for prosecution of the contract work do not exceed--

(i)The Contractor's cost for the work performed less the estimated value upon completion of the contract; and

(ii)100 percent of the cost to the contractor of any items having no appreciable salvage value; and

(iii)75 percent of the cost to the contractor of items which do have an appreciable salvage value.

(e) (1)Payments will continue to be made for item no. SEE TASK ORDERS, and all payments will be deducted from the contract price for this item, until the total deductions reduce this item to zero, after which no further payments will be made under this item.

(2)If the total of payments so made does not reduce this item to zero, the balance will be paid to the Contractor in the final payment under the contract.

(3)The retained percentage will be paid in accordance with the Payments to Contractor clause of this contract.

(f)The Contracting Officer shall determine the value and suitability of the construction plant, equipment, materials, structures and facilities. The Contracting Officer's determinations are not subject to appeal.

(End of clause)

252.236-7005 AIRFIELD SAFETY PRECAUTIONS. (DEC 1991)

(a) Definitions. As used in this clause --

(1) "Landing areas means" --

(i) The primary surfaces, comprising the surface of the runway, runway shoulders, and lateral safety zones. The length of each primary surface is the same as the runway length. The width of each primary surface is 2,000 feet (1,000 feet on each side of the runway centerline);

(ii) The "clear zone" beyond the ends of each runway, i.e., the extension of the primary surface for a distance of 1,000 feet beyond each end of each runway;

(iii) All taxiways, plus the lateral clearance zones along each side for the length of the taxiways (the outer edge of each lateral clearance zone is laterally 250 feet from the far or opposite edge of the taxiway, e.g., a 75-foot-wide taxiway would have a combined width of taxiway and lateral clearance zones of 425 feet); and

(iv) All aircraft parking aprons, plus the area 125 feet in width extending beyond each edge all around the aprons.

(2) "Safety precaution" areas means those portions of approach-departure clearance zones and transitional zones where placement of objects incident to contract performance might result in vertical projections at or above the approach-departure clearance, or the transitional surface.

(i) "The approach-departure clearance surface" is an extension of the primary surface and the clear zone at each end of each runway, for a distance of 50,000 feet, first along an inclined (glide angle) and then along a horizontal plane, both flaring symmetrically about the runway centerline extended.

(A) The inclined plane (glide angle) begins in the clear zone 200 feet past the end of the runway (and primary surface) at the same elevation as the end of the runway. It continues upward at a slope of 50:1 (1 foot vertically for each 50 feet horizontally) to an elevation of 500 feet above the established airfield elevation. At that point the plane becomes horizontal, continuing at that same uniform elevation to a point 50,000 feet longitudinally from the beginning of the inclined plane (glide angle) and ending there.

(B) The width of the surface at the beginning of the inclined plane (glide angle) is the same as the width of the clear zone. It then flares uniformly, reaching the maximum width of 16,000 feet at the end.

(ii) The "approach-departure clearance zone" is the ground area under the approach-departure clearance surface.

(iii) The "transitional surface" is a sideways extension of all primary surfaces, clear zones, and approach-departure clearance surfaces along inclined planes.

(A) The inclined plane in each case begins at the edge of the surface.

(B) The slope of the incline plane is 7:1 (1 foot vertically for each 7 feet horizontally). It continues to the point of intersection with the --

(1) Inner horizontal surface (which is the horizontal plane 150 feet above the established airfield elevation); or

(2) Outer horizontal surface (which is the horizontal plane 500 feet above the established airfield elevation), whichever is applicable.

(iv) The "transitional zone" is the ground area under the transitional surface. (It adjoins the primary surface, clear zone, and approach-departure clearance zone.)

(b) General. (1) The Contractor shall comply with the requirements of this clause while --

(i) Operating all ground equipment (mobile or stationary);

(ii) Placing all materials; and

(iii) Performing all work, upon and around all airfields.

(2) The requirements of this clause are in addition to any other safety requirements of this contract.

(c) The Contractor shall -

(1) Report to the Contracting Officer before initiating any work;

(2) Notify the Contracting Officer of proposed changes to locations and operations;

(3) Not permit either its equipment or personnel to use any runway for purposes other than aircraft operation without permission of the Contracting Officer, unless the runway is -

(i) Closed by order of the Contracting Officer; and

(ii) Marked as provided in paragraph (d)(2) of this clause;

(4) Keep all paved surfaces, such as runways, taxiways, and hardstands, clean at all times and, specifically, free from small stones which might damage aircraft propellers or jet aircraft;

(5) Operate mobile equipment according to the safety provisions of this clause, while actually performing work on the airfield. At all other times, the Contractor shall remove all mobile equipment to locations -

(i) Approved by the Contracting Officer;

(ii) At a distance of at least 750 feet from the runway centerline, plus any additional distance; and

(iii) Necessary to ensure compliance with the other provisions of this clause; and

(6) Not open a trench unless material is on hand and ready for placing in the trench. As soon as practicable after material has been placed and work approved, the Contractor shall backfill and compact trenches as required by the contract. Meanwhile, all hazardous conditions shall be marked and lighted in accordance with the other provisions of this clause.

(d) Landing areas. The Contractor shall -

(1) Place nothing upon the landing areas without the authorization of the Contracting Officer;

(2) Outline those landing areas hazardous to aircraft, using (unless otherwise authorized by the Contracting Officer) red flags by day, and electric, battery-operated low-intensity red flasher lights by night;

(3) Obtain, at an airfield where flying is controlled, additional permission from the control tower operator every time before entering any landing area, unless the landing area is marked as hazardous in accordance with paragraph (d)(2) of this clause;

(4) Identify all vehicles it operates in landing areas by means of a flag on a staff attached to, and flying above, the vehicle. The flag shall be three feet square, and consist of a checkered pattern of international orange and white squares of 1 foot on each side (except that the flag may vary up to ten percent from each of these dimensions);

(5) Mark all other equipment and materials in the landing areas, using the same marking devices as in paragraph (d)(2) of this clause; and

(6) Perform work so as to leave that portion of the landing area which is available to aircraft free from hazards, holes, piles of material, and projecting shoulders that might damage an airplane tire.

(e) Safety precaution areas. The Contractor shall -

(1) Place nothing upon the safety precaution areas without authorization of the Contracting Officer;

(2) Mark all equipment and materials in safety precaution areas, using (unless otherwise authorized by the Contracting Officer) red flags by day, and electric, battery-operated, low-intensity red flasher lights by night; and

(3) Provide all objects placed in safety precaution areas with a red light or red lantern at night, if the objects project above the approach-departure clearance surface or above the transitional surface.

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

(a) The Government's payment for the items listed in the Bidding Schedule shall constitute full compensation to the Contractor for --

(1) Furnishing all plant, labor, equipment, appliances, and materials; and

(2) Performing all operations required to complete the work in conformity with the drawings and specifications.

(b) The Contractor shall include in the prices for the items listed in the Bidding Schedule all costs for work in the specifications, whether or not specifically listed in the Bidding Schedule.

252.243-7001 PRICING OF CONTRACT MODIFICATIONS (DEC 1991)

When costs are a factor in any price adjustment under this contract, the contract cost principles and procedures in FAR part 31 and DFARS part 231, in effect on the date of this contract, apply.

252.243-7002 REQUESTS FOR EQUITABLE ADJUSTMENT (MAR 1998)

(a) The amount of any request for equitable adjustment to contract terms shall accurately reflect the contract adjustment for which the Contractor believes the Government is liable. The request shall include only costs for performing the change, and shall not include any costs that already have been reimbursed or that have been separately claimed. All indirect costs included in the request shall be properly allocable to the change in accordance with applicable acquisition regulations.

(b) In accordance with 10 U.S.C. 2410(a), any request for equitable adjustment to contract terms that exceeds the simplified acquisition threshold shall bear, at the time of submission, the following certificate executed by an individual authorized to certify the request on behalf of the Contractor:

I certify that the request is made in good faith, and that the supporting data are accurate and complete to the best of my knowledge and belief.

(Official's Name)

(Title)

(c) The certification in paragraph (b) of this clause requires full disclosure of all relevant facts, including--

(1) Cost or pricing data if required in accordance with subsection 15.403-4 of the Federal Acquisition Regulation (FAR); and

(2) Information other than cost or pricing data, in accordance with subsection 15.403-3 of the FAR, including actual cost data and data to support any estimated costs, even if cost or pricing data are not required.

(d) The certification requirement in paragraph (b) of this clause does not apply to----

(1) Requests for routine contract payments; for example, requests for payment for accepted supplies and services, routine vouchers under a cost-reimbursement type contract, or progress payment invoices; or

(2) Final adjustment under an incentive provision of the contract.

252.247-7023 Transportation of Supplies by Sea (MAY 2002)

(a) Definitions. As used in this clause --

(1) "Components" means articles, materials, and supplies incorporated directly into end products at any level of manufacture, fabrication, or assembly by the Contractor or any subcontractor.

(2) "Department of Defense" (DoD) means the Army, Navy, Air Force, Marine Corps, and defense agencies.

(3) "Foreign flag vessel" means any vessel that is not a U.S.-flag vessel.

(4) "Ocean transportation" means any transportation aboard a ship, vessel, boat, barge, or ferry through international waters.

(5) "Subcontractor" means a supplier, materialman, distributor, or vendor at any level below the prime contractor whose contractual obligation to perform results from, or is conditioned upon, award of the prime contract and who is

performing any part of the work or other requirement of the prime contract.

(6) "Supplies" means all property, except land and interests in land, that is clearly identifiable for eventual use by or owned by the DoD at the time of transportation by sea.

(i) An item is clearly identifiable for eventual use by the DoD if, for example, the contract documentation contains a reference to a DoD contract number or a military destination.

(ii) "Supplies" includes (but is not limited to) public works; buildings and facilities; ships; floating equipment and vessels of every character, type, and description, with parts, subassemblies, accessories, and equipment; machine tools; material; equipment; stores of all kinds; end items; construction materials; and components of the foregoing.

(7) "U.S.-flag vessel" means a vessel of the United States or belonging to the United States, including any vessel registered or having national status under the laws of the United States.

(b)(1) The Contractor shall use U.S.-flag vessels when transporting any supplies by sea under this contract.

(2) A subcontractor transporting supplies by sea under this contract shall use U.S.-flag vessels if--

(i) This contract is a construction contract; or

(ii) The supplies being transported are--

(A) Noncommercial items; or

(B) Commercial items that--

(1) The Contractor is reselling or distributing to the Government without adding value (generally, the Contractor does not add value to items that it contracts for f.o.b. destination shipment);

(2) Are shipped in direct support of U.S. military contingency operations, exercises, or forces deployed in humanitarian or peacekeeping operations; or

(3) Are commissary or exchange cargoes transported outside of the Defense Transportation System in accordance with 10 U.S.C. 2643.

(c) The Contractor and its subcontractors may request that the Contracting Officer authorize shipment in foreign-flag vessels, or designate available U.S.-flag vessels, if the Contractor or a subcontractor believes that --

(1) U.S.-flag vessels are not available for timely shipment;

(2) The freight charges are inordinately excessive or unreasonable; or

(3) Freight charges are higher than charges to private persons for transportation of like goods.

(d) The Contractor must submit any request for use of other than U.S.-flag vessels in writing to the Contracting Officer at least 45 days prior to the sailing date necessary to meet its delivery schedules. The Contracting Officer will process requests submitted after such date(s) as expeditiously as possible, but the Contracting Officer's failure to grant approvals to meet the shipper's sailing date will not of itself constitute a compensable delay under this or any other clause of this contract. Requests shall contain at a minimum --

(1) Type, weight, and cube of cargo;

(2) Required shipping date;

(3) Special handling and discharge requirements;

(4) Loading and discharge points;

(5) Name of shipper and consignee;

(6) Prime contract number; and

(7) A documented description of efforts made to secure U.S.-flag vessels, including points of contact (with names and telephone numbers) with at least two U.S.-flag carriers contacted. Copies of telephone notes, telegraphic and facsimile message or letters will be sufficient for this purpose.

(e) The Contractor shall, within 30 days after each shipment covered by this clause, provide the Contracting Officer and the Maritime Administration, Office of Cargo Preference, U.S. Department of Transportation, 400 Seventh Street SW., Washington, DC 20590, one copy of the rated on board vessel operating carrier's ocean bill of lading, which shall contain the following information:

(1) Prime contract number;

(2) Name of vessel;

(3) Vessel flag of registry;

(4) Date of loading;

(5) Port of loading;

(6) Port of final discharge;

(7) Description of commodity;

(8) Gross weight in pounds and cubic feet if available;

(9) Total ocean freight in U.S. dollars; and

(10) Name of the steamship company.

(f) The Contractor shall provide with its final invoice under this contract a representation that to the best of its knowledge and belief--

(1) No ocean transportation was used in the performance of this contract;

(2) Ocean transportation was used and only U.S.-flag vessels were used for all ocean shipments under the contract;

(3) Ocean transportation was used, and the Contractor had the written consent of the Contracting Officer for all non-U.S.-flag ocean transportation; or

(4) Ocean transportation was used and some or all of the shipments were made on non-U.S.-flag vessels without the written consent of the Contracting Officer. The Contractor shall describe these shipments in the following format:

ITEM	CONTRACT	QUANTITY

DESCRIPTION LINE ITEMS

_____

_____

_____

_____

TOTAL_____

(g) If the final invoice does not include the required representation, the Government will reject and return it to the Contractor as an improper invoice for the purposes of the Prompt Payment clause of this contract. In the event there has been unauthorized use of non-U.S.-flag vessels in the performance of this contract, the Contracting Officer is entitled to equitably adjust the contract, based on the unauthorized use.

(h) In the award of subcontracts for the types of supplies described in paragraph (b)(2) of this clause, the Contractor shall flow down the requirements of this clause as follows:

(1) The Contractor shall insert the substance of this clause, including this paragraph (h), in subcontracts that exceed the simplified acquisition threshold in part 2 of the Federal Acquisition Regulation.

(2) The Contractor shall insert the substance of paragraphs (a) through (e) of this clause, and this paragraph (h), in subcontracts that are at or below the simplified acquisition threshold in part 2 of the Federal Acquisition Regulation.

(End of clause)

252.247-7024 Notification of Transportation of Supplies by Sea (MAR 2000)

(a) The Contractor has indicated by the response to the solicitation provision, Representation of Extent of Transportation by Sea, that it did not anticipate transporting by sea any supplies. If, however, after the award of this contract, the Contractor learns that supplies, as defined in the Transportation of Supplies by Sea clause of this contract, will be transported by sea, the Contractor --

(1) Shall notify the Contracting Officer of that fact; and

(2) Hereby agrees to comply with all the terms and conditions of the Transportation of Supplies by Sea clause of this contract.

(b) The Contractor shall include this clause; including this paragraph (b), revised as necessary to reflect the relationship of the contracting parties--

(1) In all subcontracts under this contract, if this contract is a construction contract; or

(2) If this contract is not a construction contract, in all subcontracts under this contract that are for--

(i) Noncommercial items; or

(ii) Commercial items that--

(A) The Contractor is reselling or distributing to the Government without adding value (generally, the Contractor does not add value to items that it subcontracts for f.o.b. destination shipment);

(B) Are shipped in direct support of U.S. military contingency operations, exercises, or forces deployed in humanitarian or peacekeeping operations; or

(C) Are commissary or exchange cargoes transported outside of the Defense Transportation System in accordance with 10 U.S.C. 2643.

(End of clause)

SECTION 00700a

General Wage Decision AK030001
(Dated (06/13/2003)
Modification Record:

No.	Publication Date
0	06/13/2003
1	11/28/2003
2	02/06/2004
3	03/05/2004
4	04/02/2004
5	04/16/2004
6	05/14/2004
7	06/18/2004
8	07/23/2004
9	08/06/2004
10	08/20/2004
11	09/10/2004
12	10/01/2004
13	10/15/2004
14	10/22/2004
15	12/10/2004
16	01/21/2005
17	02/11/2005
18	02/18/2005
19	03/04/2005
20	04/22/2005
21	05/20/2005
22	07/08/2005
23	07/29/2005

General Wage Decision AK030006
(Dated (06/13/2003)
Modification Record:

No.	Publication Date
0	06/13/2003
1	11/28/2003
2	02/13/2004
3	03/05/2004
4	04/02/2004
5	04/16/2004
6	05/14/2004
7	08/06/2004
8	08/20/2004
9	09/10/2004
10	10/01/2004
11	01/21/2005
12	02/11/2005
13	02/18/2005
14	03/04/2005
15	05/20/2005
16	07/08/2005
17	07/29/2005

General Decision Number: AK030001 07/29/2005 AK1

Superseded General Decision Number: AK020001

State: Alaska

Construction Types: Building and Heavy

Counties: Alaska Statewide.

BUILDING AND HEAVY CONSTRUCTION PROJECTS (does not include residential construction consisting of single family homes and apartments up to and including 4 stories)

Modification Number	Publication Date
0	06/13/2003
1	11/28/2003
2	02/06/2004
3	03/05/2004
4	04/02/2004
5	04/16/2004
6	05/14/2004
7	06/18/2004
8	07/23/2004
9	08/06/2004
10	08/20/2004
11	09/10/2004
12	10/01/2004
13	10/15/2004
14	10/22/2004
15	12/10/2004
16	01/21/2005
17	02/11/2005
18	02/18/2005
19	03/04/2005
20	04/22/2005
21	05/20/2005
22	07/08/2005
23	07/29/2005

ASBE0097-001 01/01/2005

	Rates	Fringes
Asbestos Workers/Insulator (includes application of all insulating materials protective coverings, coatings and finishings to all types of mechanical systems)	$ 30.71	9.96

ASBE0097-002 01/01/2005

	Rates	Fringes
Hazardous Material Handler (includes preparation,		

wetting, stripping, removal
scrapping, vacuming, bagging,
and disposing of all
insulation materials, whether
they contain asbestos or not,
from mechanical systems).....$ 27.41 9.96

BOIL0502-002 01/01/2005

	Rates	Fringes
Boilermaker.....	$ 34.48	17.62

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* BRAK0001-002 07/01/2005

	Rates	Fringes
Bricklayer, Blocklayer, Stonemason, Marble Mason, Tile Setter, Terrazzo Worker...	$ 31.83	13.45
Tile & Terrazzo Finisher.....	$ 26.40	13.45

CARP1243-003 07/01/2005

North of the 63rd Parallel

	Rates	Fringes
Carpenter/Lather/Drywall Applicator.....	$ 31.75	14.51
Carpenter: Fire or Flood Repair Work.....	$ 32.33	14.51
Millwright.....	$ 32.37	14.10

CARP1281-004 07/01/2005

SOUTH OF 63RD PARALLEL

	Rates	Fringes
Acoustical Applicator and Lather.....	$ 30.39	14.05
Carpenters & Drywallers.....	$ 30.39	14.05
Millwright.....	$ 32.37	14.10

CARP2520-003 08/01/2004

	Rates	Fringes
Diver		
Stand-by.....	$ 33.78	12.70
Tender.....	$ 32.78	12.70
Working.....	$ 67.56	12.70
Piledriver		
Carpenter.....	$ 30.30	12.70
Piledriver; Skiff Operator and Rigger.....	$ 29.14	12.70

Sheet Pile Stabber	$ 30.14	12.70
Welder	$ 30.90	12.70

ELEC1547-004 05/02/2005

	Rates	Fringes
Cable splicer	$ 34.67	3%+14.85
Electrician;Technician	$ 32.92	3%+14.85

ELEC1547-005 02/28/2005

Line Construction

	Rates	Fringes
Cable splicer	$ 37.80	3%+17.35
Linemen (Including Equipment Operators, Technician)	$ 36.05	3%+17.35
Powderman	$ 34.05	3%+17.35
Tree Trimmer	$ 24.85	3%+17.35

ELEV0019-002 01/01/2005

	Rates	Fringes
Elevator Mechanic	$ 39.44	12.015+a

FOOTNOTE: a. Employer contributes 8% of the basic hourly rate for over 5 year's service and 6% of the basic hourly rate for 6 months to 5 years' of service as vacation paid credit. Seven paid holidays: New Year's Day; Memorial Day; Independence Day; Labor Day, Thanksgiving Day; Friday after Thanksgiving and Christmas Day

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ENGI0302-002 07/01/2004

	Rates	Fringes
Power equipment operators:		
GROUP 1	$ 32.67	11.55
GROUP 1A	$ 34.21	11.55
GROUP 2	$ 32.00	11.55
GROUP 3	$ 31.37	11.55
GROUP 4	$ 25.95	11.55

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Asphalt Roller; Back Filler; Barrier Machine (Zipper); Batch Plant Operator: Batch and Mixer over 200 yds.; Beltcrete with power pack and similar conveyors; Bending Machine; Boat Coxwains; Bulldozers; Cableways, Highlines and Cablecars; Cleaning Machine; Coating Machine; Concrete Hydro Blaster; Cranes-45 tons and under or 150 foot boom and under (including jib and attachments): (a) Shovels, Backhoes, Draglines, Clamshells; Gradalls-3 yards

and under; (b) Hydralifts or Transporters, all track or truck type,(c) Derricks; Crushers; Deck Winches-Double Drum; Ditching or Trenching Machine (16 inch or over); Drilling Machines, core, cable, rotary and exploration; Finishing Machine Operator, concrete paving, Laser Screed, sidewalk, curb and gutter machine; Helicopters; Hover Craft, Flex Craft, Loadmaster, Air Cushion, All Terrain Vehicle, Rollagon, Bargecable, Nodwell Sno Cat; Hydro Ax: Feller Buncher and similar; Loaders: Forklifts with power boom and swing attachment, Overhead and front end, 2 1/2 yards through 5 yards, Loaders with forks or pipe clamps, Loaders, elevating belt type, Euclid and similar types; Mechanics, Bodyman; Micro Tunneling Machine; Mixers: Mobile type w/hoist combination; Motor Patrol Grader; Mucking Machines: Mole, Tunnel Drill, Horizontal/Directional Drill Operator, and/or Shield; Operator on Dredges; Piledriver Engineers, L. B. Foster, Puller or similar Paving Breaker; Power Plant, Turbine Operator, 200 k.w. and over (power plants or combination of power units over 300 k.w.); Sauerman-Bagley; Scrapers-through 40 yards; Service Oiler/Service Engineer; Sidebooms-under 45 tons; Shot Blast Machine; Spreaders, Blaw Knox, Cedarapids, Barber Greene, Slurry Machine; Sub-grader (Gurries, C.M.I. and C.M.I. Roto Mills and similar types); Tack tractor; Truck mounted Concrete Pumps, Conveyor, Creter; Water Kote Machine; Unlicensed off road hauler

GROUP 1A: Cranes-over 45 tons or 150 foot (including jib and attachments): (a) Shovels, backhoes, draglines, clamshells-over 3 yards, (b) Tower cranes; Loaders over 5 yds.; Motor Patrol Grader (finish: when finishing to final graders and/or to hubs, or for asphalt); Power Plants: 1000 k.w. and over; Quad; Screed; Sidebooms over 45 tons; Slip Form Paver C.M.I. and similar types; Scrapers over 40 yards

GROUP 2: Batch Plant Operators: Batch and Mixer 200 yds. per hour and under; Boiler-fireman; Cement Hog and Concrete Pump Operator; Conveyors (except as listed in group 1); Hoist on steel erection; Towermobiles and Air Tuggers; Horizontal/Directional Drill Locator; Loaders, Elevating Grader, Dumor and similar; Locomotives: rod and geared engines; Mixers; Screening, Washing Plant; Sideboom (cradling rock drill regardless of size); Skidder; Trencing Machine under 16 inches.

GROUP 3: "A" Frame Trucks, Deck Winches: single power drum; Bombardier (tack or tow rig); Boring Machine; Brooms-power; Bump Cutter; Compressor; Farm tractor; Forklift, industrial type; Gin Truck or Winch Truck with poles when used for hoisting; Grade Checker and Stake Hopper; Hoist, Air Tuggers, Elevators; Loaders: (a) Elevating-Athey, Barber Green and similar types (b) Forklifts or Lumber Carrier (on construction job site) (c) Forklifts with Tower (d) Overhead and Front-end, under 2 1/2 yds. Locomotives:Dinkey (air, steam, gas and electric) Speeders; Mechanics (light duty); Mixers: Concrete Mixers and Batch 200 yds. per hour and under; Oil, Blower Distribution; Post Hole Diggers,

mechanical; Pot Fireman (power agitated); Power Plant, Turbine Operator, under 300 k.w.; Pumps-water; Rig oiler/assistant engineer, over 45 ton, over 3 yards or over 150 foot boom; Roller-other than Plantmix; Saws, concrete; Straightening Machine; Tow Tractor

GROUP 4: Rig Oiler/Assistant Engineer (Advances to Group III if over 45 tons or 3 yards or 150 ft. boom); Swamper (on trenching machines or shovel type equipment); Spotter; Steam Cleaner

FOOTNOTE: Groups 1-4 receive 10% premium while performing tunnel or underground work.

IRON0751-003 09/01/2004

	Rates	Fringes
Ironworkers:		
BRIDGE, STRUCTURAL, ORNAMENTAL, REINFORCING MACHINERY MOVER, RIGGER, SHEETER, STAGE RIGGER, BENDER OPERATOR	$ 28.70	15.05
FENCE, BARRIER AND GUARDRAIL INSTALLERS	$ 25.20	14.80
GUARDRAIL LAYOUT MAN	$ 25.94	14.80
HELICOPTER, TOWER	$ 29.70	15.05

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* LABO0341-005 07/01/2005

	Rates	Fringes
Laborers:		
GROUP 1 North of the 63rd parallel and east of longitude 138 degrees	$ 26.08	12.85
Group 1 South of the 63rd parallel and west of longitude 138 degrees	$ 26.18	12.75
GROUP 2 North of the 63rd parallel and east of longitude 138 degrees	$ 26.86	12.85
Group 2 South of the 63rd parallel and west of longitude 138 degrees	$ 26.99	12.75
GROUP 3 North of the 63rd parallel and east of longitude 138 degrees	$ 27.54	12.85
Group 3 South of the 63rd parallel and west of		

longitude 138 degrees.....$ 27.70		12.75
GROUP 3A		
North of the 63rd parallel and east of longitude 138 degrees.....$ 29.87		12.85
Group 3A		
South of the 63rd parallel and west of longitude 138 degrees.....$ 30.30		12.75
GROUP 4		
North of the 63rd parallel and east of longitude 138 degrees.....$ 18.11		12.85
Group 4		
South of the 63rd parallel and west of longitude 138 degrees.....$ 17.91		12.75
TUNNELS, SHAFTS, AND RAISES		
GROUP 1.....$ 28.80		12.75
GROUP 2.....$ 29.69		12.75
GROUP 3.....$ 30.47		12.75
GROUP 3A.....$ 33.33		12.75

LABORERS CLASSIFICATIONS

GROUP 1: Asphalt Workers (shovelman, plant crew); Brush Cutters; Camp Maintenance Laborer; Carpenter Tenders; Choke Setters, Hook Tender, Rigger, Signalman; Concrete Laborer(curb and gutter, chute handler, grouting, curing, screeding); Crusher Plant Laborer; Demolition Laborer; Ditch Diggers; Dump Man; Environmental Laborer (asbestos (limited to nonmechanical systems), hazardous and toxic waste, oil spill); Fence Installer; Fire Watch Laborer; Flagman; Form Strippers; General Laborer; Guardrail Laborer, Bridge Rail Installers; Hydro-Seeder Nozzleman; Laborers (building); Landscape or Planter; Material Handlers; Pneumatic or Power Tools; Portable or Chemical Toilet Serviceman; Pump Man or Mixer Man; Railroad Track Laborer; Sandblast, Pot Tender; Saw Tenders; Scaffold Building and Erecting; Slurry Work; Stake Hopper; Steam Point or Water Jet Operator; Steam Cleaner Operator; Tank Cleaning; Utiliwalk and Utilidor Laborer; Watchman (construction projects); Window Cleaner

GROUP 2: Burning and Cutting Torch; Cement or Lime Dumper or Handler (sack or bulk); Choker Splicer; Chucktender (wagon, airtrack and hydraulic drills); Concrete Laborers (power buggy, concrete saws, pumpcrete nozzleman, vibratorman); Environmental Laborer (marine work); Foam Gun or Foam Machine Operator; Green Cutter (dam work); Guardrail Machine Operator; Gunnite Operator; Hod Carriers; Jackhammer or Pavement Breakers (more than 45 pounds); Mason Tender and Mud Mixer (sewer work); Plasterer, Bricklayer and Cement Finisher Tenders; Power Saw Operator; Railroad Switch Layout Laborer; Sandblaster; Sewer Caulkers; Sewer Plant Maintenance Man; Thermal Plastic Applicator; Timber Faller, chain saw operator, filer;

Timberman

GROUP 3: Bit Grinder; Drill Doctor (in the field); Drillers (including, but not limited to, wagon drills, air track drills; hydraulic drills); High Rigger and tree topper; Higher Scaler; Pioneer Drilling and Drilling Off Tugger (all type drills); Powderman; Slurry Seal Squeegee Man

GROUP 3A: Asphalt Raker, Asphalt Belly dump lay down; Grade checker (setting or transfering of grade marks, line and grade); Pipelayers

GROUP 4: Final Building Cleanup

TUNNELS, SHAFTS, AND RAISES CLASSIFICATIONS

GROUP 1: Brakeman; Muckers; Nippers; Topman and Bull Gang; Tunnel Track Laborer

GROUP 2: Burning and Cutting Torch; Concrete Laborers; Jackhammers; Laser Instrument Operators; Nozzleman, Pumpcrete or Shotcrete; Pipelayers.

GROUP 3: Miner; Miner; Retimberman

GROUP 3A: Powderman

Tunnel shaft and raise rates only apply to workers regularly employed inside a tunnel portal or shaft collar.

PAIN1140-004 07/01/2005

SOUTH OF THE 63RD PARALLEL

	Rates	Fringes
Painters:		
Brush, Roller, Sign, Paper and Vinyl, Swing Stage, Hand Taper/Drywall, Structural Steel, and Commercial Spray	$ 24.80	13.35
Machine Taper/Drywall	$ 25.00	13.35
Spray-Sand/Blast, Epoxy and Tar Applicator	$ 25.60	13.35
Steeple Jack & Tower	$ 26.60	13.35

PAIN1140-005 09/01/2004

	Rates	Fringes
Soft Floor Layer	$ 27.07	8.87

PAIN1140-006 01/01/2005

SOUTH OF THE 63RD PARALLEL

	Rates	Fringes
Glazier	$ 28.00	12.60

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* PAIN1555-004 06/01/2005

NORTH OF THE 63RD PARALLEL

	Rates	Fringes
Hazardous Material Applicator LEAD BASED PAINT ABATEMENT, RADON MITIGATION, SANDBLAST, STRUCTURAL STEEL, TAPING, TEXTURING	$ 28.10	14.39
Painter BRUSH, BUFFER OPERATOR, FLOOR-COVERER, POT TENDER, ROLL SPRAY, WALLCOVERER	$ 27.60	14.39

PAIN1555-005 06/01/2005

NORTH OF THE 63RD PARALLEL

	Rates	Fringes
Glazier	$ 28.28	13.47

PLAS0867-001 02/01/2005

	Rates	Fringes
Plasterer		
NORTH OF THE 63RD PARALLEL	$ 31.29	11.86
SOUTH OF THE 63RD PARALLEL	$ 31.04	11.86

PLAS0867-004 02/01/2005

	Rates	Fringes
Cement Mason		
North of the 63rd Parallel	$ 30.76	11.86
South of the 63rd Parallel	$ 30.51	11.86

PLUM0262-002 07/01/2004

East of the 141st Meridian

	Rates	Fringes
Plumber; Steamfitter	$ 29.09	12.05

PLUM0367-002 07/01/2004

South of the 63rd Parallel

	Rates	Fringes
Plumber; Steamfitter	$ 31.30	13.62

PLUM0375-002 07/01/2004

North of the 63rd Parallel

	Rates	Fringes
Plumber; Steamfitter	$ 32.96	15.70

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* PLUM0669-002 01/01/2005

	Rates	Fringes
Sprinkler Fitter	$ 33.30	13.25

ROOF0190-002 09/01/2004

	Rates	Fringes
Roofer (including Built Up, Composition and Single Ply)		
North of the 63rd Parallel	$ 31.62	10.00
South of the 63rd Parallel	$ 29.62	10.00

SHEE0023-003 07/01/2004

South of the 63rd Parallel

	Rates	Fringes
Sheet Metal Worker	$ 32.58	13.31

SHEE0023-004 07/01/2004

North of the 63rd Parallel

	Rates	Fringes
Sheet Metal Worker	$ 35.22	13.63

TEAM0959-003 01/01/2005

	Rates	Fringes
Truck Driver		
GROUP 1	$ 32.10	11.35
GROUP 1A	$ 33.15	11.35
GROUP 2	$ 31.05	11.35
GROUP 3	$ 30.37	11.35
GROUP 4	$ 29.90	11.35
GROUP 5	$ 29.26	11.35

GROUP 1: Semi with Double Box Mixer; Dump Trucks (including rockbuggy and trucks with pups) over 40 yards up to and

including 60 yards; Deltas, Commanders, Rollogans and similar equipment when pulling sleds, trailers or similar equipment; Boat Coxswain; Lowboys including attached trailers and jeeps, up to and including 12 axles; Ready-mix over 12 yards up to and including 15 yards)

GROUP 1A: Dump Trucks (including Rockbuggy and Trucks with pups) over 60 yards up to and including 100 yards; Jeeps (driver under load)

GROUP 2: Turn-O-Wagon or DW-10 not self-loading; All Deltas, Commanders, Rollogans, and similar equipment; Mechanics; Tireman, heavy duty; Dump Trucks (including Rockbuggy and Trucks with pups) over 20 yards up to and including 40 yards; Lowboys including attached trailers and jeeps up to and including 8 axles; Super vac truck/cacasco truck/heat stress truck; Ready-mix over 7 yards up to and including 12 yards;

GROUP 3: Dump Trucks (including Rockbuggy and Trucks with pups) over 10 yards up to and including 20 yards; batch trucks 8 yards and up; Oil distributor drivers; Water Wagon (when pulled by Euclid or similar type equipment); Partsman; Oil Distributor Drivers; Trucks/Jeeps (push or pull)

GROUP 4: Buggymobile; Semi or Truck and trailer; Dumpster; Tireman (light duty); Dump Trucks (including Rockbuggy and Truck with pups) up to and including 10 yards; Track Truck Equipment; Stringing Truck; Fuel Truck; Fuel Handler with truck; Grease Truck; Flat Beds, dual rear axle; Hyster Operators (handling bulk aggregate); Lumber Carrier; Water Wagon, semi; Water Wagon, dual axle; Gin Pole Truck, Winch Truck, Wrecker, Truck Mounted "A" Frame manufactured rating over 5 tons; Bull Lifts and Fork Lifts with Power Boom and Swing attachments, over 5 tons; Front End Loader with Forks; Bus Operator over 30 passengers; All Terrain Vehicles; Boom Truck/Knuckle Truck over 5 tons; Foam Distributor Truck/dual axle; Hydro-seeders, dual axle; Vacuum Trucks, Truck Vacuum Sweepers; Loadmaster (air and water); Air Cushion or similar type vehicle; Fire Truck/Ambulance Driver; Combination Truck-fuel and grease; Compactor (when pulled by rubber tired equipment); Rigger (air/water/oilfield); Ready Mix, up to and including 7 yards; All Terrain Vehicles; Boom Truck/Knuckle Truck Over 5 tons; Bus Operator, Over 30 Passengers

GROUP 5: Gravel Spreader Box Operator on Truck; Flat Beds, single rear axle; Boom Truck/Knuckle Truck up to and including 5 tons; Pickups (Pilot Cars and all light duty vehicles); Water Wagon, single axle; Gin Pole Truck, Winch Truck, Wrecker, Truck Mounted "A" Frame, manufactured rating 5 tons and under; Bull Lifts and Fork Lifts (fork lifts with power broom and swing attachments up to and including 5 tons); Buffer Truck; Tack Truck; Farm type Rubber Tired Tractor (when material handling or pulling wagons on a construction project); Foam Distributor, single

axle; Hydro-Seeders, single axle; Team Drivers (horses, mules and similar equipment); Fuel Handler (station/bulk attendant); Batch Truck, up to and including 7 yards; Gear/Supply Truck; Bus Operator, Up to 30 Passengers;

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

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

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

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

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* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
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Branch of Construction Wage Determinations

Wage and Hour Division

U.S. Department of Labor

200 Constitution Avenue, N.W.

Washington, DC 20210

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

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board

U.S. Department of Labor

200 Constitution Avenue, N.W.

Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

General Decision Number: AK030006 07/29/2005 AK6

State: Alaska

Construction Type: Highway

Counties: Aleutians East, Aleutians West, Anchorage, Bethel, Bristol Bay, Dillingham, Fairbanks North Star, Kenai Peninsula, Kodiak Island, Matanuska-Susitna, Nome, North Slope, Northwest Artic, Southeast Fairbanks, Valdez-Cordova, Wade Hampton and Yukon-Koyukuk Counties in Alaska.

Highway Construction Projects

Modification Number	Publication Date
0	06/13/2003
1	11/28/2003
2	02/13/2004
3	03/05/2004
4	04/02/2004
5	04/16/2004
6	05/14/2004
7	08/06/2004
8	08/20/2004
9	09/10/2004
10	10/01/2004
11	01/21/2005
12	02/11/2005
13	02/18/2005
14	03/04/2005
15	05/20/2005
16	07/08/2005
17	07/29/2005

CARP1243-004 07/01/2005

North of the 63rd Parallel

	Rates	Fringes
Carpenter	$ 31.75	14.51

CARP1281-006 07/01/2005

South of the 63rd Parallel

	Rates	Fringes
Carpenter	$ 30.39	14.05

CARP2520-004 08/01/2004

	Rates	Fringes
Piledriver		
Carpenter	$ 30.30	12.70
Piledriver, Skiff		

operator, Rigger	$ 29.14	12.70
Sheet Stabber	$ 30.14	12.70
Welder	$ 30.90	12.70

ELEC1547-004 05/02/2005

	Rates	Fringes
Cable splicer	$ 34.67	3%+14.85
Electrician;Technician	$ 32.92	3%+14.85

ELEC1547-005 02/28/2005

Line Construction

	Rates	Fringes
Cable splicer	$ 37.80	3%+17.35
Linemen (Including Equipment Operators, Technician)	$ 36.05	3%+17.35
Powderman	$ 34.05	3%+17.35
Tree Trimmer	$ 24.85	3%+17.35

ENGI0302-002 07/01/2004

	Rates	Fringes
Power equipment operators:		
GROUP 1	$ 32.67	11.55
GROUP 1A	$ 34.21	11.55
GROUP 2	$ 32.00	11.55
GROUP 3	$ 31.37	11.55
GROUP 4	$ 25.95	11.55

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Asphalt Roller; Back Filler; Barrier Machine (Zipper); Batch Plant Operator: Batch and Mixer over 200 yds.; Beltcrete with power pack and similar conveyors; Bending Machine; Boat Coxwains; Bulldozers; Cableways, Highlines and Cablecars; Cleaning Machine; Coating Machine; Concrete Hydro Blaster; Cranes-45 tons and under or 150 foot boom and under (including jib and attachments): (a) Shovels, Backhoes, Draglines, Clamshells; Gradalls-3 yards and under; (b) Hydralifts or Transporters, all track or truck type,(c) Derricks; Crushers; Deck Winches-Double Drum; Ditching or Trenching Machine (16 inch or over); Drilling Machines, core, cable, rotary and exploration; Finishing Machine Operator, concrete paving, Laser Screed, sidewalk, curb and gutter machine; Helicopters; Hover Craft, Flex Craft, Loadmaster, Air Cushion, All Terrain Vehicle, Rollagon, Bargecable, Nodwell Sno Cat; Hydro Ax: Feller Buncher and similar; Loaders: Forklifts with power boom and swing attachment, Overhead and front end, 2 1/2 yards through 5 yards, Loaders with forks or pipe clamps, Loaders, elevating belt type, Euclid and similar types; Mechanics, Bodyman; Micro Tunneling Machine; Mixers: Mobile

type w/hoist combination; Motor Patrol Grader; Mucking Machines: Mole, Tunnel Drill, Horizontal/Directional Drill Operator, and/or Shield; Operator on Dredges; Piledriver Engineers, L. B. Foster, Puller or similar Paving Breaker; Power Plant, Turbine Operator, 200 k.w. and over (power plants or combination of power units over 300 k.w.); Sauerman-Bagley; Scrapers-through 40 yards; Service Oiler/Service Engineer; Sidebooms-under 45 tons; Shot Blast Machine; Spreaders, Blaw Knox, Cedarapids, Barber Greene, Slurry Machine; Sub-grader (Gurries, C.M.I. and C.M.I. Roto Mills and similar types); Tack tractor; Truck mounted Concrete Pumps, Conveyor, Creter; Water Kote Machine; Unlicensed off road hauler

GROUP 1A: Cranes-over 45 tons or 150 foot (including jib and attachments): (a) Shovels, backhoes, draglines, clamshells-over 3 yards, (b) Tower cranes; Loaders over 5 yds.; Motor Patrol Grader (finish: when finishing to final graders and/or to hubs, or for asphalt); Power Plants: 1000 k.w. and over; Quad; Screed; Sidebooms over 45 tons; Slip Form Paver C.M.I. and similar types; Scrapers over 40 yards

GROUP 2: Batch Plant Operators: Batch and Mixer 200 yds. per hour and under; Boiler-fireman; Cement Hog and Concrete Pump Operator; Conveyors (except as listed in group 1); Hoist on steel erection; Towermobiles and Air Tuggers; Horizontal/Directional Drill Locator; Loaders, Elevating Grader, Dumor and similar; Locomotives: rod and geared engines; Mixers; Screening, Washing Plant; Sideboom (cradling rock drill regardless of size); Skidder; Trencing Machine under 16 inches.

GROUP 3: "A" Frame Trucks, Deck Winches: single power drum; Bombardier (tack or tow rig); Boring Machine; Brooms-power; Bump Cutter; Compressor; Farm tractor; Forklift, industrial type; Gin Truck or Winch Truck with poles when used for hoisting; Grade Checker and Stake Hopper; Hoist, Air Tuggers, Elevators; Loaders: (a) Elevating-Athey, Barber Green and similar types (b) Forklifts or Lumber Carrier (on construction job site) (c) Forklifts with Tower (d) Overhead and Front-end, under 2 1/2 yds. Locomotives:Dinkey (air, steam, gas and electric) Speeders; Mechanics (light duty); Mixers: Concrete Mixers and Batch 200 yds. per hour and under; Oil, Blower Distribution; Post Hole Diggers, mechanical; Pot Fireman (power agitated); Power Plant, Turbine Operator, under 300 k.w.; Pumps-water; Rig oiler/assistant engineer, over 45 ton, over 3 yards or over 150 foot boom; Roller-other than Plantmix; Saws, concrete; Straightening Machine; Tow Tractor

GROUP 4: Rig Oiler/Assistant Engineer (Advances to Group III if over 45 tons or 3 yards or 150 ft. boom); Swamper (on trenching machines or shovel type equipment); Spotter; Steam Cleaner

FOOTNOTE: Groups 1-4 receive 10% premium while performing tunnel or underground work.

IRON0751-003 09/01/2004

	Rates	Fringes
Ironworkers:		
BRIDGE, STRUCTURAL, ORNAMENTAL, REINFORCING MACHINERY MOVER, RIGGER, SHEETER, STAGE RIGGER, BENDER OPERATOR	$ 28.70	15.05
FENCE, BARRIER AND GUARDRAIL INSTALLERS	$ 25.20	14.80
GUARDRAIL LAYOUT MAN	$ 25.94	14.80
HELICOPTER, TOWER	$ 29.70	15.05

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* LABO0341-007 07/01/2005

	Rates	Fringes
Laborers:		
GROUP 1 North of the 63rd parallel and east of longitude 138 degrees	$ 26.08	12.85
Group 1 South of the 63rd parallel and west of longitude 138 degrees	$ 26.18	12.75
GROUP 2 North of the 63rd parallel and east of longitude 138 degrees	$ 26.86	12.85
Group 2 South of the 63rd parallel and west of longitude 138 degrees	$ 26.99	12.75
GROUP 3 North of the 63rd parallel and east of longitude 138 degrees	$ 27.54	12.85
Group 3 South of the 63rd parallel and west of longitude 138 degrees	$ 27.70	12.75
GROUP 3A North of the 63rd parallel and east of longitude 138 degrees	$ 29.87	12.85
Group 3A South of the 63rd parallel and west of longitude 138 degrees	$ 30.30	12.75
GROUP 4 North of the 63rd parallel and east of longitude 138 degrees	$ 18.11	12.85

Group 4		
South of the 63rd parallel and west of longitude 138 degrees.....	$ 17.91	12.75
TUNNELS, SHAFTS, AND RAISES		
GROUP 1.....	$ 28.80	12.75
GROUP 2.....	$ 29.69	12.75
GROUP 3.....	$ 30.47	12.75
GROUP 3A.....	$ 33.33	12.75

LABORERS CLASSIFICATIONS

GROUP 1: Asphalt Workers (shovelman, plant crew); Brush Cutters; Camp Maintenance Laborer; Carpenter Tenders; Choke Setters, Hook Tender, Rigger, Signalman; Concrete Laborer(curb and gutter, chute handler, grouting, curing, screeding); Crusher Plant Laborer; Demolition Laborer; Ditch Diggers; Dump Man; Environmental Laborer (asbestos (limited to nonmechanical systems), hazardous and toxic waste, oil spill); Fence Installer; Fire Watch Laborer; Flagman; Form Strippers; General Laborer; Guardrail Laborer, Bridge Rail Installers; Hydro-Seeder Nozzleman; Laborers (building); Landscape or Planter; Material Handlers; Pneumatic or Power Tools; Portable or Chemical Toilet Serviceman; Pump Man or Mixer Man; Railroad Track Laborer; Sandblast, Pot Tender; Saw Tenders; Scaffold Building and Erecting; Slurry Work; Stake Hopper; Steam Point or Water Jet Operator; Steam Cleaner Operator; Tank Cleaning; Utiliwalk and Utilidor Laborer; Watchman (construction projects); Window Cleaner

GROUP 2: Burning and Cutting Torch; Cement or Lime Dumper or Handler (sack or bulk); Choker Splicer; Chucktender (wagon, airtrack and hydraulic drills); Concrete Laborers (power buggy, concrete saws, pumpcrete nozzleman, vibratorman); Environmental Laborer (marine work); Foam Gun or Foam Machine Operator; Green Cutter (dam work); Guardrail Machine Operator; Gunnite Operator; Hod Carriers; Jackhammer or Pavement Breakers (more than 45 pounds); Mason Tender and Mud Mixer (sewer work); Plasterer, Bricklayer and Cement Finisher Tenders; Power Saw Operator; Railroad Switch Layout Laborer; Sandblaster; Sewer Caulkers; Sewer Plant Maintenance Man; Thermal Plastic Applicator; Timber Faller, chain saw operator, filer; Timberman

GROUP 3: Bit Grinder; Drill Doctor (in the field); Drillers (including, but not limited to, wagon drills, air track drills; hydraulic drills); High Rigger and tree topper; Higher Scaler; Pioneer Drilling and Drilling Off Tugger (all type drills); Powderman; Slurry Seal Squeegee Man

GROUP 3A: Asphalt Raker, Asphalt Belly dump lay down; Grade checker (setting or transfering of grade marks, line and grade); Pipelayers

GROUP 4: Final Building Cleanup

TUNNELS, SHAFTS, AND RAISES CLASSIFICATIONS

GROUP 1: Brakeman; Muckers; Nippers; Topman and Bull Gang; Tunnel Track Laborer

GROUP 2: Burning and Cutting Torch; Concrete Laborers; Jackhammers; Laser Instrument Operators; Nozzleman, Pumpcrete or Shotcrete; Pipelayers.

GROUP 3: Miner; Retimberman

GROUP 3A: Powderman

Tunnel shaft and raise rates only apply to workers regularly employed inside a tunnel portal or shaft collar.

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* PLAS0867-004 02/01/2005

	Rates	Fringes
Cement Mason		
North of the 63rd Parallel..	$ 30.76	11.86
South of the 63rd Parallel..	$ 30.51	11.86

TEAM0959-003 01/01/2005

	Rates	Fringes
Truck Driver		
GROUP 1.....	$ 32.10	11.35
GROUP 1A.....	$ 33.15	11.35
GROUP 2.....	$ 31.05	11.35
GROUP 3.....	$ 30.37	11.35
GROUP 4.....	$ 29.90	11.35
GROUP 5.....	$ 29.26	11.35

GROUP 1: Semi with Double Box Mixer; Dump Trucks (including rockbuggy and trucks with pups) over 40 yards up to and including 60 yards; Deltas, Commanders, Rollogans and similar equipment when pulling sleds, trailers or similar equipment; Boat Coxswain; Lowboys including attached trailers and jeeps, up to and including 12 axles; Ready-mix over 12 yards up to and including 15 yards)

GROUP 1A: Dump Trucks (including Rockbuggy and Trucks with pups) over 60 yards up to and including 100 yards; Jeeps (driver under load)

GROUP 2: Turn-O-Wagon or DW-10 not self-loading; All Deltas, Commanders, Rollogans, and similar equipment; Mechanics; Tireman, heavy duty; Dump Trucks (including Rockbuggy and Trucks with pups) over 20 yards up to and including 40 yards; Lowboys including attached trailers and jeeps up to and including 8 axles; Super vac truck/cacasco truck/heat stress truck; Ready-mix over 7 yards up to and including 12 yards;

GROUP 3: Dump Trucks (including Rockbuggy and Trucks with pups) over 10 yards up to and including 20 yards; batch trucks 8 yards and up; Oil distributor drivers; Water Wagon (when pulled by Euclid or similar type equipment); Partsman; Oil Distributor Drivers; Trucks/Jeeps (push or pull)

GROUP 4: Buggymobile; Semi or Truck and trailer; Dumpster; Tireman (light duty); Dump Trucks (including Rockbuggy and Truck with pups) up to and including 10 yards; Track Truck Equipment; Stringing Truck; Fuel Truck; Fuel Handler with truck; Grease Truck; Flat Beds, dual rear axle; Hyster Operators (handling bulk aggregate); Lumber Carrier; Water Wagon, semi; Water Wagon, dual axle; Gin Pole Truck, Winch Truck, Wrecker, Truck Mounted "A" Frame manufactured rating over 5 tons; Bull Lifts and Fork Lifts with Power Boom and Swing attachments, over 5 tons; Front End Loader with Forks; Bus Operator over 30 passengers; All Terrain Vehicles; Boom Truck/Knuckle Truck over 5 tons; Foam Distributor Truck/dual axle; Hydro-seeders, dual axle; Vacuum Trucks, Truck Vacuum Sweepers; Loadmaster (air and water); Air Cushion or similar type vehicle; Fire Truck/Ambulance Driver; Combination Truck-fuel and grease; Compactor (when pulled by rubber tired equipment); Rigger (air/water/oilfield); Ready Mix, up to and including 7 yards; All Terrain Vehicles; Boom Truck/Knuckle Truck Over 5 tons; Bus Operator, Over 30 Passengers

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END OF GENERAL DECISION

SECTION 00800
SPECIAL CONTRACT REQUIREMENTS

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SECTION 00800
SPECIAL CONTRACT REQUIREMENTS

1. (SCR-2) EXCLUSION OF PERIODS IN COMPUTING COMPLETION SCHEDULES: (NOT USED)

2. (SCR-7) CERTIFICATES OF COMPLIANCE:

SEE SECTION 01330: SUBMITTAL PROCEDURES Any certificates required for demonstrating proof of compliance of materials with specification requirements shall be executed in 3 copies. Each certificate shall be signed by an official authorized to certify in behalf of the manufacturing company and shall contain the name and address of the Contractor, the project name and location, and the quantity and date or dates of shipment or delivery to which the certificates apply. Copies of laboratory test reports submitted with certificates shall contain the name and address of the testing laboratory and the date or dates of the tests to which the report applies. Certification shall not be construed as relieving the Contractor from furnishing satisfactory material, if, after tests are performed on selected samples, the material is found not to meet the specific requirements.

3. (SCR-8) SUBMITTALS (ER 415-1-10, 30 May 1995):

SEE SECTION 01330: SUBMITTAL PROCEDURES Within 30 days after receipt of Notice to Proceed, the Contractor shall complete and submit to the Contracting Officer, in triplicate, submittal register ENG Form 4288 listing all submittals and dates. In addition to those items listed on ENG Form 4288, the Contractor shall furnish submittals for any deviation from the plans or specifications. The scheduled need dates must be recorded on the document for each item for control purposes. In preparing the document, adequate time (minimum of 30 days) shall be allowed for review and, only when stipulated, approval and possible resubmittal. Scheduling shall be coordinated with the approved progress schedule. The Contractor’s Quality Control representative shall review the listing at least every 30 days and take appropriate action to maintain an effective system. Copies of updated or corrected listing shall be submitted to the Contracting Officer at least every 60 days in the quantity specified. Payment will not be made for any material or equipment which does not comply with contract requirements.

Section 01330 includes an ENG Form 4288 listing technical items the Contractor shall submit to the Contracting Officer, as indicated in the contract requirements.

4. (SCR-10) EIELSON AFB PHYSICAL DATA (APR 1984):

Data and information furnished or referred to below are furnished for the Contractor's information. The Government shall not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor.

a. The indications of physical conditions on the drawings and in the specifications are the result of site investigation.

b. Location: Eielson AFB is located on the Richardson Highway approximately 26 miles southeast of Fairbanks, Alaska.

c. Transportation:

(1) Water: Commercial docking facilities are available at Anchorage, Alaska.

(2) Highway: Eielson AFB is connected to the State of Alaska Highway System.

(3) Railroad: The Alaska Railroad offers freight service from the 48 contiguous states and Canada via rail barge and trainship through Whittier, and from Seward, to Anchorage and Fairbanks. In addition to the freight service, scheduled passenger service and express service between Anchorage and Fairbanks, and passenger service between Anchorage and Whittier are also available. Fairbanks (including Eielson AFB and Ft. Wainwright) is the northern terminus, and Seward and Whittier are the southern terminals of the Alaska Railroad.

d. Communications: Telephone communications and services are under the jurisdiction of the Communications Officer. The Contractor shall make all arrangements for required communication service directly with the Communications Office. The Government does not guarantee the adequacy or efficiency of the service or the number of telephones that can be assigned to the Contractor.

e. Weather Data: A Climatological Summary for Eielson AFB is attached to the end of this section.

5. (SCR-12) IDENTIFICATION OF EMPLOYEES AND MILITARY REGULATIONS:

(a) The Contractor shall be responsible for compliance with all regulations and orders of the Commanding Officer of the Military Installation, respecting identification of employees, movements on installation, parking, truck entry, and all other military regulations which may affect the work.

(b) The work under this contract is to be performed at an operating Military Installation with consequent restrictions on entry and movement of non-military personnel and equipment.

6. (SCR-14) RESERVED

7. (SCR-18) AGGREGATE SOURCES: (NOT USED)

8. (SCR-19) HAUL ROADS: (NOT USED)

9. (SCR-20) RESERVED

10. (SCR-22) SALVAGE MATERIALS AND EQUIPMENT (JAN 1965): (NOT USED)

11. (SCR-24) SIGNAL LIGHTS: (NOT USED)

12. (SCR-25) COMMUNICATION SECURITY:

All communications with DOD organizations are subject to COMSEC review. Contractor personnel shall be aware that telecommunications networks are continually subject to intercept by unfriendly intelligence organizations. The DOD has authorized the military departments to conduct COMSEC monitoring and recording of telephone calls originating from or terminating at DOD organizations. Therefore, civilian Contractor personnel are advised that any time they place a call to or receive a call from Alaska District offices or Resident Engineer offices located on military installations, they are subject to COMSEC procedures. The Contractor will assume the responsibility for

PHASE VI UTILIDORS EIE210
ensuring wide and frequent dissemination of the above information to all employees dealing with official DOD information.

13. (SCR-30) OPTION FOR INCREASED QUANTITY: (NOT USED)

14. (SCR-31) WORK IN QUARANTINED AREA: (NOT USED)

15. (SCR-32) PRESERVATION OF HISTORICAL, ARCHEOLOGICAL AND CULTURAL RESOURCES: (NOT USED)

16. (SCR-34) THRU (SCR-35) RESERVED

17. (SCR-36) TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER (ER 415-1-15, 31 Oct 1989):

1. This provision specifies the procedure for determination of time extensions for unusually severe weather in accordance with the Contract Clause entitled "DEFAULT (FIXED PRICE CONSTRUCTION)". In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:

a. The weather experienced at the project site during the contract period must be found to be unusually severe; that is, more severe than the adverse weather anticipated for the project location during any given month.

b. The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the Contractor.

2. The following schedule of monthly anticipated adverse weather delays is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The Contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities.

Monthly Anticipated Adverse Weather Delay Work Days Based on a 5-Day Work Week

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
22	20	21	0	0	1	6	1	0	10	21	22

3. Upon acknowledgement of the Notice to Proceed and continuing throughout the contract, the Contractor shall record on the daily CQC report, the occurrence of adverse weather and the resultant impact to normally scheduled work. Actual adverse weather delays days must prevent work on critical activities for 50 percent or more of the Contractor's scheduled workday. The number of actual adverse weather days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically from the first to the last day in each month, and be recorded as full days. If the number of actual adverse weather days exceeds the number of days anticipated in Paragraph 2, above, the Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather workdays, and issue a modification in accordance with the Contract Clause entitled "DEFAULT (FIXED-PRICE CONSTRUCTION)".

18. (SCR-38) YEAR 2000 COMPLIANCE (OCT 1997) (FAR 39.106):

In accordance with FAR 39.106, the Contractor shall ensure that with respect to any design, construction, goods, or services under this contract as well

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as any subsequent task/delivery orders issued under this contract (if applicable), all information technology contained therein shall be Year 2000 compliant. Specifically, the Contractor shall:

(1) Perform, maintain, and provide an inventory of all major components to include structures, equipment, items, parts, and furnishings under this contract and each task/delivery order which may be affected by the Year 2000 compliance requirement.

(2) Indicate whether each component is currently Year 2000 compliant or requires an upgrade for compliance prior to Government acceptance.

19. (SCR-39) RESERVED

20. (SCR-40) KEY PERSONNEL:

During the performance of this contract, no substitutions shall be made for Subcontractors, outside associates, consultants or individuals specifically identified in the Contractor's accepted proposal to perform key functions in the work, unless determined necessary by the Contracting Officer and approved in writing. Proposed substitutes shall have qualifications comparable to those of the persons being replaced.

21. (SCR-41) DESIGN-BUILD CONTRACT - ORDER OF PRECEDENCE

(a) The contract includes the standard contract clauses and schedules current at the time of the contract award. It entails (1) the solicitation in its entirety, including all drawings, cuts, illustrations, and any amendments, and (2) the successful offeror's accepted proposal. The contract constitutes and defines the entire agreement between the Contractor and the Government. No documentation shall be omitted which in any way bears upon the terms of that agreement.

(b) In the event of conflict or inconsistency between any of the provisions of this contract, precedence shall be given in the following order:

1) Betterments: Any portions of the accepted proposal which both conform to and exceed the provisions of the solicitation.

2) The provisions of the solicitation. (See also Contract Clause: SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION.)

3) All other provisions of the accepted proposal.

4) Any design products including, but not limited to, plans, specifications, engineering studies and analyses, shop drawings, equipment installation drawings, etc... These are "deliverables" under the contract and are not part of the contract itself. Design products must conform with all provisions of the contract, in the order of precedence herein.

22. (SCR-42) PROPOSED BETTERMENTS

(a) The minimum requirements of the contract are identified in the Request for Proposal. All betterments offered in the proposal become a requirement of the awarded contract.

(b) "Betterment" is defined as any component or system which exceeds the minimum requirements stated in the Request for Proposal. This includes all proposed betterments listed in accordance with the "Proposal Submission Requirements" of the Solicitation, and all Government identified betterments.

(c) "Government identified betterments" include the betterments identified on the "List of Accepted Project Betterments" prepared by the Proposal Evaluation Board and made part of the contract by alteration, and all other betterments identified in the accepted Proposal after award.

23. (SCR-43) SEQUENCE OF DESIGN-CONSTRUCTION

(a) After receipt of Notice to Proceed (NTP), the Contractor shall initiate design, comply with all design submission requirements as covered under Division 01 General Requirements, and obtain Government review of each submission. The Contractor may initiate site clearing, etc. with the permission of the Contracting Officer and begin construction on portions of the work for which the Government has reviewed the Final Design submission and determined it satisfactory for purposes of beginning construction. The Contracting Officer will notify the Contractor when the design is cleared for construction. The Government will not grant any time extension for any design resubmittal required when, in the opinion of the Contracting Officer, the initial submission failed to meet the minimum quality requirements as set forth in the contract.

(b) If the Government allows the Contractor to proceed with limited construction based on pending minor revisions to the reviewed Final Design submission, no payment will be made for any in-place construction related to the pending revisions until they are completed, resubmitted and are satisfactory to the Government.

24. (SCR-44) RESPONSIBILITY OF THE CONTRACTOR FOR DESIGN

(a) The Contractor shall be responsible for the professional quality, technical accuracy, and the coordination of all designs, drawings, specifications, and any other non-construction services furnished by the Contractor under this contract. The Contractor shall, without additional compensation, correct or revise any errors or deficiency in its designs, drawings, specifications, and other non-construction services.

(b) Neither the Government's review, approval or acceptance of, nor payment for, the services required under this contract shall be construed to operate as a waiver of any rights under this contract, or of any cause of action arising out of the performance of this contract, and the Contractor shall be and remain liable to the Government in accordance with applicable law for all damages to the Government caused by the Contractor's negligent performance of any of the services described in paragraph (a) furnished under this contract.

(c) The rights and remedies of the Government provided for under this contract are in addition to any other rights and remedies provided by law.

25. (SCR-45) SAFETY AND HEALTH REQUIREMENTS MANUAL, EM 385-1-1, U.S. ARMY CORPS OF ENGINEERS:

EM 385-1-1 and its changes are available at http://www.hq.usace.army.mil (at the HQ homepage, select Safety and Occupational Health).

The Contractor shall be responsible for complying with the current edition and all changes posted on the web (see web address above) as of the effective date of this solicitation and shall comply with the version in effect on the contract award date. This EM 385-1-1 shall remain in effect throughout the life of the contract.

26. (SCR-46) WARRANTY OF CONSTRUCTION WORK - AUG 1997

(a) In addition to any other warranties in this contract, the Contractor warrants, except as provided in paragraph (1) of this clause, that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or workmanship performed by the Contractor or any subcontractor or supplier at any tier.

(b) This warranty shall continue for a period of 1 year from the date of final acceptance of the work. If the Government takes possession of any part of the work before final acceptance, this warranty shall continue for a period of 1 year from the date the Government takes possession.

(c) The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Government-owned or controlled real or personal property, when that damage is the result of:

(1) The Contractor's failure to conform to contract requirements; or
(2) Any defect of equipment, material, or workmanship.

(d) The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for 1 year from the date of repair or replacement.

(e) The Contracting Officer shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect, or damage.

(f) If the Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, the Government shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

(g) With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall:

(1) Obtain all warranties that would be given in normal commercial practice:

(2) Require all warranties to be executed, in writing, for the benefit of the Government, if directed by the Contracting Officer; and

(3) Enforce all warranties for the benefit of the Government, if directed by the Contracting Officer.

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(h) In the event the Contractor's warranty under paragraph (b) of this clause has expired, the Government may bring suit at its expense to enforce a subcontractor's, manufacturer's, or supplier's warranty.

(i) Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defects of material furnished by the Government nor for the repair of any damage that results from any defect in Government-furnished material or design.

(j) This warranty shall not limit the Government's rights under the Inspection and Acceptance clause of this contract with respect to latent defects, gross mistakes, or fraud.

(k.) Defects in design or manufacture of equipment, specified by the Government on a "brand name and model" basis, shall not be included in this warranty. In this event, the Contractor shall require any subcontractors, manufacturers, or suppliers thereof to execute their warranties, in writing, directly to the Government.

27. (SCR-47) VALUE ENGINEERING AFTER AWARD – JUNE 1999

(a) In reference to Contract Clause 52.248-3, "Value Engineering – Construction", the Government may refuse to entertain a "Value Engineering Change Proposal" (VECP) for those "performance oriented" aspects of the Solicitation documents which were addressed in the Contractor's accepted contract proposal and which were evaluated in competition with other offerors for award of this contract.

(b) The Government may consider a VECP for those "prescriptive" aspects of the Solicitation documents, not addressed in the Contractor's accepted contract proposal or addressed but evaluated only for minimum conformance with the Solicitation requirements.

(c) For purposes of this clause, the term "performance oriented" refers to those aspects of the design criteria or other contract requirements which allow the Offeror or Contractor certain latitude, choice of and flexibility to propose in its accepted contract offer a choice of design, technical approach, design solution, construction approach or other approach to fulfill the contract requirements. Such requirements generally tend to be expressed in terms of functions to be performed, performance required or essential physical characteristics, without dictating a specific process or specific design solution for achieving the desired result.

(d) In contrast, for purposes of this clause, the term "prescriptive" refers to those aspects of the design criteria or other Solicitation requirements wherein the Government expressed the design solution or other requirements in terms of specific materials, approaches, systems and/or processes to be used. Prescriptive aspects typically allow the Offerors little or no freedom in the choice of design approach, materials, fabrication techniques, methods of installation or other approach to fulfill the contract requirements.

28. (SCR-48) WARRANTY OF DESIGN (FIRM-FIXED PRICE DESIGN-BUILD CONTRACT) – MAY 2002

(a) The Contractor warrants that the design shall be performed in accordance with the Contract requirements. Design and design related construction not conforming to the Contract requirements shall be corrected at no additional cost to the Government. The standard of care for design is defined in

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paragraph (b) of Special Contract Requirement "RESPONSIBILITY OF THE CONTRACTOR FOR DESIGN".

(b) The period of this warranty shall commence upon final completion and the Government's acceptance of the work, or in the case of the Government's beneficial occupancy of all or part of the work for its convenience, prior to final completion and acceptance, at the time of such occupancy.

(c) This design warranty shall be effective from the above event through the Statue of Limitations and Statute of Repose, as applicable to the state that the project is located in.

(d) The rights and remedies of the Government provided for under this clause are in addition to any other rights and remedies provided in this contract or by law.

29. (SCR-49) DEVIATING FROM THE ACCEPTED DESIGN (JUN 2002)

(a) The Contractor must obtain the approval of the Designer of Record and the Government's concurrence for any Contractor proposed revision to the professionally stamped and sealed and Government reviewed and concurred design, before proceeding with the revision.

(b) The Government reserves the right to non-concur with any revision to the design, which may impact furniture, furnishings, equipment selections or operations decisions that were made, based on the reviewed and concurred design.

(c) Any revision to the design, which deviates from the contract requirements (i.e., the RFP and the accepted proposal), will require a modification, pursuant to the Changes clause, in addition to Government concurrence. The Government reserves the right to disapprove such a revision.

(d) Unless the Government initiates a change to the contract requirements, or the Government determines that the Government furnished design criteria are incorrect and must be revised, any Contractor initiated proposed change to the contract requirements, which results in additional cost, shall strictly be at the Contractor's expense.

(e) The Contractor shall track all approved revisions to the reviewed and accepted design and shall incorporate them into the as-built design documentation, in accordance with agreed procedures. The Designer of Record shall document its professional concurrence on the as-builts for any revisions in the stamped and sealed drawings and specifications.

30. (SCR-50) THRU (SCR-100) RESERVED

31. (SCR-101) ACCOMMODATIONS AND MEALS FOR GOVERNMENT PERSONNEL: (NOT USED)

ATTACHMENT: CLIMATOLOGICAL SUMMARY

CLIMATOLOGICAL SUMMARY

EIELSON (Period of record exceeds 25 years)

MEANS AND EXTREMES FOR PERIOD OF RECORD

Temperature		Mean Annual	25.2° F
		Highest Recorded	93° F
		Lowest Recorded	-64° F
		Maximum Freezing Index	6724° Days (1955-56)
		Maximum Thawing Index	3848° Days 1951
Precipitation		Mean Annual	13.6"
		Mean Annual Snowfall	74.6"
		Maximum Monthly	7.47"
		Maximum Monthly Mean	2.51" July
		Maximum Rainfall During 24 hr Period	3.61" July 1967
		Maximum Snowfall During 24 hr Period	14.2" Feb 1966
		Maximum Monthly Snowfall	47.1" Dec 1949
		Greatest Depth Snow on Ground	54.0" Feb
Wind		Mean Hourly Speed	3.5 mph
		Prevailing Direction	W
		Maximum Velocity	74 mph
		Direction Maximum Velocity	SW
Annual Mean Number of Days	Sunrise to Sunset	Clear	83
		Partly Cloudy	71
		Cloudy	211
		Precipitation 0.01 inch or more	106
		Snow, Sleet, or Hail 1.0 inch or more	55
		Heavy Fog	12
		Thunderstorms	2 per year
	Max Temp	≥ 70°	43
		≤ 32°	154
	Min Temp	≤ 32°	229
		≤ Zero	124

NPA Form 3
AUG 1958

--END OF SPECIAL CONTRACT REQUIREMENTS--

SECTION 00810

CONTRACT ADMINISTRATION DATA

1. Contract Value

The cumulative value of all Task Orders awarded under the two Indefinite Delivery Indefinite Quantity (IDIQ) Contact awards anticipated under this solicitation shall not exceed $48,000,000.00.

2. Contract Term

The base period for the Contract is two (2) years from date of contract(s) award, date of electronic confirmation of a facsimile (faxed) award, or date of signature of an agent of the awardee. The Government may at its option extend the Contract term for two additional 1-year periods. The Government will advise the contractor of its intent to extend the Contract for the optional term at least 60 days before the base period expires. The total duration of the contract, base and optional periods included, shall not exceed four years except that the performance period of Task Orders shall continue until completed.

3. Guaranteed Minimum Amount

3.1 The guaranteed minimum amount for the base period is $10,000.00. The guaranteed minimum for each of the optional 1-year periods is $7,500.00. The guaranteed minimum amount shall be obligated to the contract. The Government intends to satisfy the guaranteed minimum amount by issuance of task orders

3.2 After each contractor has received his or her minimum guarantee requirement, the remaining Contract capacity will be competitive for all future Task Orders.

4. Ordering Procedures

4.1 Multiple Award Ordering Procedures

Two contracts are being awarded for Design - Construction to Repair Utilidors requirements at Eielson AFB, Alaska. Each contractor will be afforded a fair opportunity to be considered for each task order with the following exceptions.

4.1.2 Task Orders under $500,000.00 may be set-aside for negotiated sole-source to a 8(a) firm awardee if any;

4.1.3 The agency need for the construction services is so urgent that providing a fair opportunity would result in unacceptable delays.

4.1.4 Only one awardee is capable of providing the supplies or services required at the level of quality required because the supplies or services ordered are unique or highly specialized;

4.1.5 The order must be issued on a sole-source basis in the interest of economy and efficiency as a logical follow-on to an order already issued under the contract, provided that all awardees were given a fair opportunity to be considered for the original order; or

4.1.6 It is necessary to place an order to satisfy a minimum guarantee.

4.1.7 If the contractor believes it was not fairly considered for a particular task order, the contractor may present the matter to the Contracting Officer. The contractor may appeal the explanation or decision of the Contracting Officer to the USACE Ombudsman, who is the USACE PARC, at the following address: Headquarters, U.S. Army Corps of Engineers, Attention: CEPR-P (USACE Ombudsman: LTC Norbert S. Doyle (202/761-1900)), 20 Massachusetts Avenue N.W., Washington, D.C. 20314-1000. The ombudsman will review the contractor's complaint, and, in coordination with the Contracting Officer, ensure that the contractor is afforded a fair opportunity to be considered for the task order.

4.2 General Ordering Procedures

Task Orders will be awarded on DD Forms 1155 and shall be sequentially numbered. Procedures are set forth herein.

4.3 Requests for Proposals

When a requirement is identified, the Contracting Officer will notify the Contactor(s) of the requirement through the issuance of a Request for Proposal (RFP). The RFP may be issued in paper medium, by facsimile (fax) or mail, or by electronic means. The Contracting Officer will issue oral RFPs when a written RFP is not practicable. Instructions for submission of proposals shall be indicated in the RFP. The RFP will clearly describe all services to be performed and will be within the scope, period, and maximum value of the contract.

Options within Task Orders. Requests for Proposals for Task Orders may include optional items. The RFP shall advise offerors of the method of determining the lowest price, base and optional items considered. Performance specifications will be used to the maximum extent practicable. RFPs will be for design - construction to repair utilidors at Eielson AFB, Alaska.

4.3.1 Amendments

Following any pre-proposal conference or when there is any change in the requirement or terms and conditions, the Contracting Officer may amend the solicitation. Amendments may be in paper or electronic media. Oral amendments will be followed in written form.

Amendments issued before receipt of proposals shall be issued to all awardees receiving the RFP.

4.3.2 Funding

Before issuing a Request for Proposal (RFP) for a Task Order or modification of a Task Order, the Contracting Officer will secure a written statement (or equivalent) indicating that sufficient funds are available. The Contracting Officer or designated Administrative Contracting Officer (ACO) shall not request a proposal prior to securing funds or evidence of availability of funds as indicated herein unless the comptroller or designee has signed the following statement on the purchase request:

> ***"This requirement is included or provided for in the financial plan for FY __. The accounting classification will be __. This statement is not a commitment of funds."***

No Task Order or modification thereof shall be awarded nor will notification be made of a pending award until funds have been certified to be available. Unilateral change orders authorized under Section 00700, 52.243-4, Changes (8/87), shall not be issued until sufficient funds have been certified.

4.3.3. Methods for Evaluating Proposals

Best value, or lowest price methods or a combination thereof shall be used to select the awardee for competitive Task Orders. The method for selection and instructions for preparation of proposals shall be stated in each RFP. The following factors shall be considered when evaluating proposals for each Task Order: a) price; b) past performance, and c) other non-price technical factors which may include design solution, understanding the requirements, construction schedule, and other factors as determined by the Contracting Officer to be essential in the determination of best value for each Task Order. Evaluation factors for award of each Task Order will be stated in the RFP for each Task Order. The relative order of importance of the evaluation factors shall be stated in the RFP. Relative importance of price to the overall non-price factor evaluation shall also be stated in the RFP. The Government shall compare the proposed price, relative to the technical submission, to the Independent Government Estimate, historical prices for similar requirements, and published prices to determine realism of costs, as applicable, and reasonableness of price.

4.3.4 Communications with Offerors

4.3.4.1 Pre-solicitation exchanges to include conferences, notices, draft RFPs, requests for information and site visits may be used to communicate information regarding future requirements and to solicit feedback regarding those requirements.

4.3.4.2 Pre-proposal conferences and site visits may be conducted.

4.3.4.3 Award of Task Orders may be made without discussions with offerors. Offerors may be given an opportunity to clarify certain aspects of proposals or to resolve minor clerical errors.

4.3.4.4 Discussions may be conducted as deemed necessary by the Contracting Officer. Discussions are negotiations with offerors who are determined to be in the competitive range.

4.3.4.5 Communications may be conducted with offerors prior to discussions where inclusion of an offeror's proposal in the competitive range is in question.

4.3.4.6 Offerors eliminated from the competitive range shall be notified by the Contracting Officer. Further revisions to proposals of those offerors eliminated from the competitive range shall not be accepted or considered.

4.3.4.7 Following discussions, offerors remaining in the competitive range will be provided an opportunity for revisions to proposals. Proposal revisions shall reflect the results of discussions to include any variances or deviations from the RFP.

4.3.5 Determination of Best Value for Task Orders. Criteria for the determination of Best Value shall be set forth at each task order Request for Proposal (RFP).

4.3.6 Award of Task Orders. DD Form 1155, Task Order, shall be issued to the selected offeror. The award shall consist of the RFP and the accepted proposal. The Task Order shall be performed in accordance with the Terms and Conditions set forth in the awarded Task Order and the Contract. Any inconsistencies between the Contract and the Task Order shall be resolved by giving precedence to the Task Order.

4.3.7 Notification of Award Letter. Notification of award shall be forwarded to all offerors submitting a proposal. Notification shall include the number of offers received, award price, and rationale for award.

4.4 Contractor's Proposal.

4.4.1 General

The Contractor(s) shall prepare a proposal for accomplishing all tasks included in the scope of work. The proposal shall be inclusive of all requirements relative to the terms and conditions set forth in the Contract and the Task Order request for proposal. Proposal preparation costs shall not be included in the proposal price as a direct cost. The General and Administrative Cost percentage (Schedule B) is the only means of recovery of proposal costs and other administrative cost allowable under this contract. Task Order proposals shall be prepared in the format and level of detail requested in the Request for Proposal. Competitive proposals shall require price breakdown to the Task Order Line Item or Work Breakdown Structure level as defined in the Request for Proposal. Sole source Task Orders shall require a proposal in sufficient detail to permit analysis of all materials, labor, equipment, subcontractors, overhead, profit and time. The costs elements included at **Schedules B** of the Contract are the maximum prices applicable to Task Orders for those elements of price or cost defined in the schedule. Sole source Task Orders that exceed $550,000 shall include cost and pricing data and shall be certified in

accordance with Section 00700, Clause 52.215-20 Requirements for Cost or Pricing Data or Information Other Than Cost or Pricing Data. (10/97), of the Contract and may be subject to audit by the Defense Contract Audit Agency (DCAA). All aspects of the Contractor's price and non-price proposal will be used as the basis for evaluation in competitive requests for proposal and for negotiations in a sole source request for proposal. If a fair and reasonable price cannot be reached in negotiations, the Contracting Officer may seek an alternative source to fulfill the requirement.

4.4.2 Accuracy of the Price Proposal

Task Orders shall be priced on a firm-fixed-price basis wherein the Task Order provides for a price that is not subject to any adjustment on the basis of the Contractor's cost experience in performing the contract. The Contractor is responsible for the accuracy of quantity take-offs and unit pricing used in deriving the proposed price. The Government's review, analysis and acceptance of the Contractor's proposal quantities and prices does not relieve the Contractor from the responsibility to deliver the requirements set forth in the requests for proposal for individual Task Orders and modifications. The Contractor is responsible for the accuracy of its proposal.

4.4.3 Reserved.

4.4.4 Compliance with the Request for Proposal

Offers shall be evaluated for compliance with the requirement set forth in the Contract and the Task Order RFP. Offers not in compliance with the Contract or the RFP may be rejected.

4.4.5 Delivery of the Proposal

4.4.5.1 Proposals and any revisions thereof shall be received by the Government by the time and at the location specified in the RFP or for each subsequent Task Order.

4.4.5.2 Amendments to the RFP shall be acknowledged in both original and revised proposals.

4.5 Issuance of Task Orders

4.5.1 Individual orders must clearly describe all services to be performed or supplies to be delivered. Orders must be within the scope, period, and maximum value of the contract.
4.5.2 Performance specifications will be used to the maximum extent practicable.
4.5.3 Orders may be placed by using any medium specified in the Contract.
4.5.4 Orders placed will contain the following information:
a) Date of order
b) Contract number and order number
c) Contract item number and description, quantity, and unit price
d) Performance schedule

e) Place of performance (including consignee)
f) Accounting and appropriation data
g) Address for submission of invoices/pay estimates

4.5.5 No protest under Subpart 33.1 is authorized in connection with the issuance or proposed issuance of an order under this Contract, except for a protest on the grounds that the order increases the scope, period, or maximum value of the Contract (10 U.S.C. 2304c(d) and 41 U.S.C. 253j(d)).

4.6 Cancellation of Requests for Proposals.

Requests for proposal issued under this Contract are subject to cancellation at any point before award.

5 Exercise of Optional Period of Contract

Past performance on Task Orders will be considered in the exercise of the optional periods. Exercise of the optional 1-year periods will be at the discretion of the Government. The remaining capacity of the base period at CLIN 0001 will be carried forward to CLINs 0002 and 0003 for award of Task Orders during the optional periods.

6 Administration of Task Orders

6.1 Administrative Office. Administrative Contracting Officers (ACOs) shall be delegated certain authority for administration of Task Orders awarded under the Contract(s). The Contracting Officer shall delegate such authority by letter. The delegation letter shall define the limits of authority and specific areas of responsibility of the Administrative Contracting Officer (ACO). ACO authority for issuance of RFPs for modifications to Task Orders and negotiation of prices of said modifications shall be limited to within scope modifications within the monetary authority specifically set forth in the ACOs delegation authority. RFPs for Task Order modifications shall only be issued when sufficient funds are certified for modification. A copy of the ACO's delegation of authority signed by the Contracting Officer shall be forwarded to the Contractor for acknowledgement. The ACO shall be assigned from the Northern Area Office located at Fort Wainwright. Resident Engineers are located at military installations in the Northern Area Office and shall be delegated authority for administration of the Contract by the Contracting Officer, located at Alaska District, Corps of Engineers Headquarters, located on Elmendorf AFB, Alaska.

6.2 Notice to Proceed (NTP). The Contracting Officer shall issue a NTP letter subsequent to the issuance of the signed task order award letter.

6.3 Bonds and Insurance. Performance and payment bonds, in the amounts specified in the contract, shall be furnished to the Contracting Officer within ten (10) days of receipt of task order award. Insurance certificates in the amounts specified in the Contract shall be received 10 days from receipt of task order award. No physical construction efforts or

work on a Government installation shall begin before receipt and approval of required bonds and insurance.

6.4 Signature Authority. Authorities set forth in the Contract or subsequent notifications from the Contractor shall be in effect for Task Orders unless separate notifications of signature authority are received from the Contractor.

6.5 Payments. Payments shall be made in accordance with Section 00700, Clause 52.232-27, Prompt Payment for Construction Contracts (Feb 2002) and Section 01271, Measurement, Payment, and Contract Cost Breakdown.

6.6 Evaluation of Performance. Performance for each Task Order over $500,000.00 shall be evaluated on SF 1420, Performance Evaluation (Construction Contracts).

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-- End of Section Table of Contents --

SECTION 01010

DESIGN CRITERIA REQUIREMENTS

PART 1 GENERAL

1.1 PROJECT DESCRIPTION/STATEMENT OF WORK

This project is to repair and upgrade existing utilities in the utilidors serving Eielson AFB, Alaska. Eielson AFB is located 26 miles southeast of Fairbanks, Alaska. This project involves repair of operational utilidor and demolition of abandoned utilidor. The utilidors are below ground and vary in size and configuration. The utility systems in the utilidors are water, sewer, steam heat, and communications.

Except for communications, the existing utility piping and appurtenances in the utilidors shall be demolished. The utilities shall be replaced with modern materials and appurtenances per the requirements of this RFP. The replacement water, sewer, steam, and condensate pipe shall have the same nominal diameter as the existing pipe except for specific locations called out in the plans. Utilidor structure modifications are limited to repair or replacement of specific manholes and service utilidor. Existing facilities and concept plans and details for the utilidor repairs are shown in the RFP plans.

A complete design and construction of utility systems within the utilidors is to include water, sewer, steam, and condensate piping and appurtenances. In addition, provide for new fire hydrants and support for communication cables in the utilidors. The RFP plans describe the project area, existing utilidor facilities, and conceptual design for improvements.

1.1.1 Demolition at Operational Utilidor and Government Salvage Items

Demolition shall include removing all existing water, sewer, steam, and condensate piping systems from the utilidor structure. Remove all steel pipe anchors, piping supports, and expansion joints. The existing concrete utilidor structure shall be protected from damage, and demolished only if required for modifications. Cast in place concrete water line anchors may remain if the Contractor incorporates them as pipe support or anchors within the new pipe support system. Do not reuse existing sewer line concrete pipe supports. The existing communication cables and grounding wires shall be protected from damage, remain operational and in place. Specific Government salvage items are called out on Sheet G1.2. On-Base disposal sites are available for specific debris. Locations and waste disposal planning requirements are located in Appendix D of the DB/RFP Design Requirements.

1.1.2 Demolition of Abandoned Utilidor

Demolition of Abandoned shall include the following:

1. Earthwork to expose utilidor for demolition and backfilling.
2. Earthwork, curb and gutter, sidewalk, paving and landscaping to restore surfaces.
3. Abate and dispose of all asbestos containing material and hazardous materials.

4. Remove and dispose of all utilidor lids, MH chamber slabs, pipe fittings, pipe, support systems, access hatch, cables, and all other demolition debris.
5. Perforate utilidor floor prior to backfilling. See Detail 3, Sheet C 5.1.
6. Detach utilidor to be demolished or abandoned in place from operational utilidor concrete by saw cutting.
7. Seal portals from operational utilidor to abandoned utilidor with water-tight cast-in-place reinforced concrete. Remove all concrete forms.

1.1.3 Asbestos Abatement

Asbestos abatement shall be done for all the utilidor spaces receiving new utilities or to be demolished. Almost all the steam and condensate piping in the project utilidors is insulated with friable asbestos-containing insulation and most other insulation is contaminated with asbestos. In addition, the majority of the sewer pipe in the utilidors is cement asbestos pipe (Transite). Loose asbestos debris has been spread throughout the utilidor system. The walls and floors of the utilidor will require cleaning before unprotected workers are allowed to begin installing new piping. Utilidor lids and joints are sealed with asbestos-containing mastics and gaskets. The Contractor will be required to remove and dispose of all asbestos from the utilidors and branches as part of this project. See Section 13000, HAZARDOUS MATERIALS ABATEMENT and Appendix F, HAZARDOUS MATERIALS SURVEY REPORTS.

On-base disposal of asbestos material is available. Locations of disposal sites are on Sheet LV1.0 and, waste disposal planning requirements are in Appendix D, EIELSON AFB WASTE DISPOSAL/BORROW PIT WORKSHEET.

1.1.4 Earthwork and Site Work

Earthwork will be required to remove the utilidor lids to access the interior utilities. Locations of fixed utilidor lid are listed on Sheet G1.6. Where the utilidor crosses under a street, the lids may remain on and the work proceeds from opened utilidor on each side of the roadway embankment. Specific sections of service utilidors in the plans are required to be exposed for waterproofing. The Contractor shall restore landscaping, signs, sidewalk, curb and gutter, roadway pavement and embankment, and replace any lids damaged during removal or found to be defective. Experience from recent utilidor repair work found less than 5% of the lids are damaged or found to be defective during removal operations and need replacement. Above grade utilities shall be kept in operation and protected from damage. The exterior of utilidors exposed by earthwork shall be insulated.

On-base sources of classified fill are available. Pit locations and planning requirements are described in Appendix D, EIELSON AFB WASTE DISPOSAL/BORROW PIT WORKSHEET.

1.1.5 Manhole Upgrades

Upgrades at operational utilidor shall include major reconstruction at specific manholes, new hatches, access ladders, frost lids, modified fire hydrant shafts, repair of spalled concrete on the above grade portion of the manhole shafts, replace damaged vent shrouds, and redesigned sump alarm posts. All fire hydrants shall be replaced. As indicated in the plans, vents shall be constructed at specific manholes. Vent openings shall allow attachment of the 354th CES/CEOWD Utilidor Maintenance Shop's portable

blower to allow mechanical ventilation. New sumps with submersible electric pumps shall be installed at the manhole replacement and relocations shown in Schedule located in the DB/RFP plans.

Paint all above ground concrete and metal surfaces except architectural, split faced, concrete masonry units and access hatches.

1.1.6 Utilidor Cleaning and Crack Grouting

Operational utilidor and manhole interiors shall be cleaned to remove accumulation of surface debris and allow examination of the concrete for spot repairs and identify seepage. Seepage areas shall be sealed using chemical grout. An estimated length of cracks for grouting is given in Scope of Work, Sheet G1.2.

Surface debris includes fine soil carried by seepage, gravel accumulation through lid breaches, and insulation from pipe. The vast majority of pipe insulation remains on the pipe. Estimate a total volume of fine soil accumulation using one-eighth (1/8) inch uniform depth over the length of the utilidor floor being cleaned. Volume of pipe insulation is to be estimated using pipe diameters, lengths, and insulation thickness given in the plans. Pipe diameters and insulation thickness are reported on Schedules in the DB/RFP plans.

1.1.7 Piping System

Piping anchor, support, and expansion systems shall be replaced within the utilidors and manholes. Valves, anchors, and expansion joints shall be located in manholes. Piping support systems shall be designed and constructed in all the utilidors and manholes within this project. System shall be designed to not degrade the performance of adjoining utilidor and manhole piping systems that are not included in this project and are scheduled to remain.

1.1.8 Communication System in Operational Utilidors

Communication cable supports and electrical upgrades shall also be designed and constructed. The communications cables presently in the utilidors are to be consolidated into a rack system. The cables shall remain in operation during construction. Lighting and service power shall be provided at each of the project manholes.

Provide infrastructure for a future (Not in Contract) Utilities Monitoring System as described in design criteria Section 16000, UTILIDOR POWER DISTRIBUTION, COMMUNICATIONS, AND LIGHTING SYSTEMS, Paragraph 2.2.6, Utilities Monitoring System Infrastructure.

1.1.9 Communication System in Abandoned Utilidor

Private and Government owned active communication cable in abandoned utilidor to be demolished shall be installed as direct bury cable. Install cable within the footprint of demolished utilidor

1.1.10 Soil and Groundwater

There is substantial existing soil and groundwater information available from the Government for the Contractor's use. There is a record of contaminated sites adjacent to the project area. A summary of the Eielson

soil, groundwater, and adjacent known contaminated sites is in Appendix A, GEOTECHNICAL SUMMARY. Design criteria Section 02280, CONTAMINATED SOILS REMOVAL, HAULING, AND STOCKPILING describes the work associated with contaminated soil and groundwater if it is encountered. Contaminated soil only within the excavation required for the project work is subject to removal. See design criteria Section 02280, CONTAMINATED SOILS REMOVAL, HAULING, AND STOCKPILING, Paragraph 1.3, DESCRIPTION OF WORK for estimated contaminated soil volume.

1.1.11 Health and Safety

Health and safety issues to be addressed by the Contractor's Accident Prevention Plan include, but are not limited to, confined space entry, energized utilities, enclosure of temporary steam lines, power pole shoring, dust suppression, safety fencing, and safety of the public using facilities adjacent to the project work. The Contractor is advised to exercise caution while working in confined spaces that may contain hazardous atmospheres. Utilities may or may not be energized during construction. Caution should be exercised while working in and around these utilities. See Section 01525: SAFETY AND OCCUPATIONAL HEALTH REQUIREMENTS

1.1.12 Landscaping

The landscaping shall follow the landscape design requirements found in Appendix B, ESTABLISHING VEGETATION. The Contractor shall replace all fences, pavement, trees, shrubs, and ground cover to original or better condition with new materials. Existing trees and shrubs shall be salvaged.

The Contractor shall develop specifications for plant digging, handling, and storage. Transplanting existing trees with a trunk diameter greater than 1 inch shall not be attempted. Replace existing trees and shrubs with like species and in the same layout as exists prior to construction activity. Trees with a trunk diameter greater than 1 inch shall be replaced with the same species at the rate of two (2) trees for the first 2 inches in diameter and one (1) tree for each additional 2 inches of trunk diameter. Measure trunk diameter 36 inches above the ground surface. Round up when the trunk diameter is an odd inch. For example, a trunk diameter of 2.75 inches would round to 4 inches and be replaced with three (3) trees. Transplanted plant material shall be guaranteed to be in vigorous growing condition for a period of 12 months. A plant shall be replaced one time under this guarantee.

Location of replacement trees shall be coordinated with the 354 CES/CEVN through the Contracting Officer.

Trunk guards shall be installed around all new and transplanted trees. Guards must be AborGard+ by Ben Meadows Company, Barkgard by Easy Gardener, or equivalent.

Replacement trees and shrub plant material shall be grown within 100 miles of Fairbanks. The Contractor shall provide documentation of seed source for each tree and shrub. Existing trees and shrubs retained within the project area shall be protected by a 9 gauge, wire woven, 2 inch diamond mesh chain link fabric at least 6 feet high. Secure fabric to the posts using 9 gauge tie wires spaced no more than 12 inches on center. Support perimeter of fabric with 2 inch diameter steel posts or other approved steel posts. Posts shall be set outside the root ball and, at least 2 feet from the trunk of deciduous trees and outside the tip of the lowest branches on evergreen trees. Driven posts are preferred. Contractor shall

remove all tree and shrub protection fencing as part of Project Closure.

1.2 INTENT

The Government seeks a complete and usable upgrade of the water, sewer, and steam utilities in their utilidors. It shall be free of defects and compatible with the surrounding built and natural environment. Innovation and creativity are encouraged in developing the overall design and construction for this project.

This project shall be designed and constructed with quality materials and workmanship throughout and in accordance with all applicable codes, regulations, standards, and local ordinances. Choice of materials and methods of construction shall not compromise the safety of maintenance workers and shall optimize quality, economy, maintainability, and life cycle costs.

The design criteria stated in this RFP, is the minimum quality acceptable for proposals and project submittals. The Proposer is encouraged to exceed these minimums within allowable funds. Refer to Section 00100, PROPOSAL SUBMISSION REQUIREMENTS and Section 00120, EVALUATION FACTORS.

1.3 CODES AND REFERENCES

Industry standard references such as ASTM, AWWA, and ANSI/ASME and some references readily available on the Internet are not attached with this RFP. Each Proposer shall be responsible for obtaining any documents not attached as part of this RFP, but referenced as criteria for this project. Requirements contained in this RFP may revise, add to, or substitute for criteria contained in the referenced documents. This RFP shall be deemed the controlling authority wherever such differences exist.

1.4 DESIGN CRITERIA SECTION

The following design criteria sections constitute the minimum design and salient features required and form a part of the RFP requirements:

DIVISION 2 - SITE WORK
02280 CONTAMINATED SOILS REMOVAL, HAULING, AND STOCKPILING
02300 EARTHWORK
02509 UTILIDOR STRUCTURE
02510 WATER DISTRIBUTION SYSTEM
02531 SANITARY SEWERS
02559 STEAM DISTRIBUTION SYSTEM
02741 ROADWAY
02770 CONCRETE SIDEWALKS AND CURBS AND GUTTERS

DIVISION 13 - SPECIAL CONSTRUCTION
13000 HAZARDOUS MATERIALS ABATEMENT

DIVISION 16 - ELECTRICAL
16000 UTILIDOR POWER DISTRIBUTION, COMMUNICATIONS, AND LIGHTING SYSTEMS

1.5 APPENDICES

To the extent referenced throughout the RFP, the following appendices form a part of the RFP requirements.

APPENDIX A GEOTECHNICAL SUMMARY
APPENDIX B ESTABLISHING VEGETATION
APPENDIX C EIELSON AFB WASTE DISPOSAL/BORROW PIT WORKSHEET FORM
APPENDIX D EIELSON AFB WASTE DISPOSAL/BORROW PIT WORKSHEET
APPENDIX E STATE OF ALASKA, DEPARTMENT OF ENVIRONMENTAL CONSERVATION GENERAL WASTEWATER PERMITS
APPENDIX F HAZARDOUS MATERIALS SURVEY REPORTS
APPENDIX G JANUARY 2002 EIELSON UTILIDOR DESIGN GUIDE

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

APPENDIX A

GEOTECHNICAL SUMMARY

Table of Contents

1. Geotechnical Summary, Repair Utilidors, Phase IV, Cantonment Area, Eielson Air Force Base, Alaska, September 10, 2002

Note: The September 10, 2002 report covers Wabash Avenue project area from MH 333 to 208. It is also applicable to the remaining Phase VI project areas.

GEOTECHNICAL SUMMARY
REPAIR UTILIDORS, PHASE IV, CANTONMENT AREA
EIELSON AIR FORCE BASE, ALASKA

1.0 INTRODUCTION

The utilidors at Eielson Air Force Base (AFB) were constructed 45 to 50 years ago. The maintenance crews are currently experiencing increased incidences of repair. Critical areas were identified and prioritized. The initial Scope of the Phase IV effort included both MILCON M&R, mission critical support facilities referred to as the Cantonment Area (CA), and the Family Housing (FH) facilities. During the design charrette on May 14 through 16, 2002, a scope of work was defined for both the FH and CA portions of the project. The Phase IV scope of work for the FH is discussed in a separate report. The following scope of work was identified for the Cantonment Area in Phase IV.

- Portions of work defined in Phase II but not awarded, which includes the utilidor along Broadway from Central to Flightline Avenue and from Broadway to Building 1140. Repairs begin at MH 111 continue south to MH 113, turn east and continue to MH 219-1.

- Utilidor work along Wabash from North Street to Tanker Road. Repairs begin at MH 333 continue south to MH 204 and onward to MH 114.

- Utilidor work along Flightline Avenue from MH 111 to MH 103.

A site plan depicting approximate locations of each of the priorities is shown in the attached Figure 1.

2.0 GENERAL SITE CONDITIONS

Eielson Air Force base is located in the Tanana River Valley about 30 miles southeast of Fairbanks. The valley at the base is a wide flat plane, generally forested with birch and spruce. The Eielson area is located in the Tanana Lowlands physiographic province. The lowlands consist of vegetated floodplains and low benches cut by the Tanana River, and

sloughs and oxbow lakes representing former channel positions of the Tanana River or its tributaries. Soils in the lowlands typically consist of interbedded alluvial sands and gravels covered by silty overbank deposits. The thickness of the alluvial sediments overlying bedrock in the vicinity of the project is unknown, but estimated to be as great as 400 feet in the Fairbanks area.

The Fairbanks area is located within a subarctic zone underlain by discontinuous permafrost. Permafrost is defined as that part of the earth's surface where a temperature below 0°C has existed for two or more years. The maximum depth of permafrost measured in the Fairbanks area exceeds 160 feet. The thickness of the active layer (the near-surface ground that undergoes an annual freeze-thaw cycle) is largely dependent upon soil type, ground cover, and snow depth. Frost penetration beneath roads, parking lots, and other areas kept clear of snow can exceed 10 feet; whereas, frost penetration in areas covered by organic material or snow is typically 3 feet or less.

The Eielson base is located on the northeast side of the Tanana River. Most of the base development is east of the runway.

3.0 PREVIOUS EXPLORATIONS AND OBSERVATIONS

Geotechnical explorations have not been specifically conducted for this project. The geotechnical information presented herein was obtained from reports of previous explorations for nearby projects. This information was reviewed and summarized for this document. Copies of site plans, pertinent boring logs, and groundwater information are presented in the attachments for reference.

Geotechnical

Building 3315

Previous geotechnical explorations performed in April of 1987 in the vicinity of Building 3315 were reviewed for this work. We reviewed a total of four boring logs. The site plan and logs are presented in Attachment A. The soils encountered in the four borings consisted of 6.5 to 7.5 feet of medium-dense to very dense, sandy gravel fill underlain by 0.5 to 1.5 feet of medium-dense to stiff silt. The silt was underlain by medium-dense, interbedded, sandy gravel and gravelly sand to the depths explored.

Groundwater was observed at depths of 13 to 13.5 feet below the ground surface at the time of drilling.

Analytical testing was not performed on any of the samples.

Building 3127

Previous geotechnical exploration data performed in May of 1988 for the addition to Building 3127 were reviewed for this work. We reviewed two boring logs. The site plan and logs are presented in Attachment B. The soils encountered in the exploratory borings were relatively uniform. In general, soils consisted of a surficial 1- to 1.5-foot-deep silt or silty soil underlain by 4 to 7.5 feet of silt, sand, and gravel fill over 2 to 3 feet of silty to slightly silty sand. These soils were underlain by gravelly sand and sandy gravel to the depths explored. In general, the relative density of soils throughout the boring was medium dense.

The groundwater table was encountered in the borings between about 14.5 feet below the ground surface. Permafrost was not encountered within the depths explored. Seasonal frost was encountered in both borings between depths of 2 to 7 feet.

Analytical testing was not performed on any of the samples.

Environmental

The Phase IV project includes sections of utilidor and associated facilities that pass through or adjacent to several identified areas that have, or have had, environmental contamination. These source areas and sites are identified below. Selected records of decision (RODS) and summaries of these source areas from the EAFB Operable Unit 2 and Operable Units 3, 4, and 5, Declaration of the Amended Record of Decision, dated September 1995, are presented in Attachments C through E.

- Source Area DP44: This site is near the Large Aircraft Maintenance Hangar in the area of buildings 1138, 1141, and 1144. Contamination in this area is suspected to originate from jet engine maintenance activities and the battery shop (Building 1141). Groundwater contamination above the Environmental Protection Agency (EPA) screening risk-based assessment levels has been detected in monitoring wells in this area. This site has TCE, DCE, and benzene groundwater contamination and solvent and benzene contaminated soil.

- Source Area SS47: This site is in the northeast corner of the intersection of Central Avenue and Broadway Avenue. This site is in the commissary parking lot. Fuel contaminated soil were observed in the parking lot. Groundwater contamination was noted below screening levels. Lead was detected in the groundwater in two wells upgradient of the site. However, it is not expected that the utilidor work in the area will impact the groundwater.

- Source Area ST59: This site includes building 2207 northeast of Central Avenue and the North Street intersection. Little information was found other than the Alaska Department of Conservation (ADEC) report that declared the site as requiring no further action in 1992.

Groundwater

In addition to the site-specific exploration studies, an areawide groundwater study was performed for the base. Two years of monitoring well groundwater levels were plotted. The study shows a consistent groundwater gradient flowing to the northwest, generally parallel to the Tanana River. Seasonal fluctuation appears to be consistent throughout the base, with about 2.5 feet of variation. Groundwater surface plots and seasonal fluctuation plots are presented in Attachment G.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The soils along the utilidor alignment and in the vicinity of Phase IV manholes will likely consist of a surficial layer of sand and gravel fill or silt underlain by primarily sand and gravel. A silty zone at about 5 to 10 feet below the surface may be encountered in areas overlain by fill.

Trenching

During any deep trenching the trench sidewalls should not be expected to stand at a steep angle, especially below the groundwater. Groundwater volumes may be significant, such that dewatering may be needed operate in a deep trench. We understand most of the utilidor repair will involve opening the lids and working within the existing concrete corridor; therefore, there is little chance that groundwater or contamination will be encountered.

Street/Road Crossings

Where the utilidor crosses streets or roads, new material should be imported to reconstruct the street section. No records were found showing the current section. The upper materials should be to be nonfrost susceptible (NFS). During the excavation the depth of the current street section should be determined. The same section will be appropriate for the backfilling. NFS backfill near and extending out from the utilidor beneath roads should be tapered. The fill taper is intended to prevent differential frost-jacking of pavement section due to subsurface silty soils.

The recommended transition taper for utilidor street or road crossings is intended to limit the potential sharp, differential frost heave that can occur when there is an abrupt transition from NFS soils to frost-susceptible soils. Transitions are discussed in AFM 88-6, Chapter 4 section 7-3. For buried utilidor crossings beneath low-speed streets and roads, we typically recommend a gradual backfill transition taper of 4 horizontal to 1 vertical, or flatter, in select or structural fill materials.

Potentially Contaminated Soils

The soils excavated from any deep trenches may be contaminated, especially those soils removed from near the groundwater zone. Soils should be screened. Backfilling, stockpiling, testing, treating, and disposing of the potentially contaminated soils should be conducted in accordance with EAFB policies and agreements and in accordance with State requirements (18AAC 75, 18 AAC 78). Laboratories used to comply with the above procedures and policies should be validated by the Corps of Engineers (COE) for the methods used.

Groundwater

Groundwater may be a concern, especially where the utilidor or manholes are deep. The highest groundwater levels occur immediately following breakup and again in late August. There appears to be some short-term impact on the groundwater from rain during the summer. It is not known what lag time or magnitude of rise is associated with rainfall events. Flow volumes in any trench will be dependent on the soil type. With clean gravels, dewatering could be needed to maintain trench stability. We do not recommend dewatering in contaminated areas, and suggest the contractor pursue other construction methods if groundwater is encountered. Dewatering on EAFB will require permits and possibly contaminant testing prior to discharge.

Dewatering may entail contaminated water or migration of contaminated water. This water cannot be disposed of under the current Eielson dewatering permit. Regulations regarding dewatering with contaminated water present are included in 18 AAC 72.

Seismic

The site is located in Seismic Zone 3. For the 1997 UBC code the soil profile is S_D. The near source factors N_a and N_V will both be 1.0 for all source types. The potential for liquefaction at the site is low to moderate. There are relatively loose granular soils and groundwater; however, the sand and gravel are generally more coarse than would be typical for liquefaction to occur.

5.0 LIMITATIONS

The information and conclusions presented above are based on previous information compiled for a different project. The data was not obtained for the purpose of construction or repair of a utilidor. Additionally, some of the data is more than 10 years old. Subsequent activities in the project area could have changed the interpreted subsurface conditions; thus, there may be differences in the soil descriptions, soil types, and groundwater conditions. Any use of this data should consider the potential for differing site conditions.

We appreciate the opportunity to be of service.

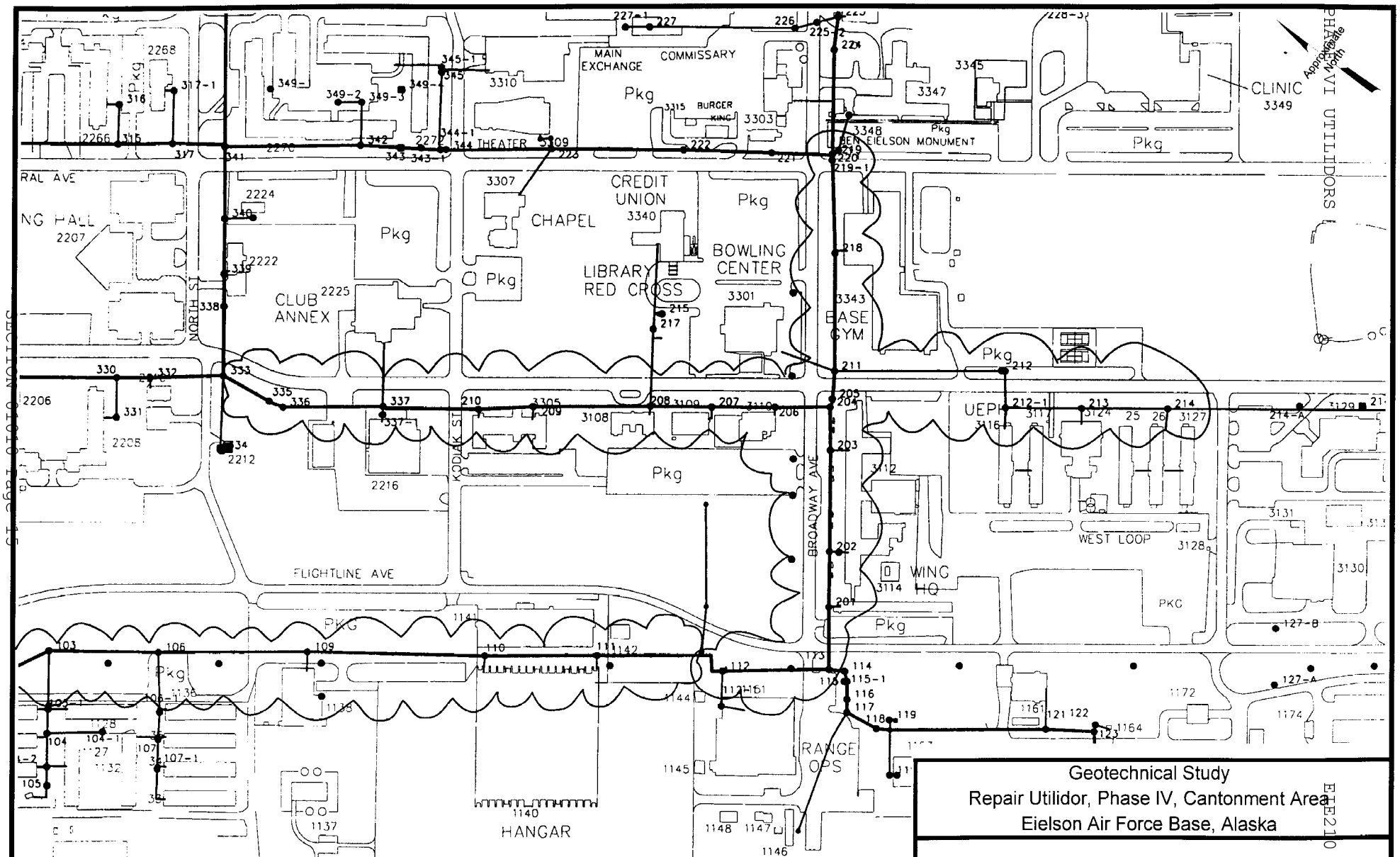
Sincerely,

SHANNON & WILSON, INC.

Stephen Adamczak, Jr., P.E.
Vice President

STATE OF ALASKA
49TH
STEPHEN ADAMCZAK JR.
NO. CE 6481
REGISTERED CIVIL ENGINEER

Att: Figure 1 Site Plan
Attachment A Building 3315 Geotechnical Data and Site Map
Attachment B Building 3127 Geotechnical Data and Site Map
Attachment C Records of Decision (RODS), Environmental Source Area DP 44
Attachment D Records of Decision (RODS), Environmental Source Area SS 47
Attachment E Alaska Department of Environmental Conservation, No Further Action Statement, Environmental Source Area SS 59
Attachment F Sitewide Water Table Data



LEGEND:

- Phase IV Cantonment Area Project Limits

Approximate Scale

0 350 700

feet

Geotechnical Study
Repair Utilidor, Phase IV, Cantonment Area
Eielson Air Force Base, Alaska

SITE PLAN

31-1-01727-002 October 2002

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

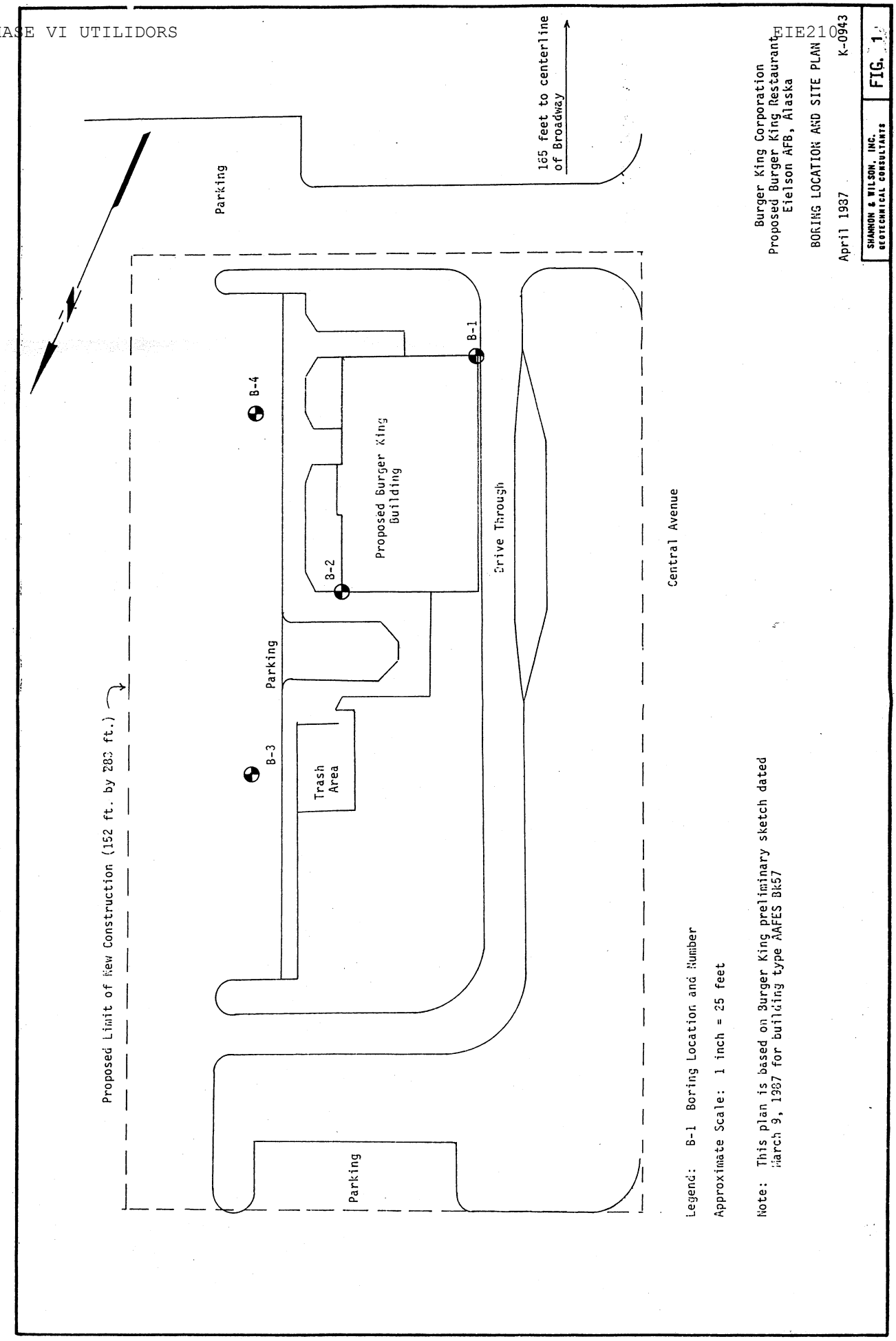
Figure 1

EIE210

Figure 1

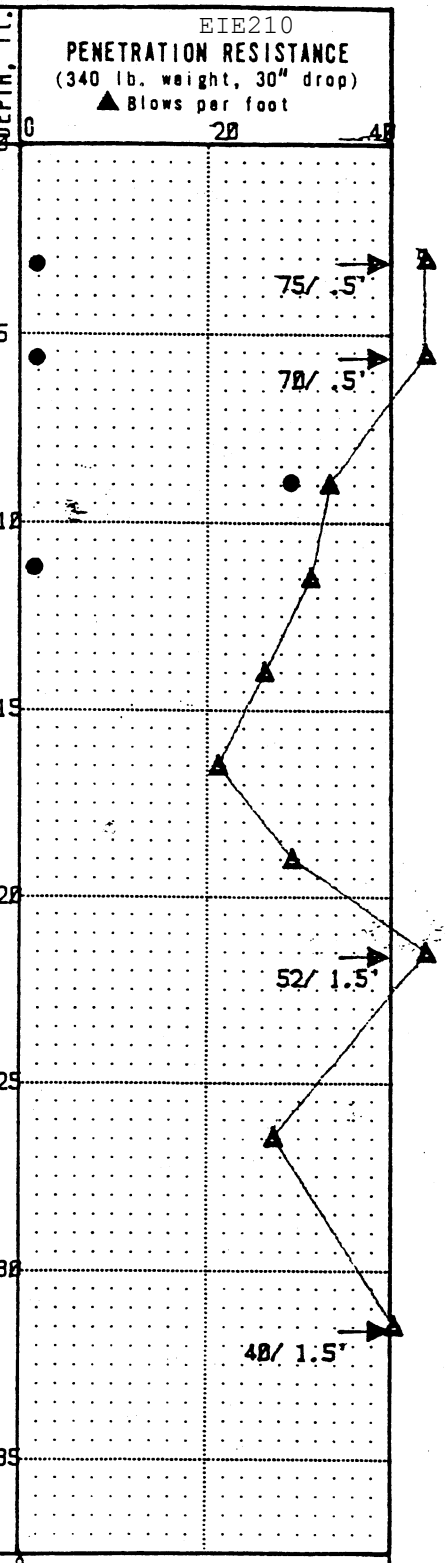
ATTACHMENT A

Building 3315 Geotechnical Data and Site Map


165 feet to centerline of Broadway
Parking
B-1
B-4
Proposed Burger King Building
Drive Through
Central Avenue
B-2
Parking
B-3
Trash Area
Proposed Limit of New Construction (152 ft. by 283 ft.)
Parking
Legend: B-1 Boring Location and Number
Approximate Scale: 1 inch = 25 feet
Note: This plan is based on Burger King preliminary sketch dated March 9, 1987 for building type AAFES Bk57
Burger King Corporation
Proposed Burger King Restaurant
Eielson AFB, Alaska
BORING LOCATION AND SITE PLAN
April 1987
K-0943
SHANNON & WILSON, INC.
GEOTECHNICAL CONSULTANTS
FIG. 1

EIE210

SOIL DESCRIPTION	GRAPHIC LOG	DEPTH, ft.	SAMPLE	GROUND WATER
Surface Elevation:				
ASPHALT		0.1		
BROWN SANDY GRAVEL WITH SMALL COBBLES, NF TO NBN			1, 2	
		6.5		
GRAY TO BROWN SILT WITH OCCASIONAL FINE SAND INTERBEDS, NBN			3	
		10.5	4	
MEDIUM DENSE TO DENSE BROWN TO GRAY INTERBEDDED SANDY GRAVEL, GRAVELLY SAND AND SAND			5, 6, 7, 8, 9	Observed During Drilling
		31.5	10	
BOTTOM OF BORING BORING COMPLETED 4/9/87				



LEGEND

Frozen Ground

Gravel

Sand

Silt

Clay

Peat

Organic Content

Impervious seal

Water level

Piezometer tip

Thermocouple

I 3" O.D. split spoon sample

II 3" O.D. thin-wall sample

* Sample not recovered

Atterberg limits:

Liquid limit

Water content

Plastic limit

Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.

BURGER KING CORPORATION
PROPOSED BURGER KING RESTAURANT
EIELSON AFB, ALASKA

LOG OF BORING NO. B-1

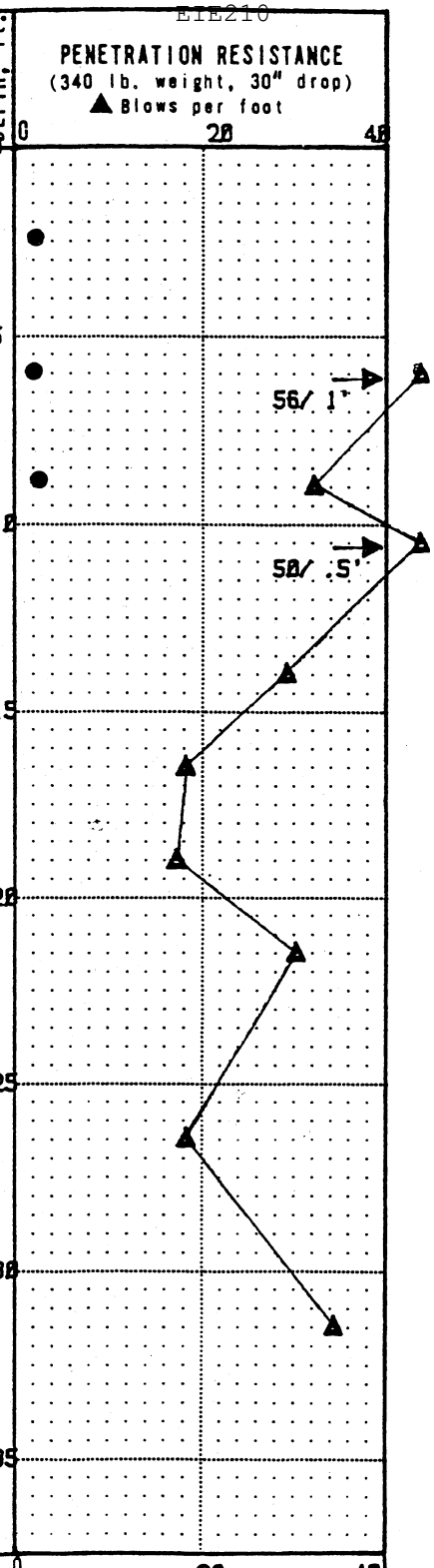
APRIL 1987

K-09431

SHANNON & WILSON, INC.
GEOTECHNICAL CONSULTANTS

FIG 2

SOIL DESCRIPTION Surface Elevation:	GRAPHIC LOG	DEPTH, ft.	SAMPLE	GROUND WATER
ASPHALT		0.1		
BROWN SANDY GRAVEL WITH SMALL COBBLES, NF TO NBN			1 G	
			2	
		7.5		
GRAY SILT, NBN		8	3	
MEDIUM DENSE TO DENSE GRAY TO GRAY-BROWN INTERBEDDED SANDY GRAVEL, GRAVELLY SAND AND SAND			4	
	12		5	▽
			6	
			7	
- WOOD FRAGMENTS NEAR 20 FEET			8	Observed During Drilling
			9	
		31.5	10	
BOTTOM OF BORING BORING COMPLETED 4/9/87				



LEGEND

Frozen Ground

Gravel
Sand
Silt
Clay
Peat
Organic Content

Impervious seal
Water level
Piezometer tip
Thermocouple
I 3" O.D. split spoon sample
II 3" O.D. thin-wall sample
* Sample not recovered

Atterberg limits:
Liquid limit
Water content
Plastic limit

Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.

BURGER KING CORPORATION
PROPOSED BURGER KING RESTAURANT
EIELSON AFB, ALASKA

LOG OF BORING NO. B-2

APRIL 1987 K-8943-11

SHANNON & WILSON, INC.
GEOTECHNICAL CONSULTANTS

ETC 3

SOIL DESCRIPTION Surface Elevation:	GRAPHIC LOG	DEPTH, ft.	SAMPLE	GROUND WATER	DEPTH, ft.	PENETRATION RESISTANCE (340 lb. weight, 30" drop) ▲ Blows per foot
ASPHALT		0.1		NOT OBSERVED DURING DRILLING	0	0 20 40
BROWN SANDY GRAVEL WITH SMALL COBBLES, NF TO NBN		6	1 I		5	80/ .8'
GRAY PEATY SILT, NBN TO NBE		7	2 I			45/ .5'
BROWN TO GRAY-BROWN SANDY GRAVEL NBN TO NF		12.5	3 I 4 I 5 I		10	50/ .4' 60/ .5'
BOTTOM OF BORING BORING COMPLETED 4/9/87		13			15 20 25 30 35	

LEGEND

Frozen Ground

Gravel
Sand
Silt
Clay
Peat
Organic Content

Impervious seal
Water level
Piezometer tip
Thermocouple
I 3" O.D. split spoon sample
II 3" O.D. thin-wall sample
* Sample not recovered

Atterberg limits:
Liquid limit
Water content
Plastic limit

● % Water content

Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.

BURGER KING CORPORATION
PROPOSED BURGER KING RESTAURANT
EIELSON AFB, ALASKA

LOG OF BORING NO. B-3

APRIL 1987 K89489

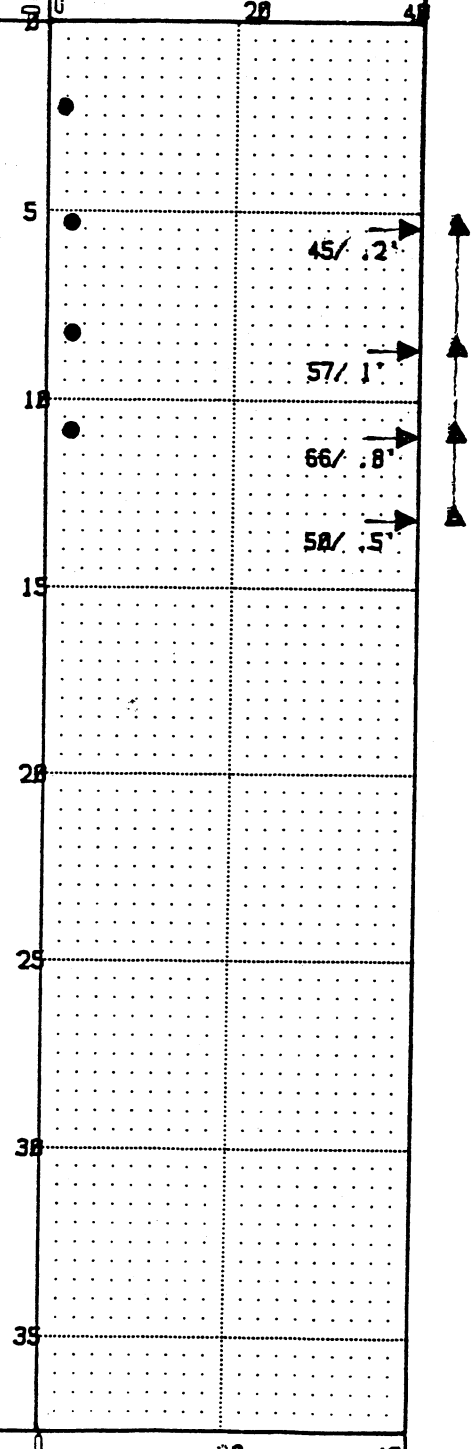
SHANNON & WILSON, INC.
GEOTECHNICAL CONSULTANTS

FIG. 4

EIE210

SOIL DESCRIPTION	GRAPHIC LOG	DEPTH, ft.	SAMPLE	GROUND WATER
Surface Elevation:				
ASPHALT		0.1		NOT OBSERVED DURING DRILLING
BROWN SANDY GRAVEL WITH COBBLES NBN TO NF			1 G	
			2 *	
		6.5		
GRAY PEATY SILT WITH GRAVEL PEBBLES, NBN TO NBE				
		8	3	
BROWN TO GRAY-BROWN SANDY GRAVEL WET NEAR 13 FEET			4	
	12			
		13	5	
BOTTOM OF BORING BORING COMPLETED 4/9/87				

PENETRATION RESISTANCE
(340 lb. weight, 30" drop)
▲ Blows per foot



LEGEND

Frozen Ground

Gravel
Sand
Silt
Clay
Peat
Organic Content

Impervious seal
Water level
Piezometer tip
Thermocouple
I 3" O.D. split spoon sample
II 3" O.D. thin-wall sample
* Sample not recovered

Atterberg limits:
Liquid limit
Water content
Plastic limit

Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.

BURGER KING CORPORATION
PROPOSED BURGER KING RESTAURANT
EIELSON AFB, ALASKA

LOG OF BORING NO. B-4

APRIL 1987

K-8943-11

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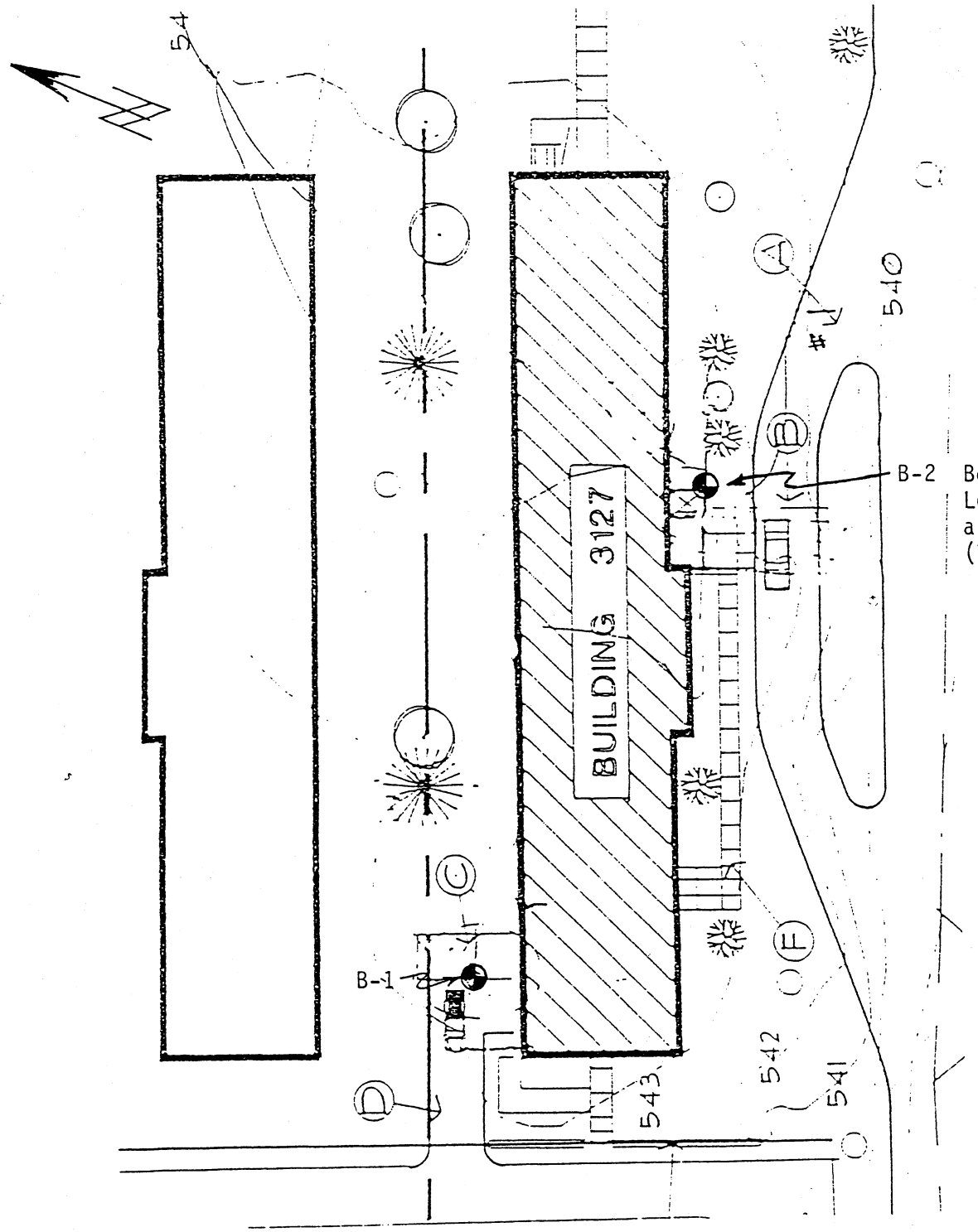
GEOTECHNICAL CONSULTANTS

FIG 5

ATTACHMENT B

Building 3127 Geotechnical Data and Site Map



Approximate Scale: 1" = 40'

Note: This plan is based on Design Alaska Site Plan Project Number 41084 dated March 28, 1988

Design Alaska, Inc.
Proposed Additions to Building 3127
Eielson AFB, Alaska
BORING LOCATION AND SITE PLAN

May 1988 K-1014

SHANNON & WILSON, INC. FIG. 1

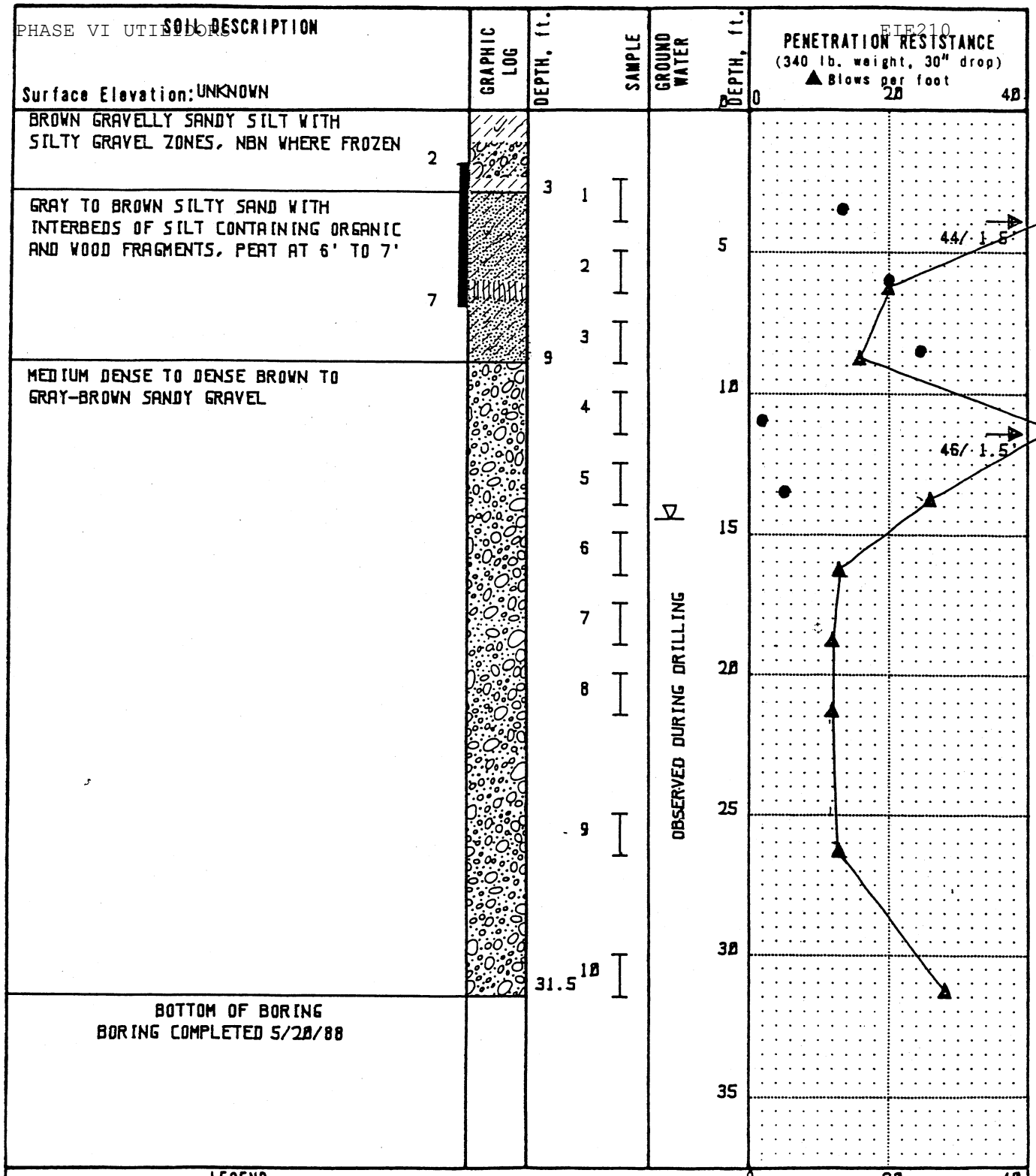

SOIL DESCRIPTION
Surface Elevation: UNKNOWN
GRAPHIC LOG
DEPTH, ft.
SAMPLE
GROUND WATER
DEPTH, ft.
PENETRATION RESISTANCE
(340 lb. weight, 30" drop)
▲ Blows per foot
0
20
40
BROWN GRAVELLY SANDY SILT WITH SILTY GRAVEL ZONES, NBN WHERE FROZEN
2
GRAY TO BROWN SILTY SAND WITH INTERBEDS OF SILT CONTAINING ORGANIC AND WOOD FRAGMENTS, PEAT AT 6' TO 7'
7
MEDIUM DENSE TO DENSE BROWN TO GRAY-BROWN SANDY GRAVEL
3
9
31.5
1
2
3
4
5
6
7
8
9
10
OBSERVED DURING DRILLING
5
10
15
20
25
30
35
44/ 1.5'
46/ 1.5'
BOTTOM OF BORING
BORING COMPLETED 5/20/88
LEGEND
Frozen Ground
Gravel
Sand
Silt
Clay
Peat
Organic Content
Impervious seal
Water level
Piezometer tip
Thermocouple
I 3" O.D. split spoon sample
II 3" O.D. thin-wall sample
* Sample not recovered
Atterberg limits:
Liquid limit
Water content
Plastic limit
● % Water content
Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
DESIGN ALASKA, INC.
PROPOSED ADDITIONS TO BUILDING 3127
EIELSON AIR FORCE BASE, ALASKA
LOG OF BORING NO. B-1
MAY 1988
K-1014
SHANNON & WILSON, INC.
GEOTECHNICAL CONSULTANTS

FIG. 2

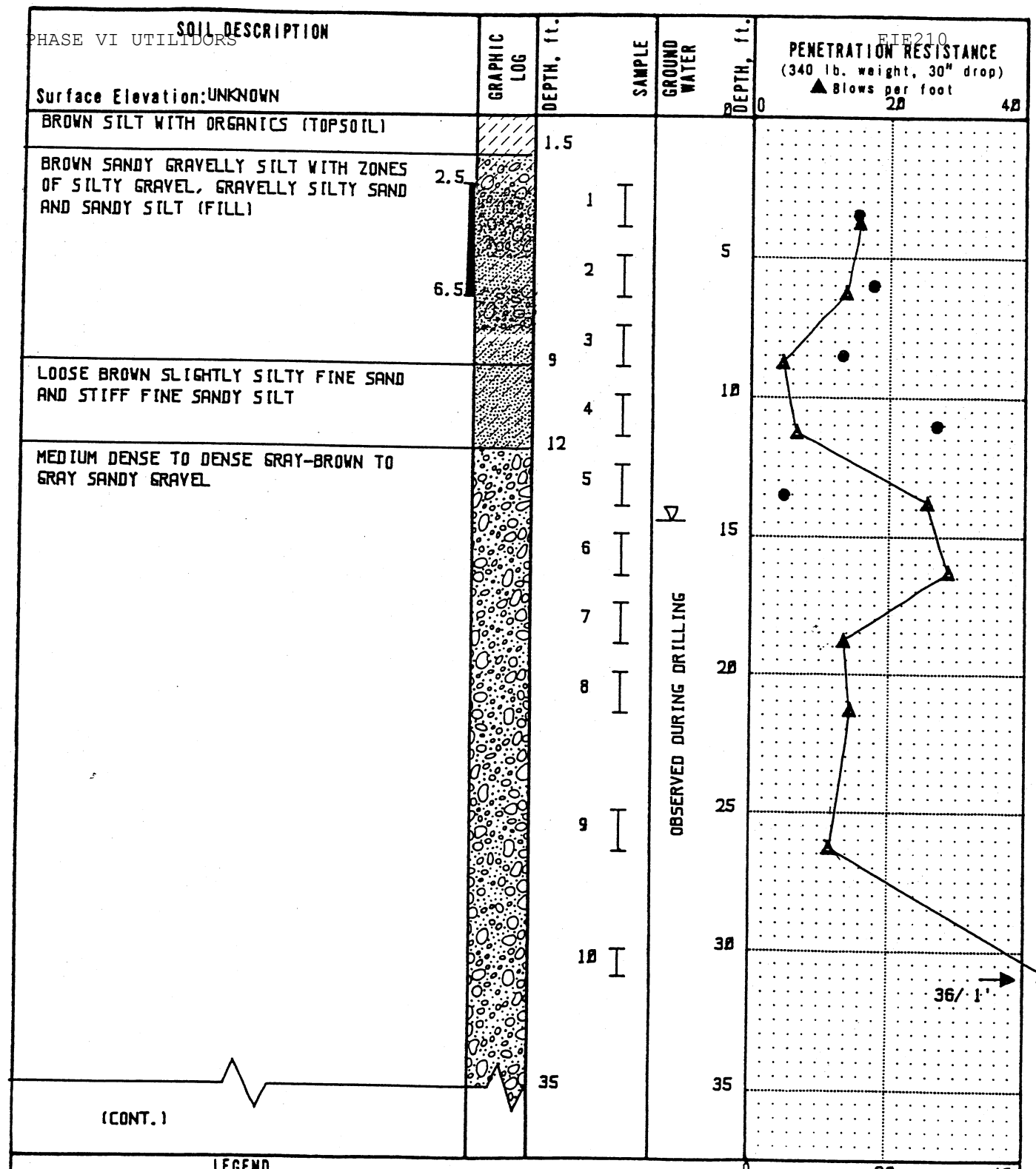

SOIL DESCRIPTION
Surface Elevation: UNKNOWN
GRAPHIC LOG
DEPTH, ft.
SAMPLE
GROUND WATER
DEPTH, ft.
PENETRATION RESISTANCE
(340 lb. weight, 30" drop)
▲ Blows per foot
0
20
40
BROWN SILT WITH ORGANICS (TOPSOIL)
1.5
BROWN SANDY GRAVELLY SILT WITH ZONES OF SILTY GRAVEL, GRAVELLY SILTY SAND AND SANDY SILT (FILL)
2.5
6.5
LOOSE BROWN SLIGHTLY SILTY FINE SAND AND STIFF FINE SANDY SILT
9
MEDIUM DENSE TO DENSE GRAY-BROWN TO GRAY SANDY GRAVEL
12
35
(CONT.)
1
2
3
4
5
6
7
8
9
10
OBSERVED DURING DRILLING
5
10
15
20
25
30
35
36/ 1'
LEGEND
Frozen Ground
Gravel
Sand
Silt
Clay
Peat
Organic Content
Impervious seal
Water level
Piezometer tip
Thermocouple
3" O.D. split spoon sample
3" O.D. thin-wall sample
* Sample not recovered
Atterberg limits:
Liquid limit
Water content
Plastic limit
● % Water content
Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.
DESIGN ALASKA, INC.
PROPOSED ADDITIONS TO BUILDING 3127
EIELSON AIR FORCE BASE, ALASKA
LOG OF BORING NO. B-2
MAY 1988
K-1014
SHANNON & WILSON, INC.
GEOTECHNICAL CONSULTANTS

FIG. 3

SOIL DESCRIPTION Surface Elevation: UNKNOWN	GRAPHIC LOG	DEPTH, ft.	SAMPLE	GROUND WATER	DEPTH, ft.	PENETRATION RESISTANCE (340 lb. weight, 30" drop) ▲ Blows per foot 0 20 40
MEDIUM DENSE TO DENSE GRAY-BROWN TO GRAY SANDY GRAVEL		11		OBSERVED DURING DRILLING		42/ 1.5'
		41.5	12		40	
BOTTOM OF BORING BORING COMPLETED 5/20/88					45	
					50	
					55	
					60	
					65	
					70	

LEGEND

Frozen Ground

Gravel

Sand

Silt

Clay

Peat

Organic Content

Impervious seal

Water level

Piezometer tip

Thermocouple

I 3" O.D. split spoon sample

II 3" O.D. thin-wall sample

* Sample not recovered

Atterberg limits:

Liquid limit

Water content

Plastic limit

0 20 40

● % Water content

Note: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual.

DESIGN ALASKA, INC.
PROPOSED ADDITIONS TO BUILDING 3127
EIELSON AIR FORCE BASE, ALASKA

LOG OF BORING NO. B-2 CONT

MAY 1988 K-1014

SHANNON & WILSON, INC.
GEOTECHNICAL CONSULTANTS

FIG. 4

ATTACHMENT C

Records of Decision (RODS), Environmental Source Area DP 44

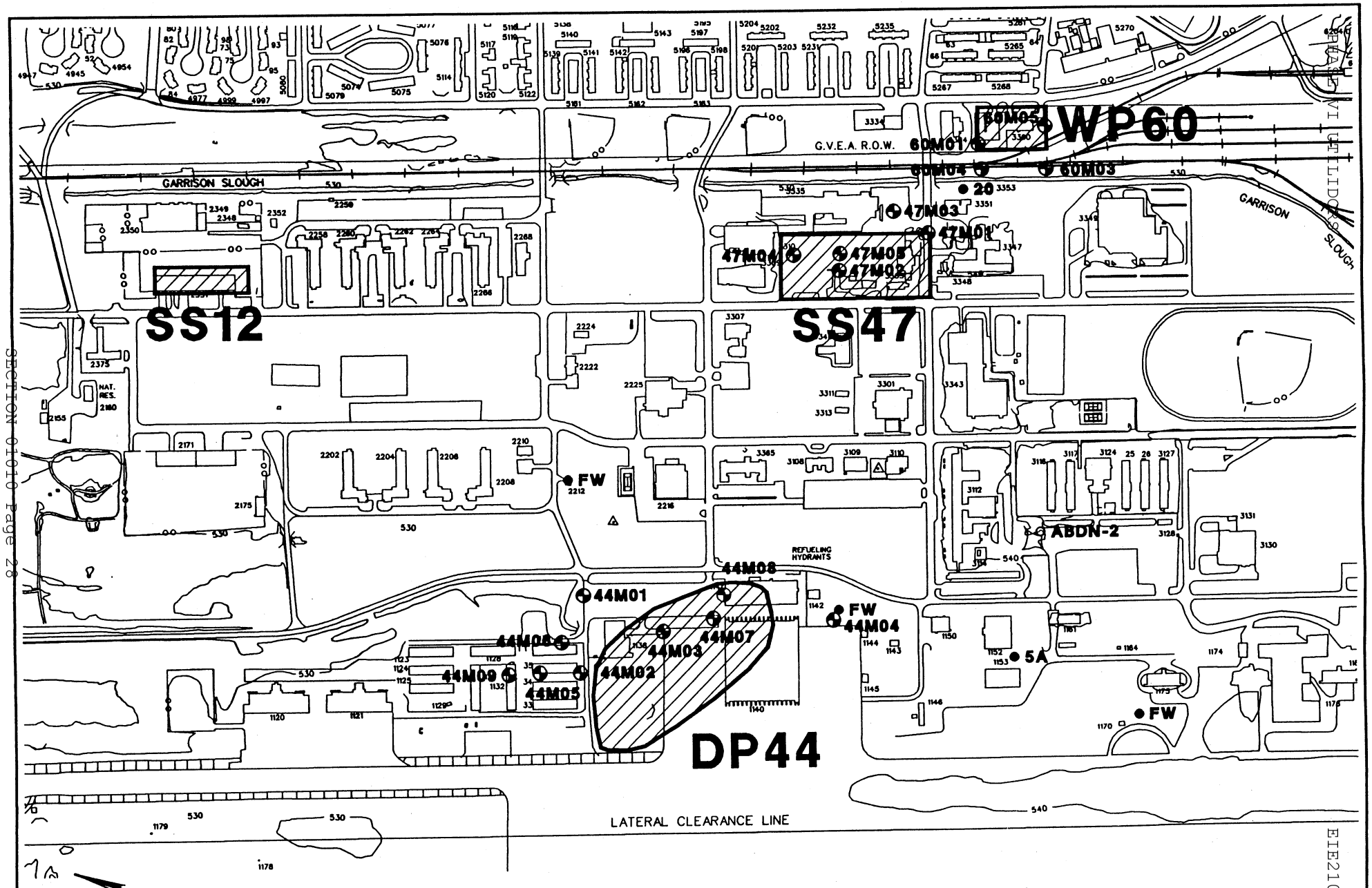


FIGURE 14.1 Source Areas SS12, DP44, SS47, and WP60 Monitoring Wells, and Water Supply Wells

Source Evaluation Report, Eielson Air Force Base

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6.0 Nature and Extent of Contamination at Operable Unit 3

OU 3 includes source areas DP44, WP45/SS57, ST56, and SS61. The source areas are primarily contaminated with solvents. The principal contaminants of concern for the OU 3 source areas include 1) TCE and its associated degradation product DCE, and 2) benzene, toluene, ethylbenzene, and xylene (BTEX). Other substances detected less frequently and at lower concentrations (such as 1,1,1-trichloroethane (1,1,1-TCA), tetrachloroethane, polycyclic aromatic hydrocarbons (PAHs), and lead) may be potential concerns. No vinyl chloride was detected in OU 3 source areas.

6.1 Source Area DP44

Source area DP44 is located near the Large Aircraft Maintenance Hangar. As originally defined, DP44 included wastewater disposal leach field from the battery shop (Building 1141) and the area around Building 1138 between the runway taxiway and Flightline Avenue west of the North Street intersection (see Figure 2.1). DP44 was identified as a source area because, in the past, the battery shop and Building 1138 may have discharged waste into a leach field system within the area. However, subsequent investigations have not confirmed the existence of this leach field. Most of the contamination in this source area is located south of the hangar, and is probably related to past jet-engine maintenance activities in the hangar. Identified contaminants of concern are fuel-related compounds and solvents in groundwater and soil.

6.1.1 Soil Contamination at DP44

Soil contaminants greater than EPA risk-based screening levels or background concentrations for DP44 are summarized in Table 6.1. Soil samples were collected and analyzed for the constituents shown in Table 5.1. A summary of soils data for source area DP44 can be found in Appendix A.

Soil contaminants listed in Table 6.1 are PAHs that were found at maximum concentrations in a surface soil sample collected during drilling of Well 44M03. This sample was collected in a gravel parking lot that contained fragments of asphalt. Because the parking lot is in close proximity to the runway, it was routinely maintained by spraying oil for dust suppression. The source of PAHs could be from exhaust from vehicles parked in the lot, exhaust from aircraft on the nearby runway, or asphalt residue. These contaminants are highly sorptive and immobile.

While solvent and benzene contamination was the reason for designating DP44 as a source area, the concentrations of these two constituents did not exceed screening levels. Subsurface concentrations of solvent and benzene were estimated to be sufficiently high to leach into the groundwater to yield concentrations that exceed groundwater screening levels. Therefore, even though solvent and benzene contamination in soils does not exceed screening levels based on direct exposure to the soil, it may be the source of groundwater contamination through the leaching pathway.

In August 1994, 13 soil borings were drilled in the vicinity of Well 44M04 to determine the extent and concentration of chlorinated solvents in soils south of the large aircraft maintenance hangar. Locations for the borings were determined using a soil-gas survey. The soil-gas survey indicated that contaminated soils extended to the west under the aircraft parking ramp. The borings were completed through the vadose zone to the water table, located at approximately 3 m (10 ft) below land surface in this vicinity. Samples were taken at three depth intervals, 0.6 to 1.2 m (2 to 4 ft), 1.2 to 1.8 m (4 to

Table 6.1. Surface and Subsurface Soil Contaminants Greater Than Screening Levels, DP44

Chemical	Detection Limit (μg/kg)	Analyzed/ Detected	Concentration Range (μg/kg)	Location of Maximum
Anthracene	20	4/1	5500 - 5500	44M03
Benzo(a)anthracene	10	4/3	200 - 48,000	44M03
Benzo(a)pyrene	9	3/2	470 - 18,000	44M03
Benzo(b)fluoranthene	30	4/3	460 - 210,000	44M03
Benzo(g,h,i)perylene	40	4/3	280 - 14,000	44M03
Chrysene	70	4/2	280 - 21,000	44M03
Dibenzo(a,h)anthracene	50	4/1	6500 - 6500	44M03
Indeno(1,2,3-cd)pyrene	50	4/3	270 - 15,000	44M03

6 ft), and 2.4 to 3 m (8 to 10 ft) below land surface. The samples were analyzed for chlorinated solvents and BTEX compounds. TCE and total DCE results are illustrated in Figures 6.1 through 6.3. Low levels (less than screening level) of toluene were detected in some of the soil samples, as shown in Appendix A.

6.1.2 Groundwater Contamination

Groundwater contaminants in samples collected from monitoring wells that are greater than EPA risk-based screening levels or background concentrations for DP44 are summarized in Table 6.2. Groundwater samples were collected and analyzed for the constituents listed in Table 5.1. A summary of the sample concentrations can be found in Appendix A.

During field investigations at DP44 prior to 1994, benzene and TCE were found in the groundwater above their 5-μg/L maximum contaminant levels (MCLs). Toluene, ethylbenzene, and xylene were also detected, but at concentrations below their MCLs. Benzene contamination above 5 μg/L covered an area of approximately 3300 m^2 (3947 yd^2), with Well 44M02 displaying the highest benzene concentration. Groundwater probe data collected in 1988 indicated that benzene concentrations up to 4000 μg/L existed near the top of the water table. Benzene concentrations detected in 1990 had diminished fourfold since the 1988 sampling. By 1992 and 1994, benzene levels decreased to just above the MCL. For details on 1992 and 1994 benzene concentrations at DP44, refer to Figures 6.4 and 6.5. The 1992 data were used in the risk assessment and are reported in Table 6.2 and Appendix A.

Two areas of TCE contamination were detected in the groundwater above the 5-μg/L MCL, including Well 44M03 and Well 44M04, with TCE concentrations above 100 μg/L in Well 44M04. The two sites of TCE contamination appeared to be unrelated and relatively limited, based on groundwater probe results, which showed no detectable TCE between the sites or at adjacent probes or wells. The distribution of contamination near Well 44M04 indicated the source of TCE may be upgradient of DP44.

In August 1994, TCE and total DCE were still present in the vicinity of Well 44M04 in concentrations similar to previous years. These concentrations, as shown in Figures 6.6 and 6.7, were 109 ppb and 121 ppb, respectively. Results from the groundwater probe samples taken during the soil borings are also shown in Figures 6.6 and 6.7. They also show that chlorine solvent contamination extends away from Well 44M04 to the west under the aircraft parking ramp and to the north toward the hangar.

The distributions for TCE and DCE are slightly different. Vinyl chloride has never been detected in any of the groundwater samples from DP44. No groundwater samples are available from underneath the hangar. Wells 44M03, 44M07, and 44M08, to the north of the hangar, show low levels of TCE and DCE contamination. The concentrations in all three wells are below MCLs. It is not known whether this contamination results from a second low-level source or is the leading edge of a plume located underneath the hangar. The total area of TCE-contaminated soils is approximately 6500 m^2 (69,000 ft^2) with a volume of 20,000 m^3 (25,500 cu yd) containing an estimated 3.2 kg of TCE.

All contaminants detected at DP44 were in aqueous form. No free-phase solvent or fuel was encountered.

Table 6.2. Groundwater Contaminants Greater Than Screening Levels, DP44

Chemical	Detection Limit (μg/L)	Analyzed/ Detected	Concentration Range (μg/L)	Location of Maximum
Benzene	2	15/2	3.7 - 5.3	44M05
Trichloroethane	1	15/3	1.2 - 2500	44M04

6.2 Source Area WP45/SS57

The photo laboratory and dry well at Building 1183 were designated as Source Area WP45. Building 1183 is located near the main taxiway along the west side of Flightline Avenue (see Figure 2.1). The operational history of the dry well is not known. It was originally believed the dry well was the source of the solvent concentration found at WP45. However, in August 1992, two new wells were added upgradient from the dry well. Contaminant concentrations were higher on the two new wells than in the monitoring well downgradient of the dry well.

The dry well located at the west corner of Building 1183 has not been removed because removal would compromise the structure of the building. Standing groundwater in the well and sludge at the bottom of the well were sampled on April 1993, and the drain leading to the well was plugged with cement. Results indicated low levels of TCE in the water (3 μg/L) and low levels of chromium (1.2 μg/L) and silver (1.9 μg/L) in the sludge. Based on these results, the dry well appears to be a secondary source of groundwater contamination at WP45. The suspected primary source of contamination is currently believed to be a former maintenance shed that was located at the northwest corner of the fire station, Building 1206. No specific information explains the cause of the source of contaminants at WP45. The identified contaminants of concern are solvents in groundwater and soil.

Source Area SS57 is the area surrounding the fire station, Building 1206 (see Figure 2.1). SS57 is considered with Source Area WP45 because they are closely related and the groundwater contamination from the two sites overlap. Soils beneath the pavement in the parking lot of Building 1206 are contaminated with fuel. The primary contaminants of concern in SS57 are fuel-related compounds associated with spills of gasoline and jet propulsion fuel (JP-4) from fuel handling activities.

An independent study of natural attenuation by Utah State University (USU) was conducted concurrently with the remedial investigation at WP45/SS57. A meeting was held 6 July 95, during which USU presented their preliminary findings and modeling of site data collected at WP45/SS57. These findings are presented in Section 16.0, Explanation of Significant Differences.

ATTACHMENT D

Records of Decision (RODS), Environmental Source Area SS 47

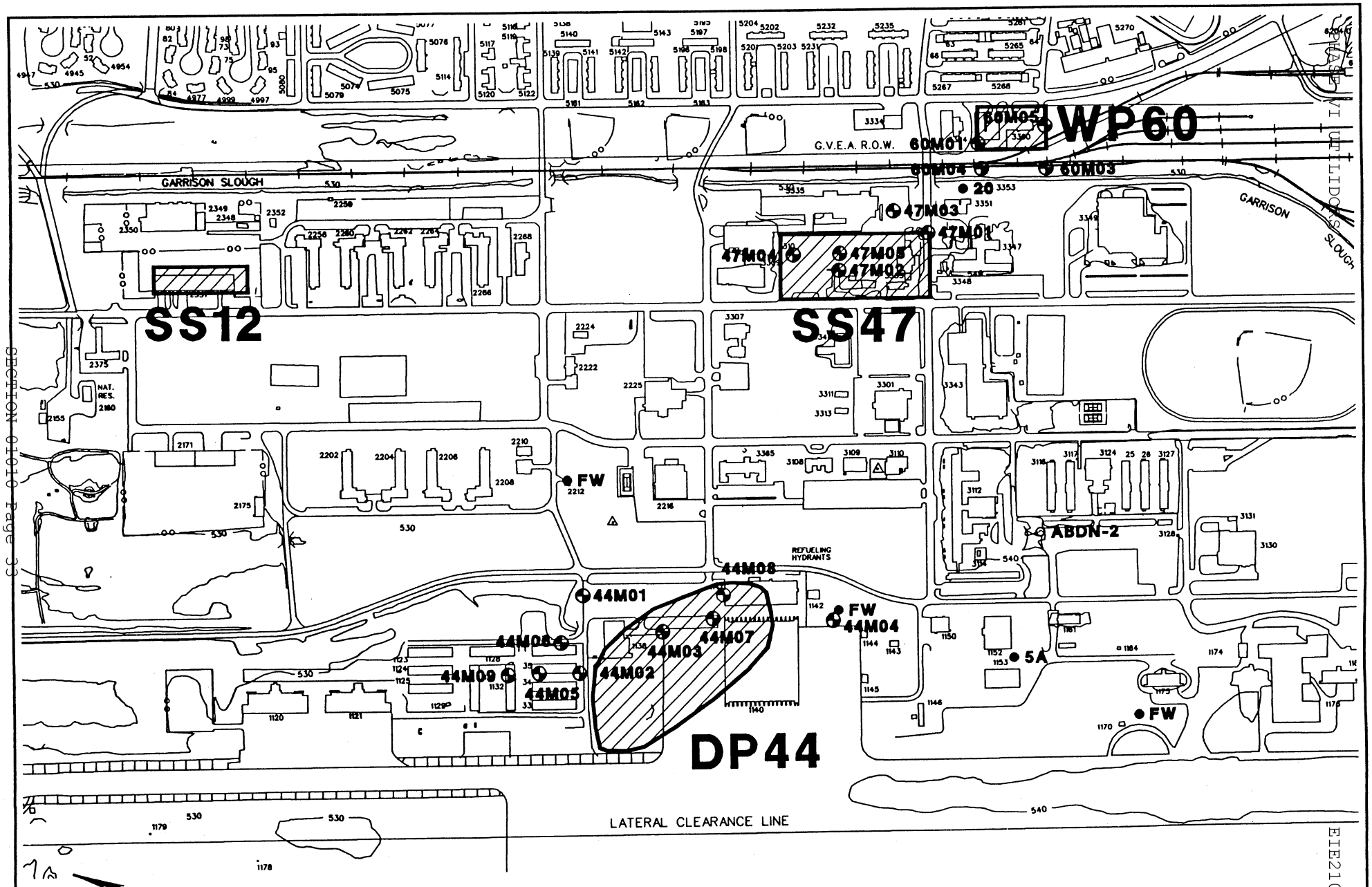

FIGURE 14.1 Source Areas SS12, DP44, SS47, and WP60 Monitoring Wells, and Water Supply Wells

Source Evaluation Report, Eielson Air Force Base

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Small quantities of industrial solvents were reportedly used. The drums were removed between 1982 and 1986. The building was demolished, and the area regraded.

Groundwater in this area contains benzene, apparently from another spill at ST13 and DP26. This contamination is addressed as part of cleanup for ST13 and DP26. Site investigations and analysis of groundwater and soil indicate that all constituents, except benzene in the groundwater, are well below screening criteria. Benzene in the groundwater will be treated as part of the ST13 and DP26 cleanup.

5.19 Source Area SS42 (Miscellaneous Storage and Disposal Area)

Source area SS42 was used during the 1960s for storage and disposal of miscellaneous small equipment and construction equipment. SS42 also has empty drums that contained waste oil, lubricants, and solvents. This area is now covered with trees and vegetation. Site investigations and analysis of groundwater, sediment, soil, and surface water show that only iron and manganese in groundwater exceeded screening criteria. High iron and manganese are found throughout the area, but these data are likely compromised because of inclusion of sediment particles in the water sample during collection. Background wells sampled by the same group contained similar and higher concentrations that were greatly reduced with filtration.

5.20 Source Area SS47 (Commissary Parking Lot Fuel Spill)

During a preconstruction soil investigation in 1987 for an addition to the Commissary, some fuel-contaminated soil was found at a depth of about 9 feet near the center of the paved parking lot. The source of contamination is unknown; there are no known or reported spills in this area. Field investigations of groundwater and soil in the center of the parking lot showed that constituents were below screening criteria. TPH was detected in soils mid-way between the ground surface and the water table at a 95% upper confidence level of 5,255 mg/kg. Above and below this horizon, TPH averaged less than 100 mg/kg. Lead was detected in the groundwater at two wells located on the southern, upgradient part of the parking lot, indicating the possibility of another source of contamination south of the parking lot.

5.21 Source Area WP60 (New Auto Hobby Shop)

Source area WP60 is used by base personnel for maintaining personal vehicles. Remodeling activities conducted in 1988 and 1990 resulted in the removal of waste disposal structures and contaminated soil. Base policies were and are in place for recycling and disposing hazardous materials. Site investigations and analysis of groundwater, sediment, soil, and surface water show that all constituents except benzo(k)fluoranthene in soils (0.17 mg/kg) were below screening criteria. The benzo(k)fluoranthene concentration corresponds to a 2×10^{-6} carcinogenic risk for ingestion of soil under a residential scenario.

5.22 Source Area SS62 (Garrison Slough)

Garrison Slough, which begins at the south end of Eielson AFB, flows north through the developed portion of the base and into Moose Creek. The slough is not a domestic or industrial water supply; however, the water is used to water family garden plots and for recreational fishing. Garrison Slough was incorrectly listed as a contamination source. Though the slough may have received contamination from several different sources at the base, it is not itself a potential source of contamination. The impacts to Garrison Slough

ATTACHMENT E

Alaska Department of Environmental Conservation, No Further Action Statement, Environmental Source Area SS 59

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
FAIRBANKS, ALASKA

REVIEW COMMENTS
DRAFT PHASE 1 SOURCE EVALUATION REPORT
EIELSON AIR FORCE BASE, ALASKA

State Water Quality Standard:

I. NO FURTHER ACTION SITES

Based on this Source Evaluation Report and the information discussed at a meeting August 31, 1992 through September 3, 1992, the Department considers the following source areas no further action:

1. Source Area LF05 - Old Army Landfill
2. Source Area LF07 - Test Landfill
3. Source Area FT08 - Fire Training Area (Past)
4. Source Area SS12 - JP-4 Spill, Bldg. 2351
5. Source Area ST15 - Multiproduct Fuel Line
6. Source Area ST17 - Canol Pipeline Spill
7. Source Area SD21 - Road Oiling at Quarry Road
8. Source Area SD22 - Road Oiling at Industrial Drive
9. Source Area SD23 - Road Oiling at Manchu Road
10. Source Area SD24 - Road Oiling at Gravel Haul Road
11. Source Area DP28 - Fly Ash Disposal Site
12. Source Area SS42 - Miscellaneous Storage and Disposal Area
13. Source Area LF43 - Asbestos Landfill
14. Source Area SS46 - KC-135 Crash Site
15. Source Area SS59 - Dining Hall Diesel Spill
16. Source Area WP60 - New Auto Hobby Shop
17. Source Area SS62 - Garrison Slough

RESPONSE: No response required.

II. Additional Information or Sampling Requested

The Department has concerns regarding the following SER sites and requests more information, and in some cases additional sampling be conducted to resolve outstanding issues:

NFA OK! 1. Source Area LF06 - Old Landfill Water Quality Standard in Text Background Data Check

This source was not included in last fall's discussion. In evaluating the information presented, Dichlorodifluoromethane was detected in four (4) out of six (6) monitoring wells during both sampling events (1988 and 1990). The highest concentrations were found at 3.38 ug/L. MCLs have not been established for this contaminant, however 55FR 30798 - Proposed Rule RCRA Corrective Action for SWMUs 40 CFR (Appendix A), lists Dichlorodifluoromethane as a systemic toxicant with proposed regulatory levels of 20,000 mg/kg soils and 7 mg/L water. Due to the close proximity of Well D, a main well at 0.19 mile and Wells A and B located at 0.23 mile northwest (the expected direction of groundwater

ATTACHMENT F

Sitewide Water Table Data

Conrad

Further dissemination only as directed by Manager, Environmental Restoration Program Directorate, Eielson Air Force Base, September 1993, or higher DoD authority

[redacted]

United States Air Force

Environmental Restoration Program

Eielson Air Force Base, Alaska

Sitewide Water-Table Elevations at Eielson Air Force Base September 1991 - September 1993

Draft

December 1993

SITEWIDE WATER-TABLE ELEVATIONS AT EIELSON AIR FORCE BASE SEPTEMBER 1991 - SEPTEMBER 1993

DRAFT
December 1993

Prepared for U.S. Air Force
Eielson Air Force Base
Environmental Restoration Program
Fairbanks, Alaska

by

Pacific Northwest Laboratory
Richland, Washington 99352

INTRODUCTION

To support the U.S. Air Force Environmental Restoration Program, water levels in selected wells at Eielson Air Force Base (AFB) have been measured on a monthly basis for more than one year. The purpose of these measurements was to determine sitewide ground-water flow directions and gradients for the uppermost aquifer underlying the industrial area of the base, where the majority of contaminant source areas are located. Monthly measurements taken over a one-year period were used to construct maps showing water-table elevation contours. The water-level measurements and more frequent data collected from pressure transducers at selected wells were used to evaluate seasonal changes in the ground-water flow system.

METHODS AND EQUIPMENT

Data used to construct the contour plots are presented in Appendix A. Depth-to-water was measured from the top of each well casing using an electric sounding tape (E-tape). These measurements were subtracted from the surveyed casing elevations to determine the elevation of the water table at each well. A few wells sometimes contained a layer of floating petroleum product. For these wells, the depth to the top of the product layer was measured with an oil/water interface probe and the water-table elevation was corrected by adding a thickness of water equivalent to the weight of the product layer. The equivalent water thickness was calculated by multiplying the product thickness by 0.81, which is the ratio of the product and water densities. Water-table elevations were then used to construct elevation contour maps of water table for each month over the one-year period July 1992 through June 1993.

Potential sources of error in the water-table contour maps include errors in the measured water-table elevations, errors in surveyed casing elevations, and errors in the plotting of contours. According to the surveyor, uncertainty in the elevation survey results is about ± 0.015 m.

Accuracy of the E-tapes and oil/water interface probes used to measure depth to water is also about ±0.015 m. Therefore, the combined uncertainty in most of the measured water-table elevations is about ±0.03 m. Wells with floating product will have a higher uncertainty of about ±0.05 m. Some measurements may also be affected by vertical movement of the well casing caused by frost heave that occurred during the period between the elevation survey and water-level measurement. To help eliminate this source of error, wells that have obviously been affected by frost heave were not measured and the most recent available elevation survey was used to calculate water-table elevations. A few water-level measurements were outside the expected reasonable range for the well, possibly because of a measurement or recording error. These measurements, as noted in Appendix A, were not used in plotting elevation contours. Plotted elevation contours have been interpolated between available measurement data and extrapolated in areas where no measurements are available based on the assumption that aquifer hydraulic properties are relatively homogeneous. This assumption generally results in evenly spaced contours, except at areas of recharge or discharge. Contours that are uncertain have been plotted as a dashed line.

RESULTS

Monthly water-table contour maps for a one-year period are presented in Figures 1 through 12. The maps show the locations of water-level measurements used in constructing the water-table contours. Water-level measurements were also made in most other months during the period September 1991 to September 1993. All the available monthly water-level measurements are tabulated in Appendix A. Measurements were originally recorded in English units and converted to metric for plotting the water-table maps.

In addition to the manual water-level measurements, pressure transducers and data loggers were installed at selected wells to automatically record water levels. A description of the automatic water-level measurement system and results for the period September 1991 to August 1992 are provided in USAF

(1993). Figure 13 shows a comparison of water-level elevations recorded automatically at three wells over a period of about two years. Manual measurements at these wells are also shown. Data from the pressure transducers show seasonal variations in water-table elevation that are also reflected on the water-table maps. Water-table elevations increased during the snow-melt period each spring, peaking during late May of 1992 and early May of 1993. Water levels generally declined through the summer and fall, although smaller peaks associated with rainfall events were observed. However, from the beginning of August 1993 until the last available measurement on September 24, 1993, the water table was rising, probably because of infiltration from rainfall. During the winter months, water levels generally increased slightly. The increase during winter is attributed to the freezing of stream channels, which prevents ground-water from effectively draining. However, some ground water discharges to the rivers and sloughs throughout the winter, as evidenced by the presence of overflow ice and stretches of open water in streams.

In addition to seasonal and precipitation related variations in the water table, water levels in some wells were affected by man-made influences such as the pumping of base water-supply wells and discharge to ponds. The effect of nearby pumping is clearly seen at Well 48M04 (Figure 13), which is located near a base water-supply well and the power plant cooling wells. Pumping of these supply wells causes changes in ground-water flow direction and gradient in the vicinity of the pumped well.

The aquifer is also influenced by Garrison slough and by discharge of water to the slough at the treatment-plant pond. Above the treatment plant pond, Garrison Slough has no source except local runoff and inflow of ground-water. Springs have also been observed along the slough at certain times of the year. Therefore, the slough is believed to be a discharge area for ground water and the water table maps have been drawn to reflect this interpretation. That is, elevation contours are distorted at the slough, indicating a lower water-table elevation immediately adjacent to the slough. The density of

water-level data near the slough is generally not great enough to show that this is actually the case. At the water treatment plant, excess water from the base water supply is discharged to the treatment plant pond, which is part of Garrison Slough. Water-level measurements at Source Area ST11, adjacent to the slough and immediately downstream from the treatment plant pond, indicate that the increased flow in the slough causes the slough to recharge the aquifer in this area during most of the year (USAF 1993). Water levels measured in wells near the slough were higher than the water level measured at the Central Avenue staff gage except during the spring peak in the water table elevation. However, this phenomenon is believed to occur for only a short distance downstream from the treatment plant pond.

REFERENCE

USAF. 1993. Automatic Water-Level Measurements, Eielson Air Force Base, Alaska, September 1991 - August 1992, U.S. Air Force Environmental Resoration Program, March 1993 Draft Report, Eielson Air Force Base, Alaska.

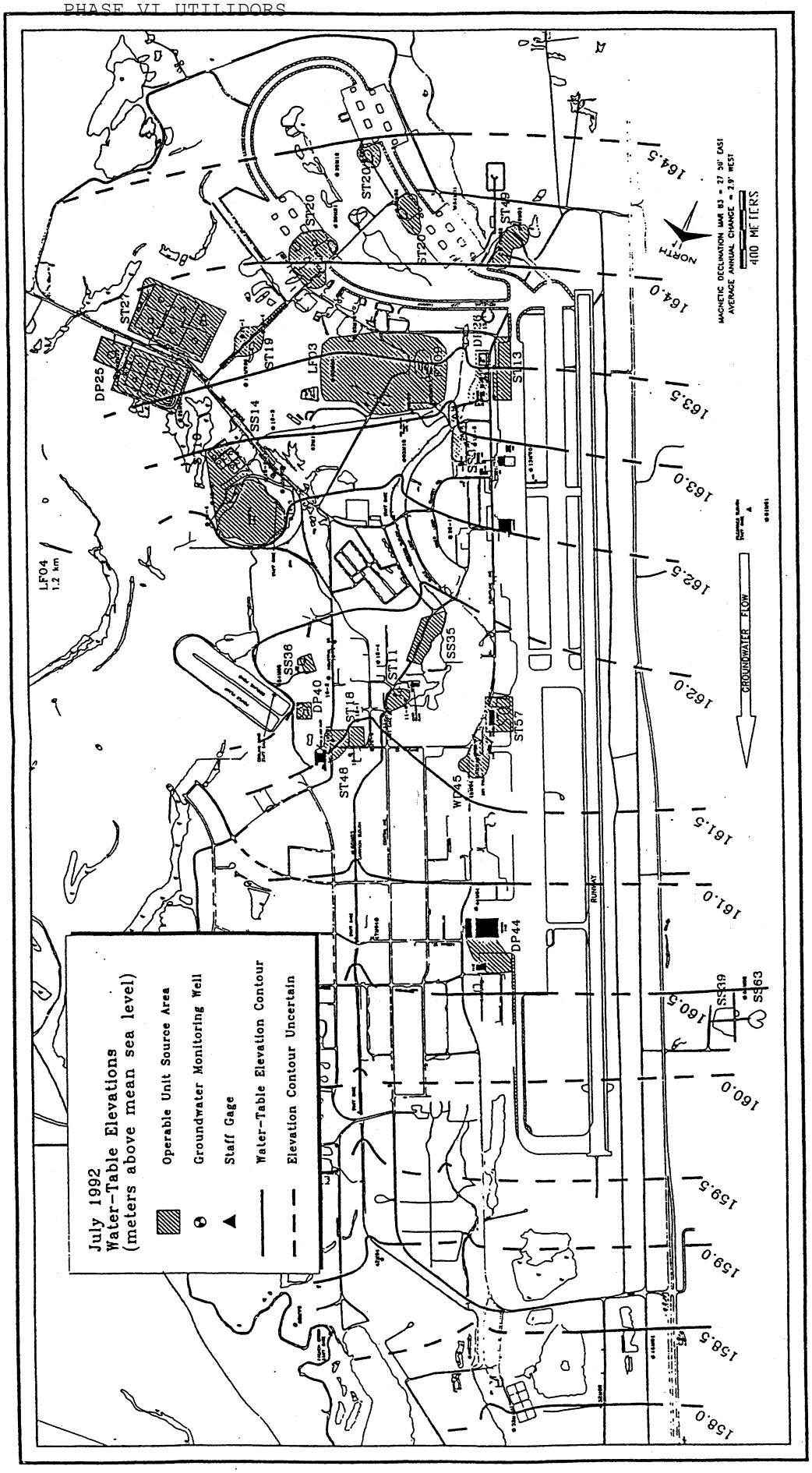

FIGURE 1. July 1992 Water-Table Elevations

5

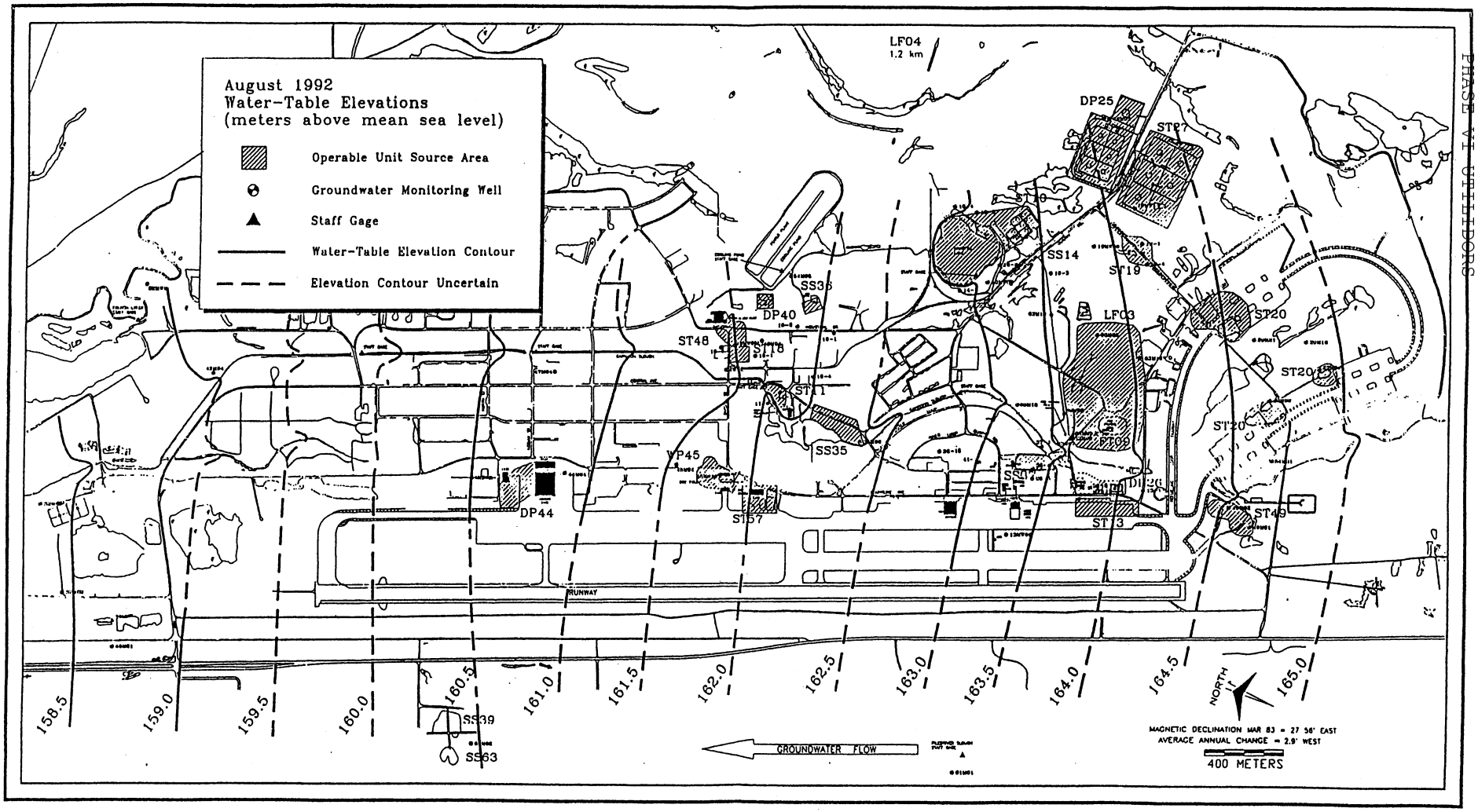

FIGURE 2. August 1992 Water-Table Elevations

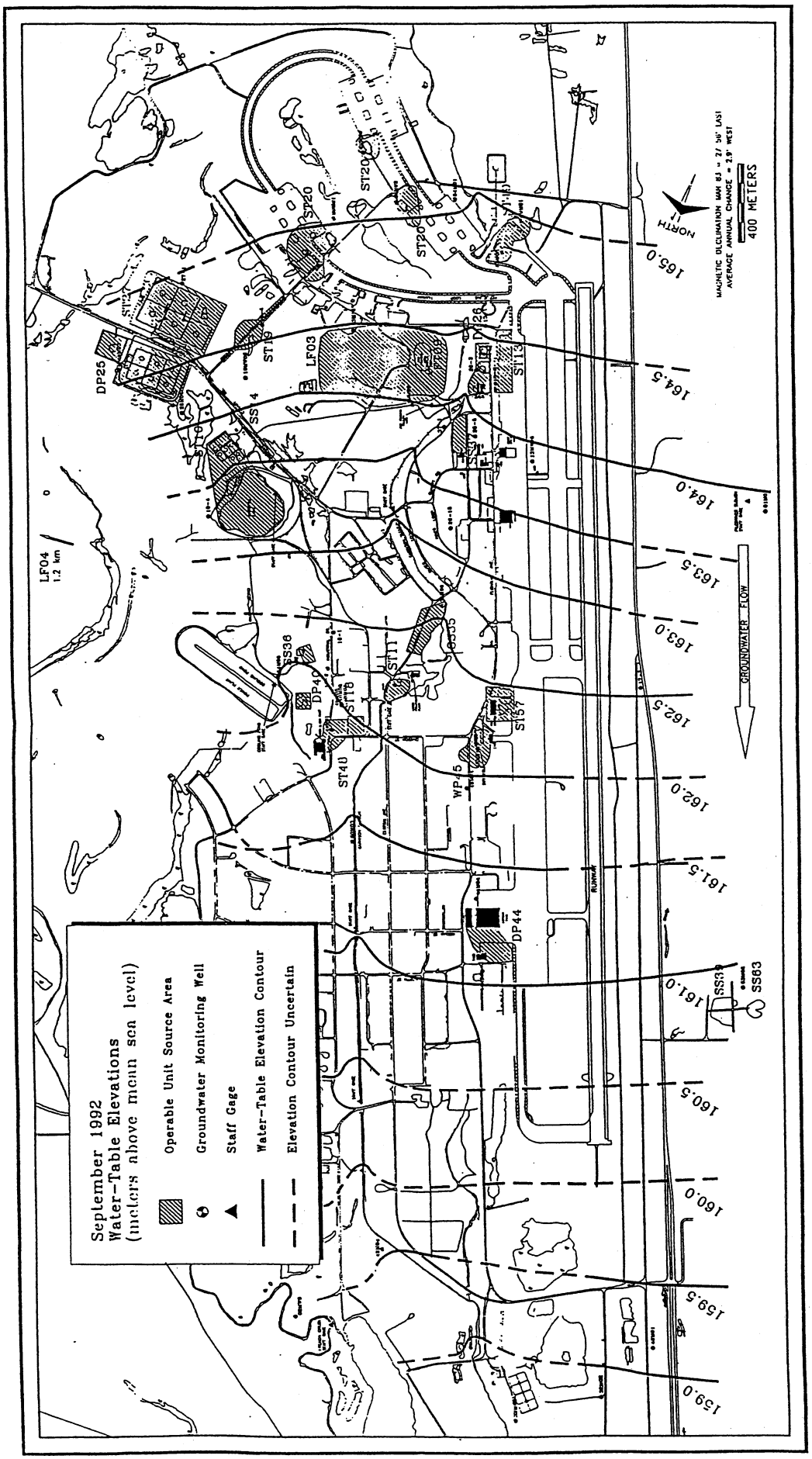

FIGURE 3. September 1992 Water-Table Elevations

7

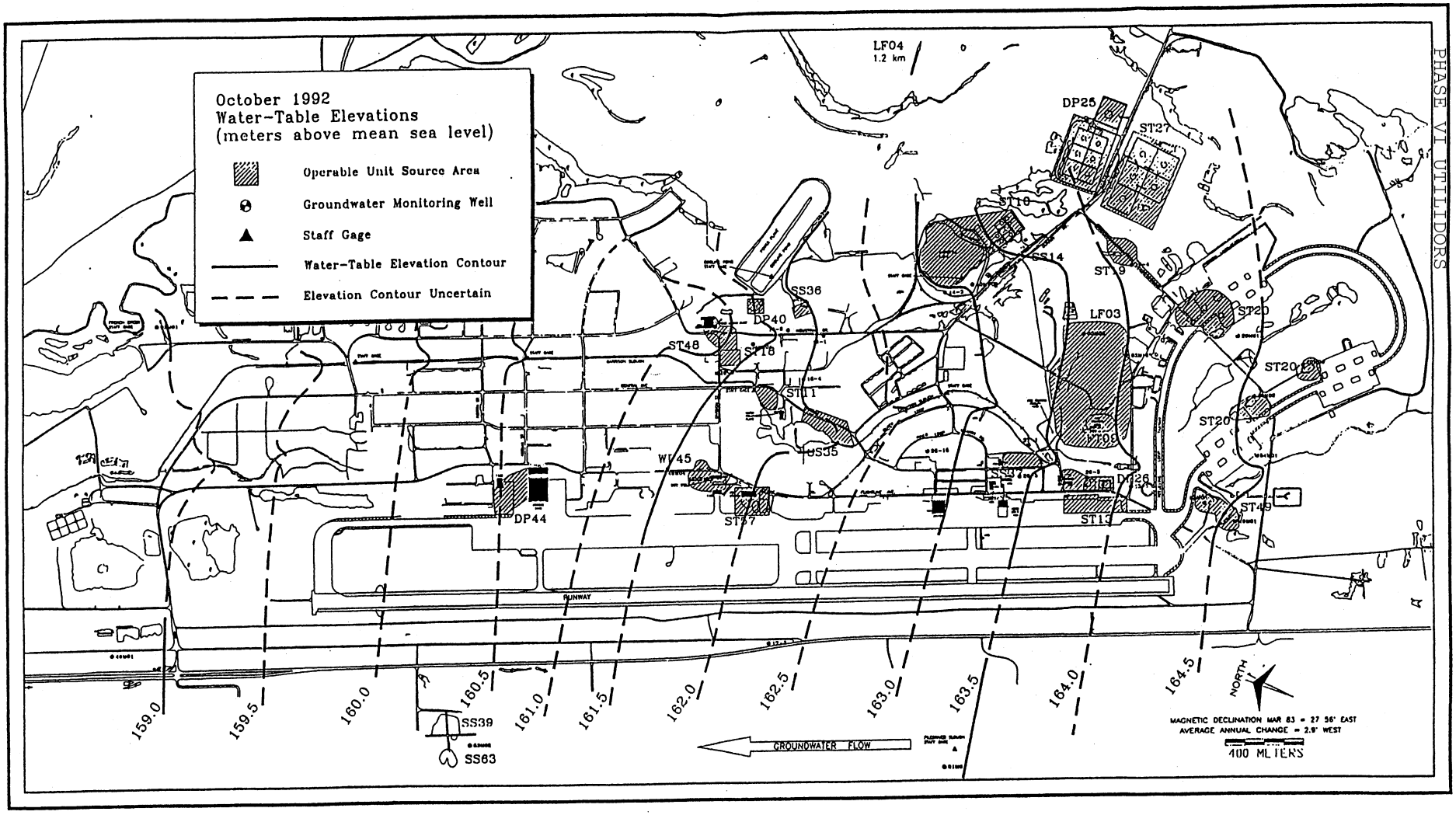

FIGURE 4. October 1992 Water-Level Elevations

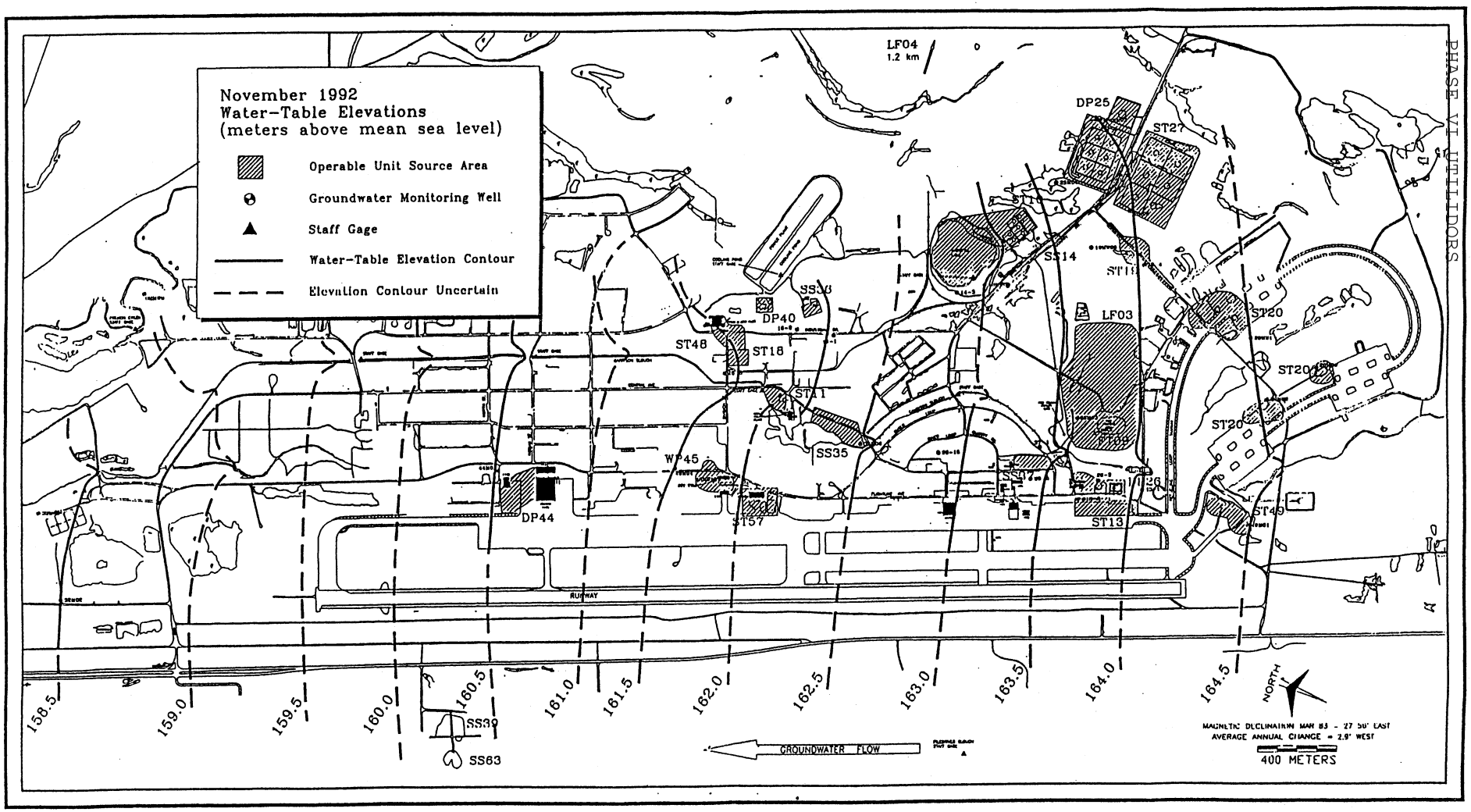

FIGURE 5. November 1992 Water-Level Elevations

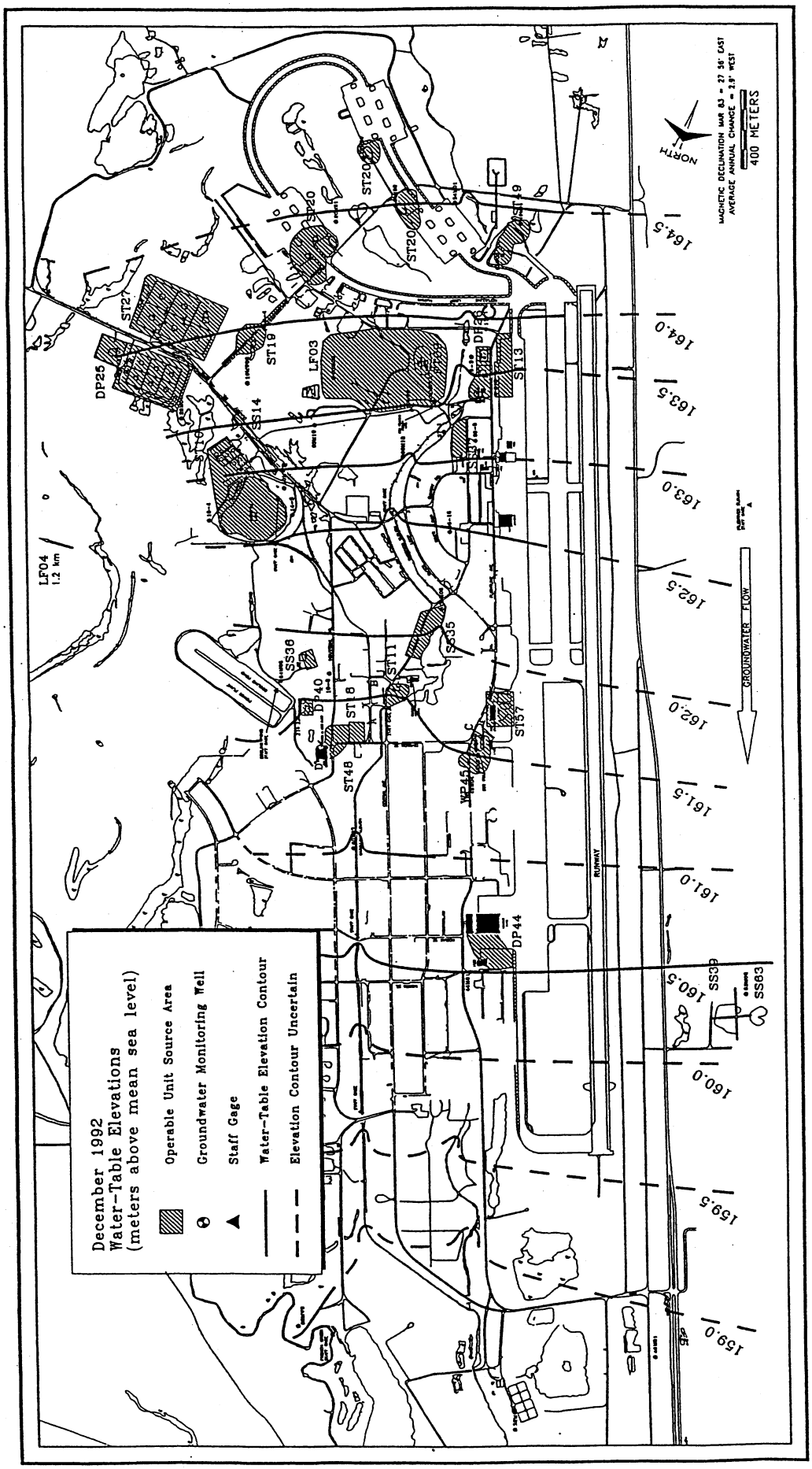

FIGURE 6. December 1992 Water-Level Elevations

10

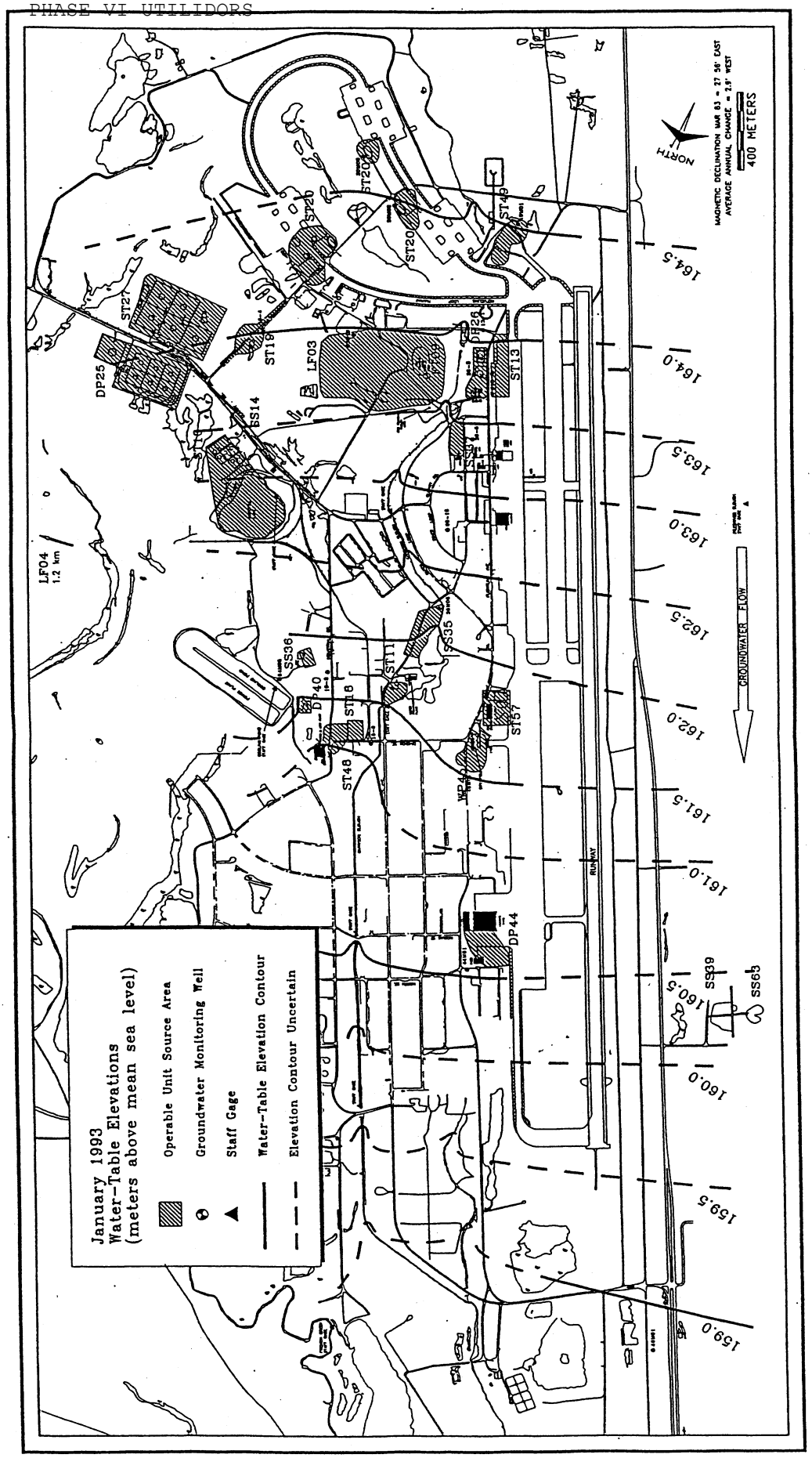

FIGURE 7. January 1993 Water-Level Elevations

11

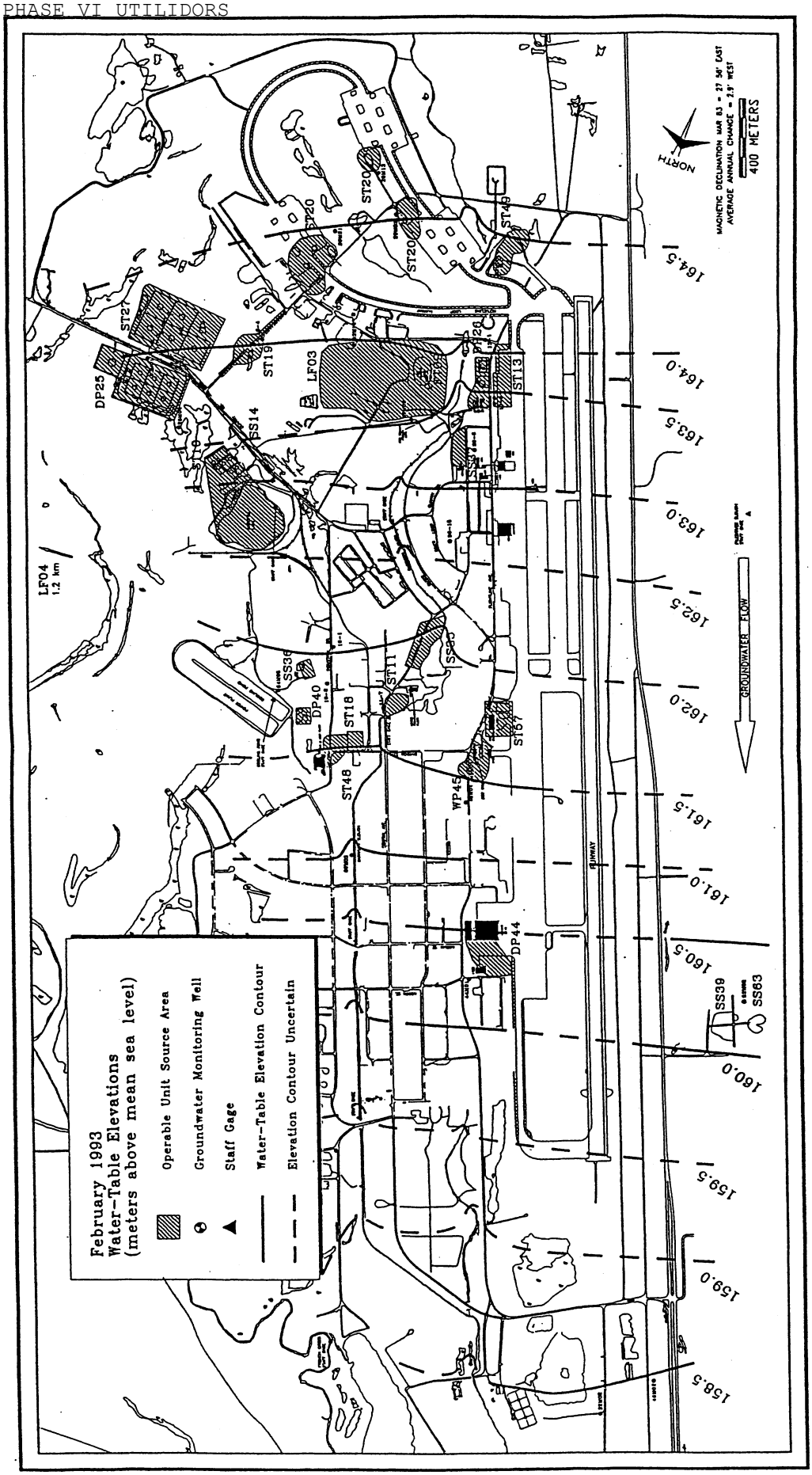

FIGURE 8. February 1993 Water-Table Elevations

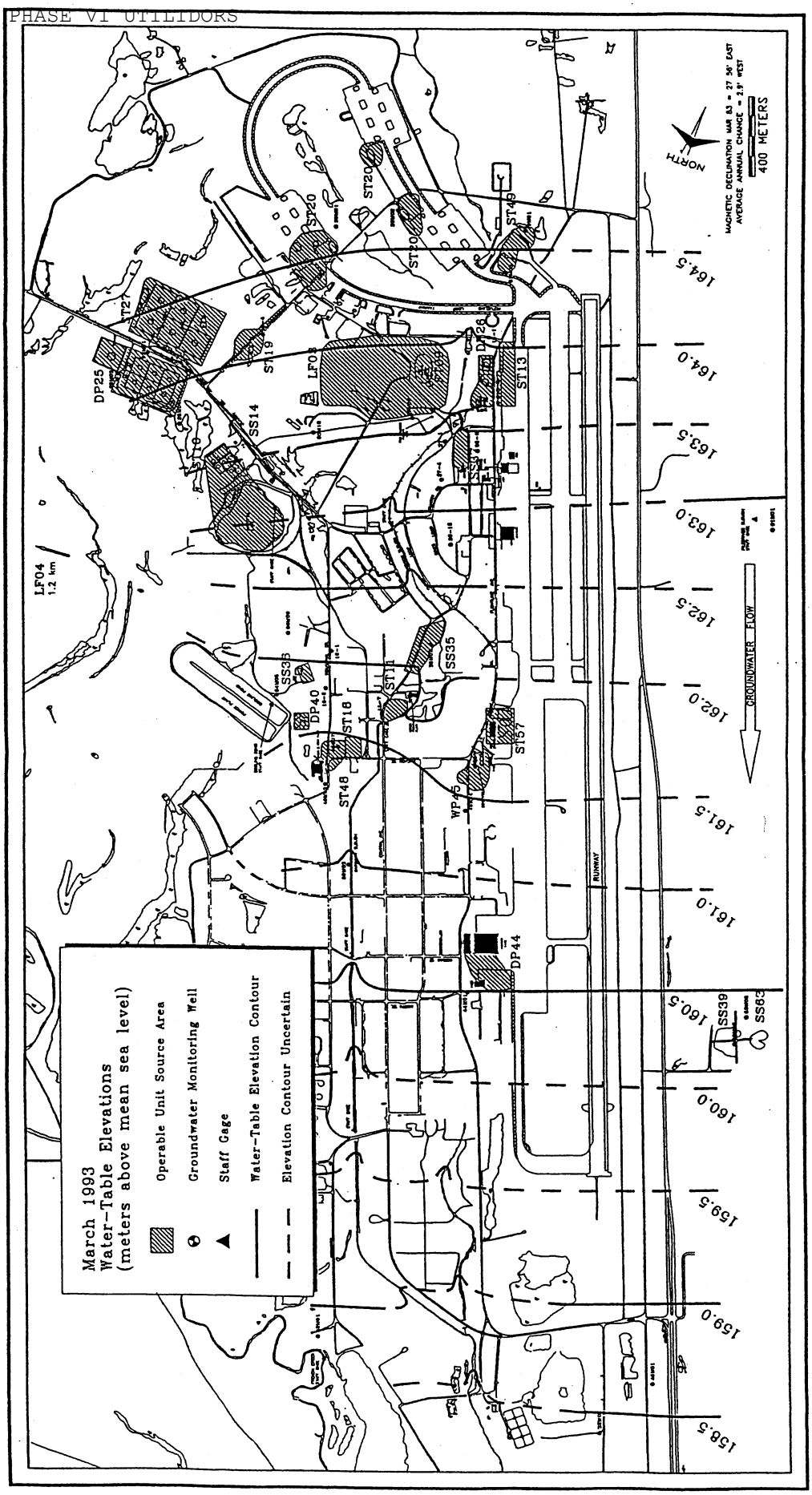

FIGURE 9. March 1993 Water-Table Elevations

13

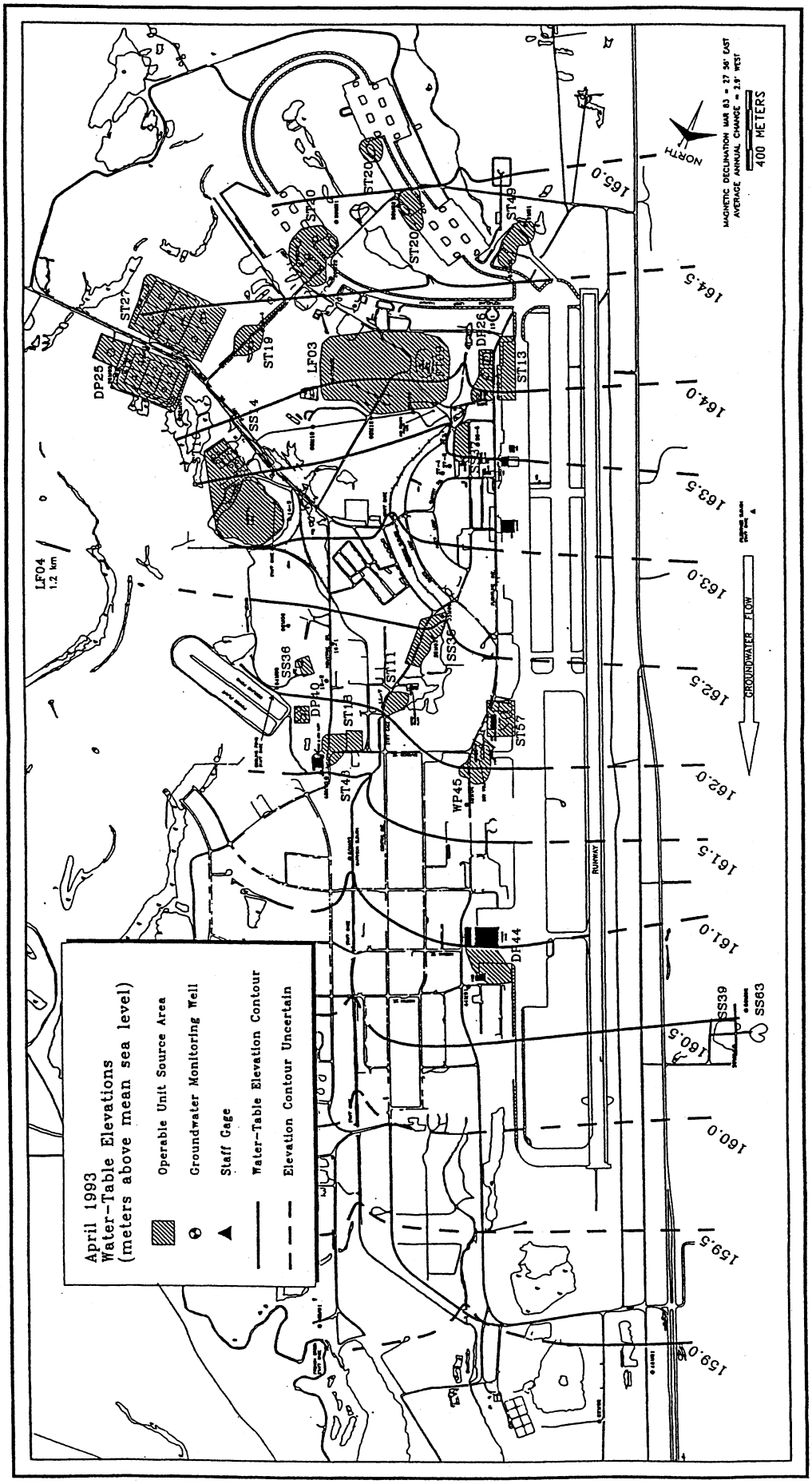

FIGURE 10. April 1993 Water-Table Elevations

14

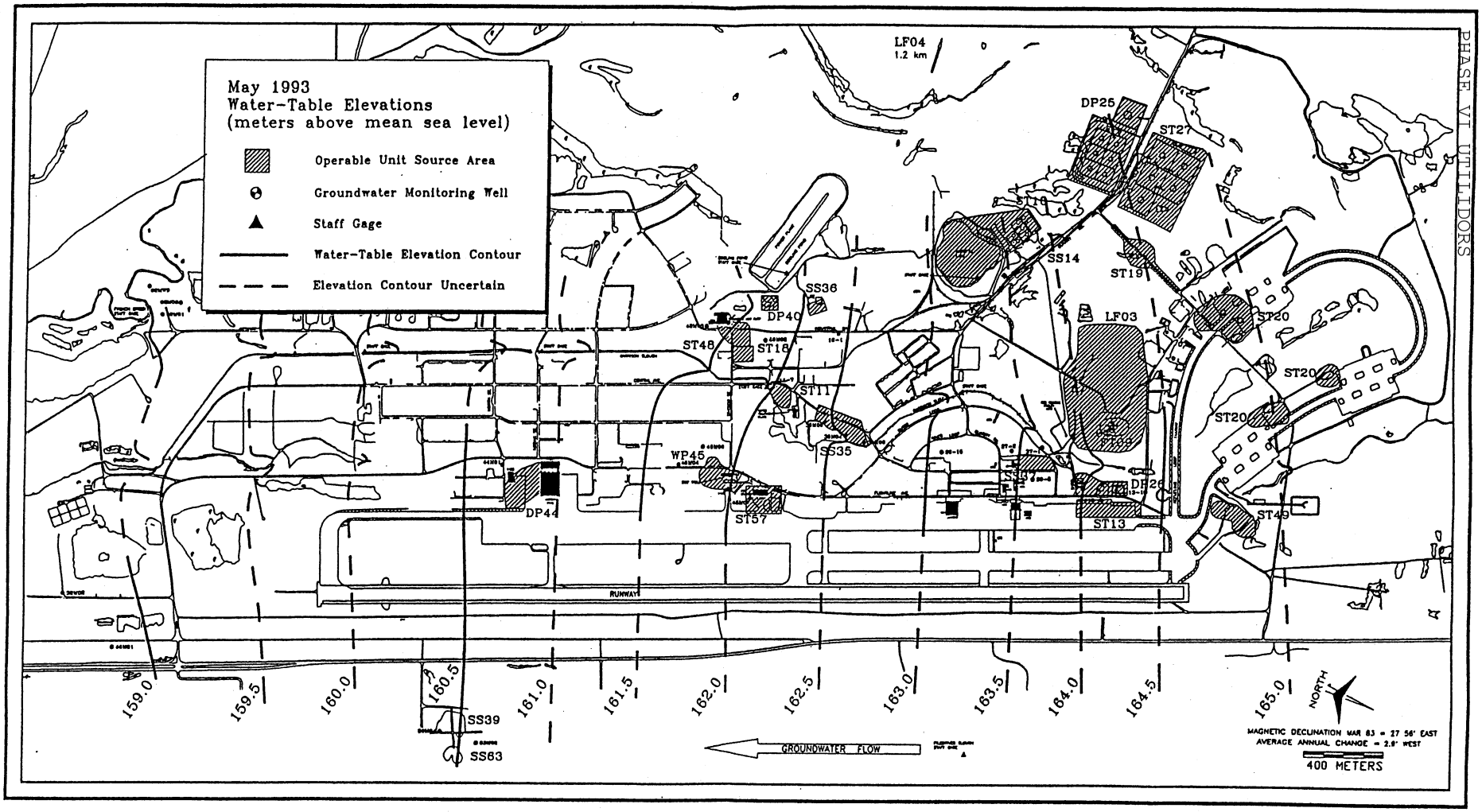

FIGURE 11. May 1993 Water-Table Elevations

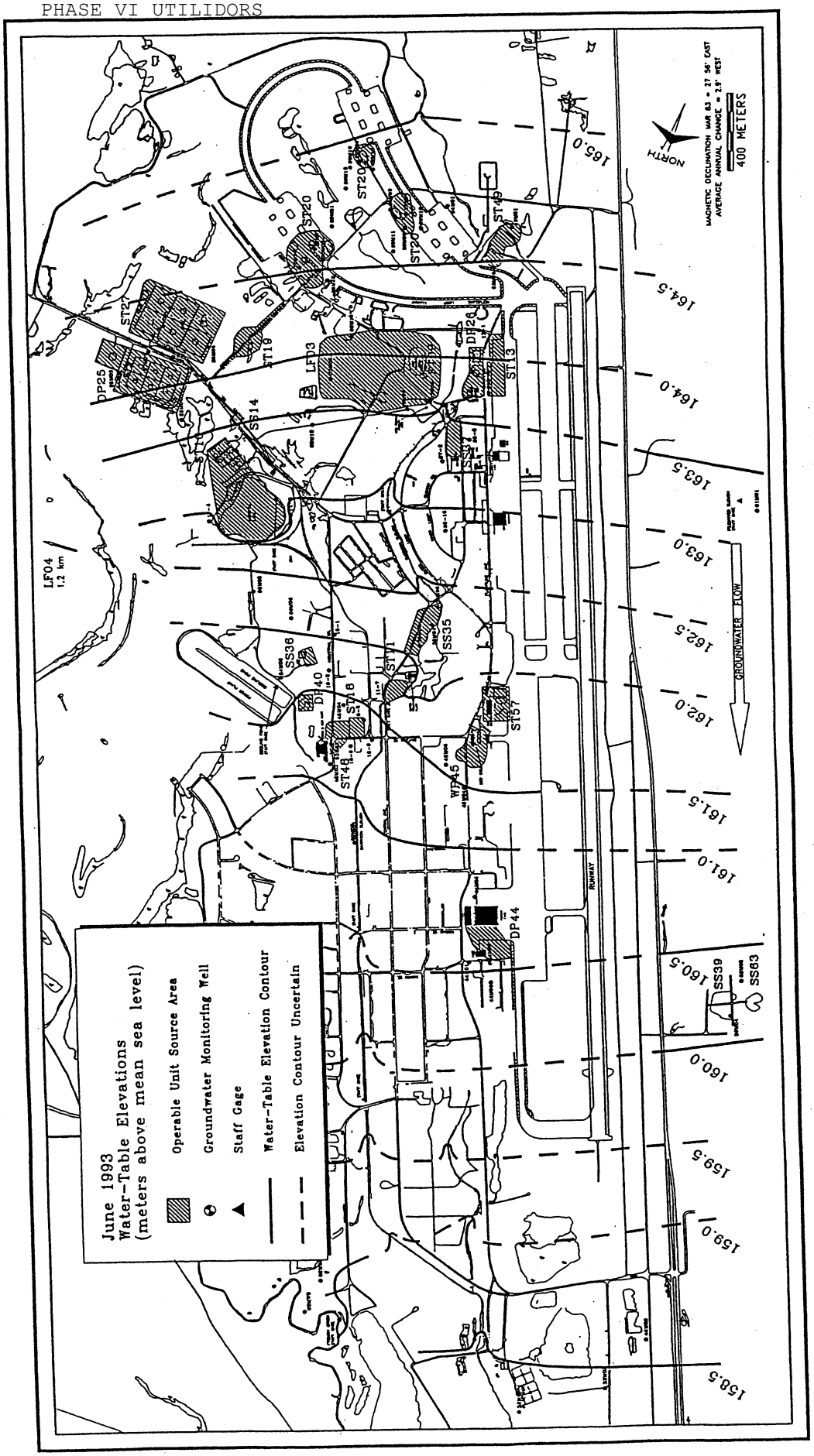

FIGURE 12. June 1993 Water-Level Elevations

16

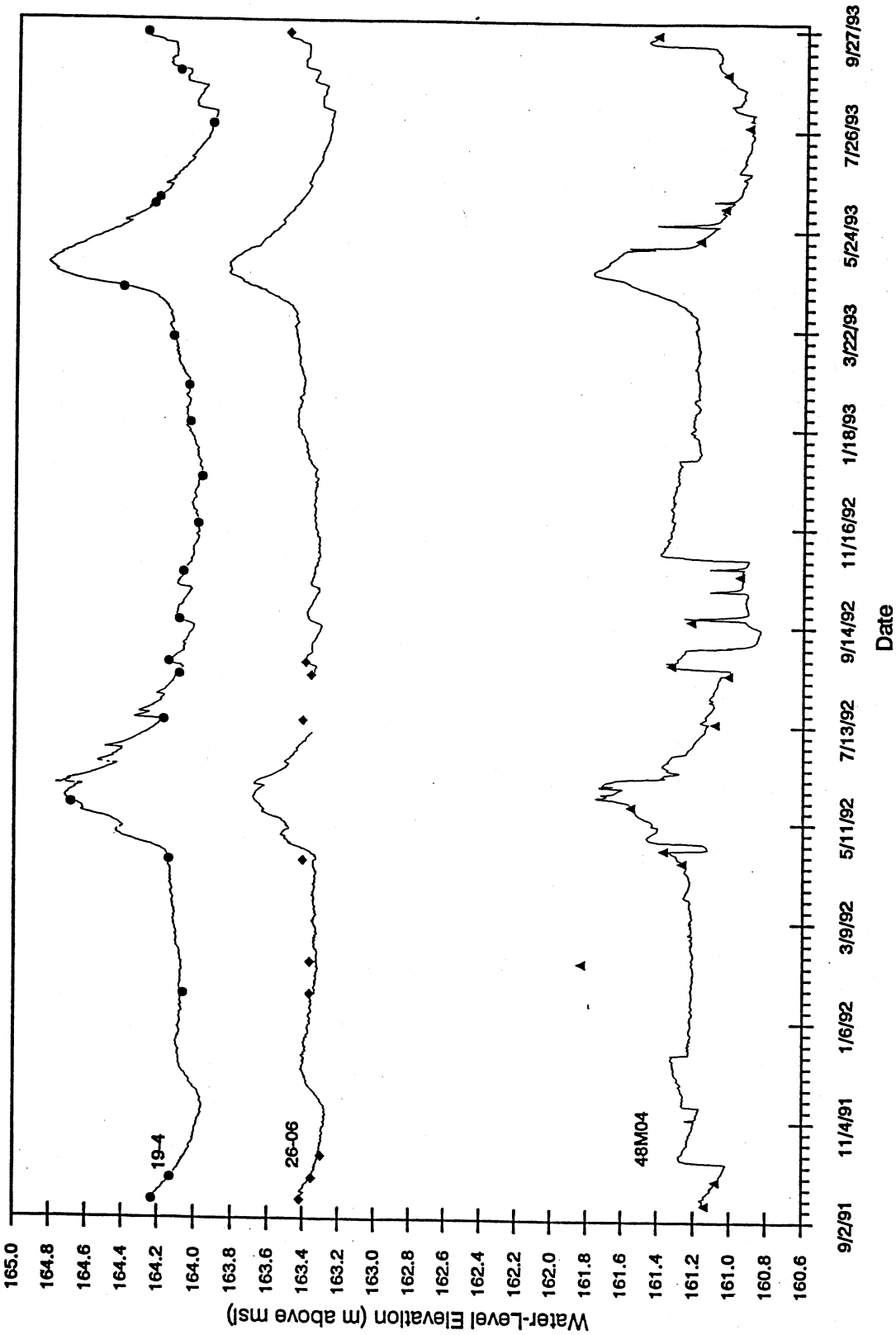

FIGURE 13. Automatically Recorded Water-Level Elevations and Periodic Manual Measurements at Three Wells.

APPENDIX B

ESTABLISHING VEGETATION

Establishing Vegetation

GRASS

1. Preferred Planting Season: 15 May to 1 August and winter dormant seeding, planting just before the ground freezes in the fall.

Acceptable Planting Season: 1-15 August. Planting between 1-15 August can only be justified if the seeded area is watered and the construction sites or disturbed areas needing revegetation were not available for planting before August. Although a light frost will not affect newly seeded grass, grass planted after 1 August can be damaged if prolonged hard freezing temperatures set in prior to 1 October. August planting must be dictated by fall weather conditions. Fertilizer applied to grass planted after 1 August should contain little or no nitrogen and a light application of phosphorus and potassium. High nitrogen levels in the spring encourage snow mold.

2. Recommended Grass Species

For lawn and field areas:

Kentucky bluegrass (*Poa pratensis*) - 'Nugget' or 'Park' varieties are preferred, but 'Common' from a northern grown seed source is acceptable

Creeping red fescue (*Festuca rubra*) - 'Arctared' variety is preferred, but 'Pennlawn' or 'Common' are acceptable varieties.

For Airfield Bird/Aircraft Strike Hazard Zone:

Smooth brome (*Bromus inermis*) - ‘Manchar’ or ‘Polar’ varieties

Creeping red fescue (*Festuca rubra*) - ‘Arctared’ variety is preferred, but ‘Pennlawn’ or ‘Common” are acceptable varieties.

For hillsides with erosion problems:

Creeping red fescue (*Festuca rubra*) - 'Arctared' variety is preferred, but 'Pennlawn' or 'Common' are acceptable varieties

Bering hairgrass (*Deschampsia beringensis*) - 'Norcoast' variety.

For wet areas:

Creeping foxtail (*Alopecurus arundinaceus*) - 'Garrison' variety (wet areas)

American sloughgrass (*Beckmannia syzignache*) - 'Egan' variety (very wet areas).

3. Seed Mixtures and Seeding Rate

Kentucky bluegrass/creeping red fescue (50/50 mix): 3.5 - 4.0 lbs/1,000 sq ft

Kentucky bluegrass: 2.5 - 3.0 lbs/1,000 sq ft (unshaded areas)

Creeping red fescue: 3.5 - 4.0 lbs/1,000 sq ft (shaded, acid, erosion, or drought areas)

Smooth brome/creeping red fescue (50/50 mix): 2.3 lbs/1000 sq ft, use .3 lbs of smooth brome with 2.0 lbs of creeping red fescue (Bird/Aircraft Strike Hazard Zone)

Bering hairgrass: 0.4 lbs/1,000 sq ft (erosion areas)

Creeping foxtail: 0.2 lbs/1,000 sq ft (wet areas)

American sloughgrass: 0.2 lbs/1,000 sq ft (very wet areas).

Nurse or Protective Crop - Perennial ryegrass (*Lolium perenne*) or Annual ryegrass (*Lolium multiflorum*) may be used as a nurse or protective crop for the recommended grass species. Ryegrass shall be no more than 20 percent of the seed mixture.

4. Fertilizer

Formula: 20-20-10S.
Rate: 300 pounds per acre or 3/4 pound per 100 square feet.
Time: Prior to seeding.
Method of Application: Hand (small areas) spreader (large areas).

5. Water

Newly seeded areas must be kept moist. Moist conditions are critical for proper germination. If precipitation does not occur frequently enough to keep the seed bed moist, water must be applied. Watering should stop when runoff begins.

6. Mowing

The first mowing should be delayed until the grass is 3 to 4 inches tall.

7. Length of Maintenance Period

Eight weeks for all types of grass.

TREES AND SHRUBS

1. Planting Seasons and Requirements:

Trees and shrubs will be transplanted from forested areas only when they are dormant. The preferred transplanting season is after a fall killing frost. Trees and shrubs can usually be transplanted from 15-20 September to freeze-up. Trees can also be transplanted in the spring (approximately 1-15 May) before the leaves are more than one-fourth open. The spring transplanting season is less desirable as the ground may be partially frozen, especially in heavily shaded or wooded areas. Balled and burlaped, containerized, and bareroot nursery stock can be planted when the ground is not frozen. Planting berry or fruit producing trees, shrubs, or hedges is prohibited in the vicinity of the airfield (between Flightline Avenue and the Richardson Highway, and in the loop area).

2. Recommended Tree Species

White spruce	*Picea glauca*
Paper birch	*Betula papyrifera*
Chokecherry	*Prunus virginiana*
Shubert chokecherry	*Prunus virginiana 'Shubert'*
Amur chokecherry	*Prunus maackii*
European birdcherry (mayday tree)	*Prunus padus*
Siberian crabapple	*Malus baccata*
Quaking aspen	*Populus tremuloides*
Lodgepole pine	*Pinus contorta var. latifolia*
Scotch pine	*Pinus sylvestris*

3. Recommended Shrub Species

Tatarian honeysuckle	*Lonicera tatarica*
Sweetberry honeysuckle	*Lonicera caerulea edulis*
Late lilac	*Syringa villosa*
False spirea	*Sorbaria sorbifolia*
Peking cotoneaster	*Cotoneaster acutifolia*
Saskatoon (serviceberry)	*Amelanchier alnifolia*
Red osier dogwood	*Cornus stolonifera*
Silverberry	*Elaeagnus commutata*
Potentilla	*Potentilla fruticosa*
Red currant	*Ribes triste*
Black currant	*Ribes nigrum*
Common juniper	*Juniperus communis*
Creeping juniper	*Juniperus horizontalis*
Siberian pea shrub	*Caragana arborescens* (for hedges)

Tree and shrub stock should be locally grown, within about 100 miles of Fairbanks, or from local seed stock. In some cases material from the same latitude is acceptable if local material is not available.

Stock from Delta Junction and Nenana are acceptable, but the photoperiod and winter temperatures South of these locations are different enough to cause concern. If local seed has been sent to nurseries outside of the local area the plant materials should still be locally adapted and could be acceptable. Any deviations must be approved by Natural/Cultural Resources in writing. All nursery stock shall be healthy and free from disease, insect pests, mold, and fungus. The minimum recommended sizes and planting distances for trees and shrubs are shown in Table 8-13 and Table 8-14.

Table 8-13. Minimum Ball Diameters.

Height of Plant (feet)	Tree Diameter 1 Foot Above Ground (inches)	Diameter of Ball (inches)
Trees*		
0 - 4	1	24
5 - 8	1-2	30
8 - 12	2-3	36
Shrubs		
0 - 3	N/A	12
4 - 6	N/A	18
7 - 9	N/A	24
10 - 12	N/A	30

Note: *If tree height and stem diameter are in different ball size classes the larger root ball is required.

Table 8-14. Minimum Planting Distances for Trees and Shrubs.

From	Cantonment Area		Base Housing	
	Trees	Shrubs	Trees	Shrubs
Other Trees/Other Shrubs	20	15	10	10
Clumps of Trees/Clumps of Shrubs	20	15	10	10
Buildings	10	6	8	6
Street	25	25	8	8
Sidewalk and Utilidors	6	6	6	6
Power Lines	20	15	8	8

Notes: 1. When group or clump planting, the minimum distance from other trees/shrubs does not apply.
2. Do not plant trees/shrubs where they will interfere with the line of sight at a street intersection or with snow removal.

4. Watering

Transplanted trees or shrubs should be watered once weekly, soaking the ground thoroughly except during periods of adequate rainfall during the first year of growth. Trees and shrubs should be watered during the growing season only, from leafing out in the spring until their leaves turn in the fall.

5. Guarantee (if required)

Growth will be guaranteed for 1-year after planting.

APPENDIX C

EIELSON AFB WASTE DISPOSAL/BORROW PIT WORKSHEET FORM

Eielson AFB Waste Disposal / Borrow Pit Worksheet

FTQW # / PROJECT TITLE:

Air Force Project Manager / Office Symbol / Telephone Number:

Contractor Project Engineer / Company / Telephone Number:

--**PART I** (To be completed by the project manager)--

ATTACH AF FORM 332 FOR PROJECT
The proponent must submit an electronic copy of the AF Form 332 with the "Waste Disposal / Borrow Pit Worksheet".

HISTORICAL: Is this work occurring on the run-way (1131) or at one of the following buildings, note the new building numbers are in parentheses: 1120 (2287), 1121 (2311), 1123 (2339), 1124 (2341), 1125 (2347), 1127 (2355), 1128 (2357), 1132 (2359), 1133 (2383), 1134 (2381), 1135 (2379), 1136 (2377), 1138 (2421), 1140 (2511), 1141 (2509), 1146 (2577), 1183 (2681), 1190 (2685) or 3112 (354)?

Yes or No

REQUIRED SURVEYS:

1. Lead-based paint survey accomplished. Scan and attach survey, give a brief description and scan and attach the results or state why a survey is not required:

2. Asbestos survey. Scan and attach survey, give a brief description and scan and attach the results or state why a survey is not required:

WASTES TO BE GENERATED:

1. Trees: number, square feet, or acres

2. Trees and brush or hydro-axed vegetation and soil mixture: cubic yards

3. Clean soil: cubic yards - give brief description (percent silt, sand, gravel, etc):

4. Contaminated soil: cubic yards. Type of contaminate(s):

Please Note: Proponent must provide CEVQ a soil sampling site map and copies of the sample results.

5. Concrete: cubic yards

6. Asphalt:

   a. Chunk: cubic yards

   b. Milled: cubic yards

Eielson AFB Waste Disposal / Borrow Pit Worksheet

FTQW # / PROJECT TITLE:

WASTES TO BE GENERATED (continued):

7. Asbestos: cubic yards

8. Lead Based Paint Debris: Give brief description:

   XRF Results:
   TCLP Results:

9. Hazardous Wastes:

PCB light ballasts:	Non-PCB light ballasts:	Exit light ballasts:
Non-incandescent lights:	Transformers:	Transformer oil:
Mercury thermostats:	Smoke detectors:	Batteries:
Rags with oil, grease, or solvents:	Used solvents:	Waste paint:
Capacitors and switching gear:	Used spray cans:	Solvent, asbestos removal:

10. Construction / Demolition Wastes (wood, glass, sheetrock, pipe, etc):

    a. Give brief description:

    b. Items to be salvaged:

    c. Items to be recycled:

BORROW PITS: Materials required for the project:

1. Gravel: cubic yards

Please Note: Bailed gravel stored adjacent to an active gravel pit shall become property of the Government on 31 December of year it is bailed. To retain rights to the gravel the following year the Contractor shall provide written coordination prior to 31 December informing 354 CES/CEVN of their gravel needs.

2. Topsoil: cubic yards

Eielson AFB Waste Disposal / Borrow Pit Worksheet

FTQW # / PROJECT TITLE:

--PART II (To be completed by 354 CES/CEV)--

INSTRUCTIONS FOR THE DISPOSAL OF WASTES:

1. Tree Protection, Transplanting, Replacement, and Methods:

2. Wastes to be disposed on base:

a. Trees, Soil, Concrete:

b. Hazardous Waste and Asbestos:

3. Wastes to be disposed off base: All construction wastes (except hazardous wastes) not listed for on base disposal shall be disposed off base by the contractor in an approved landfill in accordance with applicable state and federal regulations.

Please Note: Prior to project completion the proponent shall provide CEVQ written sampling result(s) and copy of the disposal tare for debris, e.g., lead painted materials disposed at the Fairbanks North Star Borough Landfill.

BORROW PITS:

1. Borrow pit(s) to be used:

Gravel -

Topsoil -

2. Pit development, rehabilitation, and/or expansion work required for the privilege of using borrow pit(s):

Reviewers:

CEVQ____CEVN____CEO____CEOH____CEOMI____CEC____.

Date of Issue:_____. This Coordination Review becomes invalid if the project is not awarded within one year from the date of issue.

APPENDIX D

EIELSON AFB WASTE DISPOSAL/BORROW PIT WORKSHEET

Eielson AFB Waste Disposal / Borrow Pit Worksheet

FTQW # / PROJECT TITLE: EIE210

Air Force Project Manager / Office Symbol / Telephone Number: To Be Determined, 354 CES/CECC,

Company / Telephone Number: David Arehart, PDC, Inc., 907-561-1666, 7/15/05 (revised), USACE Contract AE for Repair Utilidor, Phase VI, DBRFP, EIE210

--PART I (To be completed by the ~~project manager~~ USACE Contract AE)--

ATTACH AF FORM 332 FOR PROJECT

HISTORICAL: Is this work occurring on the , `), 1121 (2311), 1123 (2339), 1124 (2341), 1125 (2347), 1127 (2355), 1128 (2357), 1132 (2359), 1133 (2383), 1134 (2381), 1135 (2379), 1136 (2377), 1138 (2421), 1140 (2511), 1141 (2509), 1146 (2577), 1183 (2681), 1190 (2685) or 3112 (354)?

Yes or No: Yes, Bldg 1190

Note: Drawings and a detailed description of any exterior modification to building 1190 shall be submit to the Eielson Natural and Cultural Resource office 90 days prior to beginning work at building 1190.

REQUIRED SURVEYS:

1. Lead-based paint survey accomplished. Attach survey and give a brief description of the results or state why a survey is not required:

Hazardous Materials Survey Reports have been completed for all of Phase VI project areas.

Hazardous building materials survey report dated October 1, 2002 for the Wabash project area: Lead based paint greater than 1.0 mg/cm^2 was identified on metal manhole hatches and fire hydrants. Painted concrete had lead below 1.0 mg/cm^2. Paint on both the concrete and hatches are peeling.

Hazardous building materials survey report dated May 9, 2005 for the Flightline and Outer Loop project areas: Lead based orange paint greater than 1.0 mg/cm^2 was identified on steel water and sewer lines located in the South Flightline and Outer Loop project areas. Other painted steel surfaces with greater than lead greater than 1.0 mg/cm^2 include brown painted fire hydrant and green painted valves. Tests exceeding 1.0 mg/cm^2 are shown as bold text type in Appendix B table of test results.

Hazardous building materials survey report dated June 28, 2005 for the Koyuk Avenue project area: Field testing of painted surfaces did not detect lead in amounts that would classify paint as lead based paint. Testing locations and results are tabulated in the Koyuk Avenue report.

2. Asbestos survey. Attach results or state why a survey is not required:

Hazardous Materials Survey Reports for Phase VI including Koyuk Avenue between Kodiak and North Streets have been completed. Utilidor between MH717 and 749 was not surveyed. Hazardous material survey of utilidor at both end of this segment shall be considered representative of conditions between MH717 and 749. Utilidor constructed between MH717 and 749 is of the same period as adjacent areas surveyed. Also observations at MH717 east portal and MH749 west portal indicate building and pipe materials from surveyed area continues between MH717 and 749.

The Koyuk Avenue report dated June 28, 2005 identified ACM pipe (Transite), pipe insulation, and joint sealant.

A hazardous building materials survey report dated October 1, 2002 has been completed for the Wabash project Area. ACM identified consists of pipe insulation, gaskets and packing on valves, cement asbestos pipe (transite),

FTQW # / PROJECT TITLE: EIE210

and dust and debris. The utilidor will require asbestos abatement as part of demolition and to allow workers to install new pipe.

REQUIRED SURVEYS (continued):

A hazardous building materials survey report dated May 9, 2005 has been completed for the Flightline and Outer Loop project areas. ACM identified consists of pipe insulation, gaskets and packing on valves, cement asbestos pipe (transite), and dust and debris. The utilidor will require asbestos abatement as part of demolition and to allow workers to install new pipe.

WASTES TO BE GENERATED:

This includes all Base and Optional Items in original scope of work and addition of the Koyuk Avenue utilidor between North and Kodiak Streets.

1. Trees: 23 Trees and 28 Shrub number, square feet, or acres
4 – Large Shrub at Bldg 3108 service entrance, Wabash Ave, Base Items 3&4.
1 – Shrub at Bldg 1215 Mech Room Entrance, Flightline Ave, Optional Items 7&8.
3 – 1" Spruce, 1 – 1" Birch, south of MH 134, Flightline Ave, Optional Items 14&15.
4 – 2" Spruce, 3 – 4" Spruce, 8 – 2" Birch, 3 – 4" Birch, 1 – 2" Choke Cherry (?), 23 – Shrubs, Koyuk Ave, MFH Base Items.

2. Trees and brush or hydro-axed vegetation and soil mixture: 600 cubic yards
This is grass sod removed/stripped while uncovering utilidor lids. Volume considers 50% is recovered for topsoil and it is an in-place volume.

3. Clean soil: 5,600 cubic yards - give brief description (percent silt, sand, gravel, etc):
70 percent of the clean soil originates from under pavement. Volume considers subbase and base under demolished pavements will be replaced with new classified soil (minimum depths shown in a plan detail). Quality control is an issue when trying to keep excavated soil from being mixed with silty soil. Clean soil would probably tend towards a silty gravel (greater than 10% silt).

This volume can be reduced depending upon how well the Contractor salvages classified soil beneath existing pavements.

Volume estimated is an in-place volume.

4. Contaminated soil: 100 cubic yards. Type of contaminate(s):
The potential for encountering contaminated soil is low because earthwork is outside known spill areas and excavation activities should stay above soil possibly impacted by contaminants transported by or floating above the groundwater table. The highest likelihood of encountering contamination is where new footings are constructed at MH 337/337-1, 208/208-1, 702, and 710.

5. Concrete: 900 cubic yards
Concrete is from sidewalk, curb & gutter, MH replacement, and utilidor demolition. Calculated quantity is the in-place volume. Utilidor concrete is considered not clean because of mastics and paint and, should be disposed of off Base as construction debris at the Regional Landfill. Concrete from all other locations should be considered clean and disposed of at the Base Clean Concrete Disposal Area.

6. Asphalt:
   a. Chunk: 168 cubic yards
      This is in-place volume.
   b. Milled: 0 cubic yards

Eielson AFB Waste Disposal / Borrow Pit Worksheet

FTQW # / PROJECT TITLE: EIE210

WASTES TO BE GENERATED (continued):

7. Asbestos: See Below cubic yards
Transite Pipe – 45 cy uncrushed, 8 cy crushed
ACM Insulation – 301 cy stripped from pipe. Note that calculated volume does not take into account insulation that has fallen off the pipe.

8. Lead Based Paint Debris: 40 cy Give brief description:
Painted utilidor hatch lids, pipe anchors, and valves, are typical items.
TCLP Results: See hazardous materials survey report. TCLP was not performend. Paint lead content determined using field instrument.

9. Hazardous Wastes:

PCB light ballasts: none	Non-PCB light ballasts: none	Exit light ballasts: none
Non-incandescent lights: none	Transformers: none	Transformer oil: none
Mercury thermostats: none	Smoke detectors: none	Batteries: N/A
Rags with oil, grease, solvents: N/A	Used solvents: N/A	Waste paint: N/A
Un-used hazardous materials: N/A	Used spray cans: N/A	Other: N/A

Volume of other hazardous wastes is determined by the Contractor's operations.

10. Construction / Demolition Wastes (wood, glass, sheetrock, pipe, etc):
a. Give brief description:
Bulk of material is Steel pipe, valves, expansion joints, steel plate access hatches.
Estimated volume of (uncrushed) steel pipe is 295 cubic yards; 1,230 ft of 12", 1,200 ft of 10", 9,150 ft of 8", 3,900 ft of 6", 2,150 ft of 4", 2,340 ft of 3", 450 ft of 2.5", 6,600 ft of 2", 3,600 ft of 1.5" and less.
Non-ACM pipe insulation – 36 cubic yards from Optional 11, 12, 14, &15 Item Areas.
b. Items to be salvaged:
Fire hydrants.
c. Items to be recycled:
Steel pipe from recent utilidor repair projects has been salvaged for recycling. The Contractor will determine if steel pipe with ACM insulation will be cleaned for recycling or wrapped for disposal with the ACM. The Contractor has the option in the DBRFP Design Criteria to abate asbestos by leaving the ACM on the steel pipe, wrapping with plastic, and disposing of wrapped sections of pipe in the ACM landfill.

Where utilidor is being demolished and abandoned electrical and communication cable is recyclable.

BORROW PITS: Materials required for the project:
1. Gravel: 6,200 cubic yards
This volume replaces classified subbase under pavements. If D1 is available at the Base pit then add 500 additional cubic yards. Volume can be reduced depending on how well the Contractor salvages classified fill under existing pavement and how much pavement is left in place where utilidor crosses paved areas.
2. Topsoil: 600 cubic yards
This is volume in-place and considers 50% of the topsoil needed will be recovered from sod stripped from the existing grass/landscaped locations over the utilidor.

Eielson AFB Waste Disposal / Borrow Pit Worksheet

FTQW # / PROJECT TITLE: EIE210

--PART II (To be completed by 354 CES/CEV) - Koenen, 377-5182

INSTRUCTIONS FOR THE DISPOSAL OF WASTES:

1. Tree Protection, Transplanting, Replacement, and Methods:

The contractor shall develop specifications for plant digging, handling and storage. Transplanting existing trees with a trunk diameter of one inch as measured 36 inches above the ground surface shall not be attempted. Trees with a trunk diameter greater than 1 inch shall be replaced with the same species at the rate of two (2) trees for the first 2 inches in diameter. To determine a tree's trunk diameter measure the trunk 36 inches above the ground surface. Round up when the trunk is an odd inch, e.g., a trunk diameter of 2.75 inches would round to 4 inches and be replaced with three (3) trees. Transplanted plant material shall be guaranteed to be in vigorous growing condition for a period of 12 months. A plant shall be replaced one time under this guarantee. Location of replacement trees shall be coordinated with the 354 CES/CEVN through the Contracting Officer.

Trunk guards shall be installed around all new and transplanted trees, Guards must be AborGard+ by Ben Meadows Company, Barkgard by Easy Gardener or equivalent.

Replacement trees and shrubs plant material shall be grown within 100 miles of Fairbanks. The contractor shall provide documentation of seed source for each tree and shrub. Existing trees shall be protected, if excavation exposes the tree or shrub's roots the Contractor shall guarantee the plant material be in vigorous growing condition for a period of 12 months after completion of all earthwork.

2. Wastes to be disposed on base:

Trees, Soil, Concrete -

Chunk Asphalt: Recyclable Asphalt Stockpile. The contractor is responsible for pushing the asphalt off the asphalt stockpile plateau by close of business every Friday until project completion.

Clean Soil: North Area, Flightline Ave. Contractor shall place excess clean soil in the disposal area to create a consistent contour matching the existing terrain. Contractor shall have the necessary equipment to complete final grading requirements. Clean soil shall be free from demolition and construction debris, trees and roots 2-inches in diameter or larger. Prior to taking clean soil to the disposal site Contractor shall coordinate with CEVN (377-5182). **NOTE: Contractor shall maintain/push the clean soil disposal site by close of business each Friday.**

Concrete: Flightline Swamp Concrete Disposal Cell: Only clean concrete free from lead-based paint (<1mg/cm² lead based paint by XRF sample) or hydrocarbon based water proofing or mastic shall be disposed of in the Flightline Swamp. Analytical certification showing the all painted concrete is below (<1mg/cm²) must be provided to CEVN prior to pit disposal. **Note: The contractor shall maintain/push the concrete into Flightline Swamp by the close of business each Friday and prior to project completion.**

Trees, Brush, Vegetation, and Soil Mixture: Flightline Swamp Tree Disposal Area. **The contractor shall push the vegetative debris into the receiving water site by close of business each Friday.**

Hazardous Waste and Asbestos –

Asbestos: All friable and non-friable ACM that is removed (abated) as part of this project, properly packaged, and marked will be disposed in the Eielson Asbestos Landfill.

3. Wastes to be disposed off base:

Eielson AFB Waste Disposal / Borrow Pit Worksheet

FTQW # / PROJECT TITLE: EIE210

Contaminated Soil - The contractor is responsible for proper treatment/disposal of all petroleum contaminated soil. TCLP benzene analysis is required for hazardous waste determination and results shall be submitted to CEV (377-1645). Copies of all hazardous waste manifests and destruction certificates shall be submitted to HazMat (377-1668). Field screening, sampling, and handling shall be in accordance with the Alaska Department of Environmental Conservation Guidance for Non Underground Storage Tank Petroleum Soils. The contractor shall submit a contaminated soil field screening, sampling, and handling work plan to CEV (377-1645) for approval prior to start of project. The contractor shall clean up all plastic and/or poly sheeting, to include all pieces, used during the temporary stockpiling of potentially contaminated soil.

All construction wastes (except hazardous wastes) not listed for on base disposal shall be disposed off base by the contractor in an approved landfill in accordance with applicable state and federal regulations.

BORROW PITS:

1. Borrow pit(s) to be used:

Gravel: The estimated 6,200 cubic yards of gravel needed for this project will originate from Cathers Lake Borrow Pit. Other contractors may be using Cathers Lake Borrow Pit. Contractor shall coordinate as required. NOTE: Prior approval from 354 CES/CEVN (377-5182) is required for locating any draglines, processing or screening plant in the pit. Any waste or reject materials from processing base course, concrete aggregate, and asphalt aggregate shall be disposed of as directed by 354 CES/CEVN. All gravel remaining on site on 1 Jan following contract award will become property of the Air Force unless the Contractor receives written authorization to stockpile and use the following year.

Note: Bailed gravel stored adjacent to an active gravel pit shall become property of the Government on 31 December of year it is bailed. To retain rights to the gravel the following year the Contractor shall provide written coordination prior to 31 December informing 354 CES/CEVN of their gravel needs.

Topsoil: The estimated 620 cubic yards of top soil shall be hauled from Cathers Lake Borrow Pit. The contractor shall coordinate with 354 CES/CEVN (377-5182) prior to removing topsoil from Cathers Lake Borrow Pit for instruction, location(s) and direction. The topsoil has been pushed into stockpiles. The topsoil may require screening. The topsoil placed on the project site shall be free from trees, roots, and rocks one inch in diameter or larger. The contractor shall have the necessary equipment to screen and remove the topsoil as directed by CEVN. Other contractors may be using Cathers Lake Borrow Pit, contractor shall coordinate as required.

2. Pit development, rehabilitation, and/or expansion work required for privilege of using borrow pit(s):

Pit development, rehabilitation, and/or expansion work required for the privilege of using borrow pit(s): The Contractor shall haul an additional 1,600 cubic yards of soil from Cathers Lake Borrow Pit to the North Area, Flightline Ave. Contractor shall place excess clean soil in the disposal area to create a consistent contour matching the existing terrain. Contractor shall have the necessary equipment to complete final grading requirements. Clean soil shall be free from demolition and construction debris, trees and roots 2-inches in diameter or larger. Prior to taking clean soil to the disposal site Contractor shall coordinate with CEVN (377-5182).

Reviewers:

CEVQ_____CEVN_____ CEO_____CEOH_____CEOMI_____CEC_____

Date of Issue:_____. This Coordination Review becomes invalid if the project is not awarded within one year from the date of issue.

APPENDIX E

STATE OF ALASKA, DEPARTMENT OF ENVIRONMENTAL CONSERVATION GENERAL WASTEWATER PERMITS

Table of Contents

1. Permit No. 2004DB0101

STATE OF ALASKA
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

WASTEWATER DISPOSAL GENERAL PERMIT

Excavation Dewatering

PERMIT NO. 2004DB0101

This waste disposal permit is available for use by persons responsible for the disposal of wastewater from excavations that meet the eligibility criteria in this permit.

Waste Disposals Covered by this Permit. This general permit applies to:

- a wastewater disposal from excavations on sites located less than one mile from a contaminated site. Eligible projects may include earthwork activity such as culvert placement; gravel extraction; pipeline installation, inspection or repair; and other similar projects.
- a wastewater disposal from excavations located more than one mile from a contaminated site and not eligible for coverage under *NPDES Stormwater Multi-Sector General Permit for Industrial Activities* (MSGP) at http://cfpub.epa.gov/npdes/stormwater/ipermit.cfm or under *NPDES General Permit for Storm Discharges from Large and Small Construction Activity* (CGP) at http://cfpub.epa.gov/npdes/stormwater/cgp.cfm

Waste Disposals Not Covered by this Permit. This general permit does not apply to:

- a wastewater disposal from excavations located more than one mile from a contaminated site if authorized under the MSGP or CGP.
- a wastewater disposal to waters listed by the state as impaired where the impairment is wholly or partially caused by a pollutant contained within the proposed discharge (go to http://www.state.ak.us/dec/water/acwa/pdfs/0203integratedassess.pdf).
- a wastewater disposal which is approved by the Department as part of the cleanup at a contaminated site.

Notice of Disposal Requirements

- A Notice of Disposal under Section 1.1 and prior written authorization from the Department **are** required if the excavation is located less than a mile from a contaminated site and the total discharge volume is equal to or greater than 250,000 gallons to the land surface or to a surface water body; or
- A Notice of Disposal **is** required if the total discharge volume is equal to or greater than 250,000 gallons for the department to determine if the excavation is located less than one mile from a contaminated site; or
- A Notice of Disposal **is not** required if the total discharge volume is less than 250,000 gallons, the disposal is located more than one mile from a contaminated site, and the disposal is eligible for coverage under the MSGP or CGP.

General Provisions

A wastewater disposal authorized under this general permit is subject to the terms and conditions specified in Sections 1 and 2 of this permit. All disposals made under the authority of this permit, regardless of size, are subject to the conditions and stipulations contained herein. A written authorization under this permit is valid for not longer than 12 months. This permit does not relieve a person of the responsibility of obtaining other required permits if any.

The Department will require a person to obtain an individual permit when the wastewater disposal does not meet the eligibility criteria of this general permit, contributes to pollution, or has the potential to cause or causes adverse impact on public health or water quality. Issues that the Department may consider when deciding whether to require an individual permit for a particular disposal include, but are not limited to: the effect of discharge activity on nearby contaminated sites, proximity of drinking water wells, separation distance waivers for drinking water wells in the vicinity of the proposed activity, potential for reversal in the direction groundwater flow, and potential changes in drinking water and groundwater quality. Issuance of an individual permit requires a 30 day public notice period and additional time for processing the application.

This permit supercedes State waste disposal general permit numbered 9940DB002.

This permit is issued under provisions of Alaska Statutes 46.03, the Alaska Administrative Code as amended, and other applicable State laws and regulations. It may be terminated, modified, or renewed under provisions of Alaska Statute 46.03 and the Alaska Administrative Code as amended.

Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195- 18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the Director, Division of Water, 410 Willoughby Ave., Juneau, Alaska 99801, within 15 days of the permit decision. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99801, within 30 days of the permit decision. If a hearing is not requested within 30 days, the right to appeal is waived.

4/20/2004
Permit Effective Date

SIGNATURE ON FILE
William D. McGee
Technical Engineer
Wastewater Discharge Program

4/19/2009
Permit Expiration Date

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1 OPERATIONAL REQUIREMENTS

1.1 NOTICE OF DISPOSAL AND AUTHORIZATION

1.1.1 A person wishing to conduct a disposal activity under this permit and whose total discharge volume is equal to or greater than 250,000 gallons must submit a Notice of Disposal to the nearest office of the Alaska Department of Environmental Conservation listed in Section 1.6. The Department will determine whether the dewatering site is less than one mile from a contaminated site. The Notice of Disposal form can be found and submitted electronically or printed and mailed to the Department by visiting its web site at http://www.state.ak.us/dec/dawq/waterpermits/index.htm. If unable to download the permit or Notice, contact the Department at one of the telephone numbers listed in Section 1.6. The Notice of Disposal must be submitted to the office nearest the discharge location at least thirty (30) days prior to the start of the disposal activity.

1.1.2 A Notice of Disposal is not required if the total discharge volume is less than 250,000 gallons. However, the water quality standards in 18 AAC 70 and **the terms and conditions in this permit still apply to any activity conducted under this permit even if submittal of a Notice of Disposal is not required**. A copy of this permit shall be on site in accordance with Section 2.4. All persons involved in the dewatering activity must be informed of the terms and conditions of this general permit.

1.1.3 The Notice of Disposal must be accompanied by the appropriate permit fee found in 18 AAC 72, http://www.state.ak.us/dec/water/wwdp/online_permitting/fees.htm, or any such regulations as amended.

1.1.4 The Department will, in its discretion, deny use of this general permit, or attach or waive conditions appropriate for the disposal activity, as specified in the written authorization.

1.1.5 The applicant must contact the Alaska Department of Natural Resources, Office of Habitat Management and Permitting for approval, http://www.dnr.state.ak.us/habitat/contacts.cfm, two weeks prior to any discharge, if the discharged water will enter a fish-bearing stream.

1.1.6 The applicant must contact the Alaska Department of Natural Resources, Division of Mining, Land, & Water, http://www.dnr.state.ak.us/mlw/, for any dewatering operation where the discharge volume exceeds 30,000 gallons of water per day to determine whether a temporary water use permit is required pursuant to 11 AAC 93.

1.1.7 The written authorization is effective for the period beginning on the effective date of the authorization and lasting through its expiration date. If this permit is modified or renewed during the term of the written authorization, the new permit requirements will apply for the remaining period of the authorization.

1.2 CONTAMINATED SITE

1.2.1 If the Department determines that a known contaminated site(s), within one mile of a proposed dewatering activity with a wastewater discharge volume equal to or greater than 250,000 gallons, would be impacted by the dewatering activity the applicant shall, in addition to the Notice of Disposal required in Section 1.1, provide the following information:

1.2.1.1 Data about the contaminated site(s) including the type and concentration of contaminants, whether the contaminant(s) are solid, liquid, or dissolved, and the size and location of any contaminant plumes.

1.2.1.2 A detailed geohydrologic report by a geologist, hydrologist, or engineer professionally licensed to practice in the State of Alaska. This report must specifically address the impact of the proposed dewatering activity on the location of any adjacent contaminated site within the area of influence of the dewatering activity.

1.2.1.3 Proposed or existing monitoring wells that are capable of providing information on groundwater elevations, whether contaminants are being smeared below the natural minimum groundwater elevation, whether the contaminant plume is being diverted, and whether contaminant migration rates are increasing.

1.2.1.4 The proposed treatment of contaminants that are entrained in the dewatering and the contaminant discharge concentrations. Treatment plans must be designed and stamped by an engineer professionally licensed to practice in the State of Alaska.

1.2.2 The information described in Section 1.2.1 is not required if the applicant can demonstrate that the contaminated site(s) within one mile of the dewatering site does not affect the groundwater.

1.2.3 The information described in Sections 1.2.1.2 is not required if the proposed dewatering will not drop the groundwater level below the natural minimum groundwater elevation as recorded by the U.S. Geological Survey or another source the Department determines is reliable. Daily measurements of groundwater elevation in monitoring wells may be required to prove that groundwater elevations are not being lowered below elevations that would occur naturally.

1.2.4 When the dewatering activity may adversely affect a contaminated site by moving or smearing contaminants, the applicant must use construction practices such as cofferdams, or other methods to prevent adverse effects upon groundwater quality.

1.3 REQUIREMENTS

1.3.1 During the period beginning on the effective date of the authorization and lasting through the expiration date, a permittee is authorized to discharge wastewater as specified in this section.

1.3.1.1 Wastewater discharged from a dewatering activity shall not exceed the following limitations:

Effluent Characteristic	Maximum Value
Turbidity	5 NTU's above background [1]
Total Aqueous Hydrocarbons	15 µg/l, (micrograms per liter)
Total Aromatic Hydrocarbons	10 µg/l, (micrograms per liter)
Settleable Solids	0.2 ml/l (milliliter per liter)[2]
pH	Between 6.5 and 8.5 pH units and within 0.2 units (marine) or 0.5 units (fresh water), of the receiving water pH.
Total Iron	2 mg/l, (milligrams per liter)

1.3.1.2 The disposal shall not cause thermal or physical erosion.

1.3.1.3 The disposal shall not cause a change in established flow patterns of the receiving water nor shall it cause flooding which results in property damage.

1.3.1.4 A waiver of the minimum separation distance between a drinking water source and a potential source of contamination is sometimes based on the direction of flow of the groundwater. The dewatering operation shall not cause a drinking water source with such a waiver to be threatened with contamination by changing the direction of flow of the groundwater.

1.3.1.5 The disposal shall not cause destruction of vegetation.

1.3.1.6 The disposal shall not create a thermal barrier to fish movement.

1.3.1.7 The disposal shall not result in the exclusion of fish from aquatic habitat.

1 Applies to discharges to the waters of the state only. Not applicable to disposals which freeze upon discharge. Shall not cause more than 10% increase in turbidity when the natural condition is more than 50 NTU, not to exceed a maximum increase of 15 NTU. Shall not exceed 5 NTU over natural conditions for all lake waters.

2 When the discharge flow is greater than the receiving water flow, settleable solids shall have a maximum limitation of 0.1 ml/l.

1.3.1.8 The disposal shall not cause re-suspension of sediments in receiving waters.

1.3.1.9 The disposal shall be free of any additives such as antifreeze solutions, methanol, solvents, or corrosion inhibitors; garbage; toxic substances; grease and oils which produce a sheen; foam in other than trace amounts; or other contaminants.

1.3.1.10 If a sheen is observed in the disposal the permittee shall stop the discharge immediately, use sorbent materials to control the sheen, and contact the Department immediately.

1.3.1.11 The disposal shall not cause a violation of the Alaska Water Quality Standards 18 AAC 70.

1.3.1.12 Groundwater elevations may not be affected in a manner that reduces the quantity or quality of the water drawn from wells owned by others in the area, unless prior arrangements are made to either provide suitable water to those owners, or those wells are modified (with the owners' permission) in a manner so that the quantity and quality will not be affected. Well owners may have additional legal rights and the applicant is encouraged to discuss the matter with the affected property owners prior to submission of the Notice of Disposal to the Department.

1.3.1.13 This permit or written authorization does not constitute a grant of water rights.

1.4 MONITORING

1.4.1 A permittee discharging 250,000 or more gallons of wastewater within one mile of a contaminated site shall monitor the wastewater stream in the following manner and frequency while the discharge is occurring. If the monitoring results show that the effluent exceeds the limitations in Section 1.3.1.1 or does not comply with the requirements in Section1.3, the permittee will immediately cease discharging and contact the nearest DEC office listed in Section 1.6.1.:

Effluent Characteristic	Sample Location	Minimum Frequency	Sample Type	Sample Method
Total Flow	Effluent	Daily	Estimate or Measured	Field
Turbidity (NTU)	Effluent & Background[3]	Weekly[4]	Grab	Field
Total Aqueous Hydrocarbons	Effluent	Weekly[3]	Grab	Field
Total Aromatic Hydrocarbons	Effluent	Weekly[3]	Grab	Field
Settleable Solids	Effluent	Daily	Grab Composite	Field (see note 11 to 18 AAC 70.020(b))
Total Iron	Effluent	Weekly	Grab	Field or lab Standard Method 3500-D

1.4.2 Iron precipitation from iron concentrations found in some ground waters has the potential to cause settleable solids to exceed the limits in Section 1.4.1 of this permit. The Department recommends that the applicant determine the iron concentration in the groundwater to be dewatered prior to submittal of the Notice of Disposal. In areas of known high concentrations of iron, the Department will require that this information be submitted.

1.4.3 A permittee with a discharge estimated to be less than a total of 250,000 gallons of wastewater shall perform the visual monitoring listed in Section 1.4.4. The data generated from this monitoring will only need to be reported to the Department if the actual flow monitored is equal to or greater than a total of 250,000 gallons. However, a written visual inspection record for flow, sheen, turbidity, and erosion must be kept by the permittee for 3 years after the termination of the discharge, and made available to the Department upon request.

1.4.4 Monitoring requirements if less than 250,000 gallons are discharged:

3 The Department at its discretion may require more frequent monitoring.

4 Turbidity values of effluent and receiving water shall be determined. One sample shall be taken at a point representative of discharge prior to its entering the receiving water. A second sample shall be taken of the receiving water upstream of the discharge point, or in the case of receiving waters with low or no flow, prior to discharge, at a location representative of the receiving water. Both samples shall be taken during the same day within a reasonable time frame.(i.e. within 30 minutes).

Effluent Characteristic	Sample Location	Minimum Frequency	Sample Type
Flow	Effluent	Daily	Estimated
Sheen	Effluent	Daily	Visual
Turbidity	Effluent	Daily	Visual
Erosion	Effluent	Daily	Visual

1.4.5 Test procedures used for sample analysis shall conform to methods cited in 18 AAC 70.020(c), as amended. The permittee may substitute alternative methods of monitoring or analysis upon receipt of prior written approval from the Department.

1.4.6 The permittee shall use current calibrated equipment when taking field measurements, and shall use bottles and sampling procedures provided by a laboratory when taking samples for laboratory analysis.

1.4.7 Samples and measurements taken shall be representative of the volume and nature of the monitored discharge.

1.4.8 Additional monitoring parameters and increased monitoring frequency may be required on a case-by-case basis.

1.4.9 If the permittee monitors any influent, effluent, or surface water characteristic identified in this permit more frequently than required, the results of such monitoring shall be reported to the Department in the monitoring report required under Section 1.6 and provided in Section 4.

1.5 MANAGEMENT PRACTICES

1.5.1 The permittee shall take whatever steps are necessary to maintain the dewatering operation in such a manner that the terms and conditions of this permit are met. This includes leaving the dewatering site, including any settling ponds, in a condition that will not cause degradation to the receiving water beyond that resulting from natural causes.

1.5.2 The permittee, when using an earthen channel to transport wastewater from a dewatering operation to the receiving water, shall not drive construction equipment in the channel in such a manner as to re-suspend sediment.

1.5.3 The permittee shall maintain fuel handling and storage facilities in a manner that prevents the discharge of petroleum products into receiving waters.

1.6 REPORTING

1.6.1 For a discharge equal to or greater than 250,000 gallons, monitoring results shall be recorded on a Discharge Monitoring Report (DMR), and postmarked, faxed, or emailed to the Department no later than the 14th day of the month following the month that each sampling occurs. Reporting shall begin when the discharge starts. Reporting shall be done on the electronic form attached to the authorization or on the form provided in Section 4. Signed copies of the monitoring results, and other reports required herein, shall be submitted to the Department office nearest the discharge location at the following addresses:

Alaska Department of Environmental Conservation
Division of Water
610 University Avenue
Fairbanks, Alaska 99709-3643
Telephone (907) 451-2360
Fax (907) 451-2187
Email: wq_permit@dec.state.ak.us

Alaska Department of Environmental Conservation
Division of Water
555 Cordova Street
Anchorage, Alaska 99501
Telephone (907) 269-7500
Fax (907) 269-7652
Email: wq_permit@dec.state.ak.us

Alaska Department of Environmental Conservation
Division of Water
410 Willoughby Avenue
Suite 303
Juneau, Alaska 99801-1795
Telephone (907) 465-5300
Fax (907) 465-5274
Email: wq_permit@dec.state.ak.us

1.6.2 Knowingly making a false statement, by the permittee, the operator, or other employees, including contractors, on any such report may result in the imposition of criminal penalties as provided under AS 46.03.790.

1.7 RECORDS RETENTION

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed, calibration and maintenance of instruments and recordings from continuous monitoring instruments, shall be retained in Alaska for three years for observation by the Department. Upon request from the Department, the permittee shall submit certified copies of such records.

1.8 CHANGE IN DISCHARGE

A discharge authorized herein shall comply with the terms and conditions of this permit and the

authorization. The discharge of any pollutant or toxic material, more frequently than specified, or at a concentration or limit not authorized, shall constitute noncompliance with the permit. Any anticipated construction changes, flow increases, or process modifications that will result in new, different, or increased discharges of pollutants and will cause a violation of this permit's limitations are not allowed under this permit and must be reported by submission of a revision of the Notice of Disposal or an individual waste disposal permit application. Physical changes to the dewatering activity may also be subject to plan review by the Department.

1.9 TOXIC POLLUTANTS

If a toxic pollutant (including oil, grease, or solvents) concentration standard becomes established in 18 AAC 70 for a pollutant present in this discharge, and such standard is more stringent than the limitation in this permit, this permit is considered to be modified to include the toxic pollutant concentration standard.

1.10 ACCIDENTAL DISCHARGES

The permittee shall provide protection from accidental discharges not in compliance with the terms and conditions of this permit. Facilities to prevent such discharges shall be maintained in good working condition at all times.

1.11 NONCOMPLIANCE NOTIFICATION

1.11.1 If, for any reason, the permittee will be unable to comply with any term or condition specified in this permit, the permittee shall cease discharging immediately. If, for any reason, the permittee does not comply with any term or condition specified in this permit, the permittee shall cease discharging immediately and report the noncompliance to the Department within 24 hours of becoming aware of such noncompliance. This report shall be by telephone, fax, email, or in the absence of these avenues, by mail.

1.11.2 A written follow-up report shall be sent to the Department within seven (7) days of a noncompliance event. The written report shall contain, but is not limited to:

1.11.2.1 Times and dates during which the event occurred, and the time the discharge was stopped or the noncompliance was corrected.

1.11.2.2 A detailed description of the event, including quantity and type of materials causing the noncompliance.

1.11.2.3 Details of any actual or potential impact on the receiving environment or public health.

1.11.2.4 Details of actions taken or to be taken to correct the cause(s) of the event and to remedy any damage that results from the event.

1.11.3 RESTRICTION OF PERMIT USE

The Department will require a person with a general permit authorization to obtain an individual permit if the Department determines that the disposal does not meet the requirements of this permit, the disposal contributes to pollution, there is a change in technology, or the receiving environment or public health is not protected.

1.12 TRANSFER OF OWNERSHIP

In the event of any change in control or ownership of the permitted facility, the permittee shall notify the succeeding owner or controller of the existence of this permit and the authorization by letter, and forward a copy to the Department at the nearest office listed in Section 1.6.1. The original permittee remains responsible for permit compliance unless and until the succeeding owner or controller agrees in writing to assume such responsibility and the Department approves assignment of the permit. The Department will not unreasonably withhold such approval.

2 GENERAL REQUIREMENTS

2.1 ACCESS AND INSPECTION

The permittee shall allow the Department access to the permitted facilities at reasonable times to conduct scheduled or unscheduled inspections or tests to determine compliance with this permit, the terms of the authorization to operate under this permit, State laws, and regulations.

2.2 INFORMATION ACCESS

Except where protected from disclosure by applicable state or federal law, all records and reports submitted in accordance with the terms and conditions of this permit shall be available for public inspection at the appropriate Alaska Department of Environmental Conservation office.

2.3 CIVIL AND CRIMINAL LIABILITY

Nothing in this permit shall relieve the permittee from any potential civil or criminal liability for noncompliance with this permit, their authorization to operate, or applicable laws and regulations.

2.4 AVAILABILITY

The permittee shall post or maintain a copy of this permit and their authorization available to the public, employees, and subcontractors at the disposal facility.

2.5 ADVERSE IMPACT

The permittee shall take all necessary means to minimize any adverse impacts to the receiving waters or lands resulting from noncompliance with any limitation or condition specified in this permit, including

additional monitoring needed to determine the nature and impact of the non-complying activity. The permittee shall clean up and restore all areas adversely impacted by the non-complying activity.

2.6 CULTURAL OR PALEONTOLOGICAL RESOURCES

If cultural or paleontological resources are discovered as a result of this disposal activity, work which would disturb such resources is to be stopped, and the State Historic Preservation Office, Division of Parks and Outdoor Recreation, Alaska Department of Natural Resources (907) 762-2622, is to be notified immediately.

2.7 OTHER LEGAL OBLIGATIONS

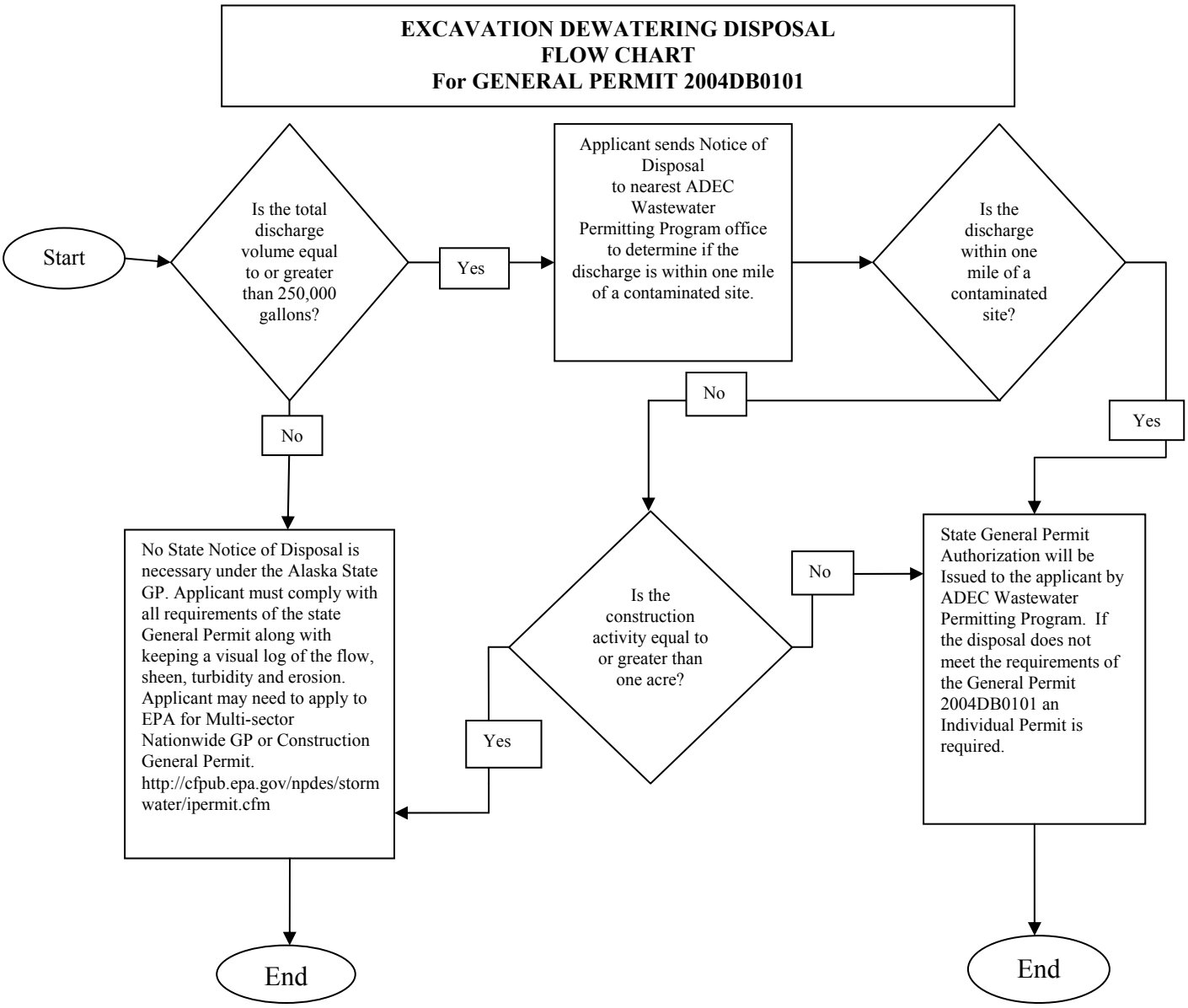
This permit does not relieve the permittee from the duty to obtain any other required permits or approvals from the Department or from other local, state, or federal agencies, and to comply with the requirements contained in any such permits. All activities conducted and all plan approvals implemented by the permittee pursuant to the requirements of this permit shall comply with all applicable local, state, and federal laws and regulations.

2.8 POLLUTION PREVENTION

In order to prevent and minimize present and future pollution, when making management decisions that affect waste generation, the permittee shall consider the following order of priority options as outlined in AS 46.06.021:

* waste source reduction,
* recycling of waste,
* waste treatment, and
* waste disposal

3 EXCAVATION DEWATERING FLOW CHART



4 DISCHARGE MONITORING REPORT FOR GENERAL PERMIT 2004DB0101

State of Alaska Discharge Monitoring Report (DMR)		Submit this report to:	Alaska Department of Environmental Conservation
Authorization #:		mail to:	
ADEC file #:			
		or FAX / phone to:	
		or email to:	WQ Permit@dec.state.ak.us

Owner:		**Responsible party:**	
Address:		**Phone / email:**	
Facility:		**Onsite contact:**	
Location:		**Phone / email:**	

Required Reporting Frequency: one time only	**Discharge:**	**Sample Period:** From: To: #N/A

Parameter		Summary of Analytical Results						Units	Frqncy	Smplng
		min	30 day avg	7 day avg	max value	number analyses	number violations			Protocol
For discharges equal to or greater than 250,000 total gallons for the project										
Total Flow	Estmt'd/Measure	-	-	-				gpd	daily	Estmt'd
(effluent)	Permit Limits	NotApplicable	report	report	report	report	report	"	"	"
Turbidity	Analytical Result	-	-	-			-	NTU	weekly	Grab
(background)	Permit Limits	NotApplicable	report	NotApplicable	report	report	NotApplicable	"	"	"
Turbidity	Analytical Result	-	-	-			-	NTU	weekly	Grab
(effluent)	Permit Limits	NotApplicable	report	NotApplicable	5 > bkgrnd	report	NotApplicable	"	"	"
TAH	Analytical Result	-	-	-			-	ug/L TAH	weekly	Grab
(effluent)	Permit Limits	NotApplicable	report	NotApplicable	10	report	NotApplicable	"	"	"
TAqH	Analytical Result	-	-	-			-	ug/L TAqH	weekly	Grab
(effluent)	Permit Limits	NotApplicable	NotApplicable	NotApplicable	15	report	report	"	"	"
Settleable Solids	Analytical Result	-	-	-			-	ml/L	daily	Grab
(effluent)	Permit Limits	NotApplicable	NotApplicable	NotApplicable	0.2	report	NotApplicable	"	"	"
Total Iron	Analytical Result	-	-	-			-	mg/L	weekly	Grab
(effluent)	Permit Limits	NotApplicable	NotApplicable	NotApplicable	2.0	report	report	"	"	"

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN, AND, BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THAT INFORMATION, I BELIEVE THAT THE SUBMITTED INFORMATION IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION.

NAME, TITLE OF PRINCIPAL EXECUTIVE OFFICER			( ) ____-_____
	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	DATE	TELEPHONE

COMMENT AND EXPLANATION OF ANY VIOATION *(REFERENCE ALL ATTACHMENT HERE)*

___ CHECK HERE IF THERE WAS NO DISCHARGE DURING THE ENTIRE REPORTING PERIOD.

5 NOTICE OF DISPOSAL FORM

STATE OF ALASKA
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Water

NOTICE OF DISPOSAL FOR EXCAVATION DEWATERING

2004DB0101

See this General Permit for details on eligibility, requested application information and permit requirements.

RESPONSIBLE PARTY (owner, operator, or person responsible for overall management of the project):

First Name:_____ Last Name:_____ Phone Number:_____
Company Name:_____ Fax Number:_____
Mailing Address: _____
_____
City:_____ State:_ Zip:_____
Email Address:_____

ON SITE CONTACT:

First Name:_____ Last Name:_____ Phone Number:_____

FACILITY:

NAICS Code (formerly the Standard Industrial Code (SIC)):_____
Facility Name:_____ Phone Number:_____
Mailing Address:_____ Fax Number:_____
_____
City:_____ State:_ Zip:_____
Physical Address:_____

CONSULTANT:

First Name:_____ Last Name:_____ Phone Number:_____
Company Name:_____ Fax Number:_____

DATES OF DISCHARGE (mm/dd/yy):

Beginning Date From:_____ Ending Date To: _____

DISCHARGE FLOW RATES:

Average:_____Gallons Per Day
Maximum:_____Gallons Per Day
Estimated Total Discharge Volume:_____Gallons
Rate of Pumping:_____Gallons Per Minute

GENERAL DESCRIPTION OF THE PROJECT:
Describe where the water to be discharged comes from, what treatment will be performed to meet the permit requirements, and where the water will be discharged. Describe proximity of contaminated sites that may be affected by the dewatering activity. Explain methods of soil erosion prevention.

_____
_____
_____
_____
_____
_____

MAPS OF DISCHARGE POINT(S):
Submit to ADEC two maps: a map that shows the general location of the facility and a detailed map that shows the

facility layout. Maps may be drawings, USGS maps, or aerial photographs and should include a scale.

LOCATION OF DISCHARGE POINT(S):

Receiving Area Type (e.g. marine, lake, river, tundra, leach pit, etc):_____

Name of Receiving Area:_____

Latitude / Longitude of Discharge Point(s) in either *decimal degrees* or in *degrees:minutes:seconds*:

Decimal Degrees: Latitude:_____. _____ ° Longitude:_____. _____ °

OR

Degrees:Minutes:Seconds: Latitude:_____:_____:_____ Longitude:_____:_____:_____

Lat/Long Coordinate Source: ☐ Internet ☐ MAP ☐ GPS/Survey

DESCRIPTION OF DISCHARGE AREA:

Describe overland distances and drainage routes to major water bodies, environmentally sensitive areas that may be affected by the discharge, or drinking water wells or surface water sources within 1 mile of the proposed discharge. This information may be shown on the maps.

_____

_____

_____

DESIGN OF PROPOSED TREATMENT SYSTEM:

Identify water source and type: source of water to be discharged including the type and volume of all substances added to the source water prior to or during treatment.

Describe rationale and design of proposed treatment system if a treatment system is needed to assure compliance with permit terms and conditions.

Describe the general design of the proposed treatment and disposal system. Submit to ADEC copies of any specifications and operational manuals for equipment to be used in the project, including any water treatment technology.

_____

_____

_____

_____

_____

REQUEST AND JUSTIFICATION FOR waiver FROM MONITORING OR OTHER GENERAL PERMIT REQUIREMENTS:

Describe the waiver sought. Include any test results available to justify the request for waiver of any monitoring requirements.

_____

_____

_____

_____

_____

OTHER PERTINENT INFORMATION:

Describe unusual circumstances that may aid in permit processing.

WASTEWATER PERMIT APPLICATION SIGNATURE:
The information given on this application is complete and accurate to the best of my knowledge.

Signature Date

Printed Name Title

If it is not possible to submit this Notice of Disposal electronically, please mail to the address below which is nearest to the proposed discharge.

Alaska Department of Environmental Conservation
Division of Water
610 University Avenue
Fairbanks, Alaska 99709-3643
Telephone (907) 451-2360
Fax (907) 451-2187
Email: wq_permit@dec.state.ak.us

Alaska Department of Environmental Conservation
Division of Water
410 Willoughby
Juneau, Alaska 99801-1795
Telephone (907) 465-5300
Fax (907) 465-5274
Email: wq_permit@dec.state.ak.us

Alaska Department of Environmental Conservation
Division of Water
555 Cordova Street
Anchorage, Alaska 99501
Telephone (907) 269-7500
Fax (907) 269-7652
Email: wq_permit@dec.state.ak.us

APPENDIX F

HAZARDOUS MATERIALS SURVEY REPORTS

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1. Survey Report: Flightline and Broadway Utilidors, Eielson AFB, Utilidor Repair, Phase IV, October 1, 2002.
2. Survey Report: Hazardous Materials Survey Report, Eielson AFB, Utilidor Repair, Phase VI, Eielson Air Force Base, Alaska, May 9, 2005.
3. Survey Report: Military Family Housing Area: Koyuk Avenue MH 353 to 360, Eielson AFB, Utilidor Repair, Phase VI, June 28, 2005.

Note: The October 2002 report covers the Phase VI Wabash Avenue project area from MH 333 to 208. The May 2005 report is for PVI South and North Flightline and, Inner Loop project areas.

SURVEY REPORT
HAZARDOUS BUILDING MATERIALS

CANTONMENT AREA INCLUDING: FLIGHTLINE
AND
BROADWAY UTILIDORS

EIELSON AFB, UTILIDOR REPAIR, PHASE IV
EIELSON AIR FORCE BASE
ALASKA

October 1, 2002

EHS-ALASKA, INC.
ENGINEERING, HEALTH & SAFETY CONSULTANTS
10928 EAGLE RIVER ROAD, SUITE 202
EAGLE RIVER, ALASKA 99577-8052

HAZARDOUS MATERIALS DESIGN ANALYSIS
EIELSON AFB, UTILIDOR REPAIR, PHASE IV
CANTONMENT AREA

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HAZARDOUS MATERIALS DESIGN ANALYSIS
EIELSON AFB, UTILIDOR REPAIR, PHASE IV

A. OVERVIEW

The work on this project is to support the Alaska District Corps of Engineers in the project Repair Utilidors, Phase IV, located at Eielson AFB, Alaska. The work on this project involves the repair of utilidors in the cantonment.

The project utilidor sections in the Cantonment Area are along Flightline Avenue from Manhole 103 south to 113 and along Broadway Avenue from Manhole 113 east to 219-1. Utilidors along Wabash Avenue from Manhole 333 south to 204 and from Manhole 211 south to 214 were also surveyed but will not be included in this phase of the project. A portion of this area, specifically the section along Broadway Avenue, was surveyed in July of 2000 as part of Phase II utilidor repairs.

The utilidor sections that are included in this project have reached the end of their useful life and are in need of replacement.

EHS-Alaska, Inc., as a consultant to PDC Inc., inspected the utilidors during the periods of July 13, 2000, July 22 through July 26, July 29 through August 2, and September 25 through September 26, 2002 for the presence, extent, and condition of possible asbestos-containing materials (ACM). Additionally, painted components were screened for the presence of lead based paints. The purpose of these inspections was to identify hazardous materials that will be disturbed during planned repair and upgrade activities. As-built drawings and previous survey reports were used to supplement the inspection and sampling results.

B. SAMPLING AND ANALYSIS

1. Asbestos-Containing Materials

EHS-Alaska performed a survey of the utilidors and took 10 samples of materials suspected of containing asbestos. The survey and sampling done for this project supplements the previous sampling data collected by Eielson AFB personnel and Phase I, Phase II and Phase III surveys of similar utilidors. The samples were analyzed for the presence of asbestos by polarized light microscopy (PLM), the method of analysis recommended by the U.S. Environmental Protection Agency (EPA) to determine the composition of suspected asbestos-containing materials. Samples were analyzed for asbestos content by International Asbestos Testing Laboratories (IATL), Mt. Laurel, New Jersey a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory. Only materials containing more than 1% total asbestos were classified as “asbestos-containing” based on EPA and the Occupational Safety and Health Administration (OSHA) criteria. Table 1 in Appendix A contains a summary list of asbestos samples and the results applicable to this project. Field survey data sheets and laboratory reports are included in Appendix B.

2. Lead-Containing Materials

EHS-Alaska tested paint in 48 locations throughout the survey area. Paint was tested using a NITON XL309 X-Ray Fluorescence (XRF) lead paint analyzer (Serial # U862NR0666 with software version 5.3). The instrument was operated in the "K & L + Spectra" mode. Prior to testing and every four hours thereafter an instrument self-calibration test was performed and the instrument calibration was checked using a set of government traceable lead paint samples. Calibration was checked using known paint film samples containing 1.0 ± 0.1 mg/cm^2, 1.6 ± 0.2 mg/cm^2 and 0.3 ± 0.1 mg/cm^2 of lead. The instrument was calibrated and all calibration tests were successful. Calibration tests are indicated in the test results table with the word "calibration" in the room column.

EPA and the Department of Housing and Urban Development (HUD) have defined lead-based paint as any paint or other surface coating that contains lead equal to or in excess of 1.0 milligram per square centimeter (mg/ cm^2) or 0.5 percent by weight. XRF results are classified as positive (lead is present at 1.0 mg/cm^2 or greater), negative (less than 1.0 mg/ cm^2 of lead was present) or inconclusive (the XRF could not make a conclusive positive or negative determination). No inconclusive tests were recorded. Results of sampling of painted surfaces detected lead in paint at levels from 0.0 mg/cm^2 to 5.5 mg/cm^2. Previous phases of utilidor repairs also found similar levels of lead in paint.

A Performance Characteristic Sheet (PCS) for the NITON XL309 is provided in Appendix D. This PCS data provides supplemental information to be used in conjunction with Chapter 7 of the "HUD Guidelines". Performance parameters provided in the PCS are applicable when operating the instrument using the manufacturer's instructions and the procedures described in Chapter 7 of the "HUD Guidelines". The instrument was operated in accordance with manufacturer's instructions and Chapter 7 of the HUD Guidelines. No substrate correction is required for this instrument. There is no inconclusive classification for this instrument when using the 1.0-mg/ cm^2 threshold.

C. SURVEY RESULTS

1. Asbestos-Containing Materials

Pipe Insulation

All steam, condensate and water piping in the Cantonment Area were insulated with asbestos-containing insulation or asbestos-contaminated insulation on both straight runs and fittings. Fiberglass insulation was only identified in manhole vaults and on a small percent of piping where repairs had been made. Asbestos-containing insulation tested contained chrysotile, amosite or a combination of the two. This type of insulation is considered highly friable when disturbed. The planned repairs in these areas will require that all piping in the utilidors be demolished. Typically, when piping insulated with asbestos-containing insulation is to be demolished, the pipe and insulation is wrapped and removed with the insulation intact. However, during earlier phases of this

project, contractors have abated the piping prior to removal from the utilidors. Either approach is sound and the abatement contractor should be allowed to propose the method he feels can accomplish the job in the safest, most cost-effective manner.

Gaskets and Packing on Valves

Flange gaskets and packing on valves throughout the utilidor system could not be sampled without disassembly, but were assumed to contain asbestos based on the age of the utilidors and equipment.

Cement Asbestos Pipe (Transite)

Main sewer lines in the utilidors were primarily cement asbestos "transite" pipe. This material was in good condition and is not considered friable unless broken in very small pieces.

Black Utilidor Lid Sealant

The black sealant at the interface of the utilidor walls and lids has been found to contain asbestos. Although the scope of work does not require that this material be completely abated, contractor should be made aware of its existence and treat it as asbestos.

Dust and Debris

Loose asbestos-containing pipe insulation was noted on the floors of some utilidors, generally close to manholes. Due to reported flooding of the utilidors and the free flow of air between adjacent sections of utilidors, all surfaces in the utilidors are assumed contaminated with asbestos including non-asbestos type insulation.

2. Lead-Containing Materials in the Utilidors

Paint

Lead in paints tested varied from a trace amount to as high as 5.5 mg/cm^2. Lead based paints (paint containing more than 1.0 mg/cm^2 of lead) were identified on metal manhole hole lids during this survey but have also been found on fire hydrants and vent pipes in previous surveys. Paints used on the concrete portion of the manhole vaults contained lead but were below 1.0 mg/cm^2. Paint on both the metal and concrete portions of the manholes were in poor condition and peeling. Loose paint should be removed and disposed of as hazardous waste to prevent contamination of soils in the area. Paint on metal pipe supports in the utilidors also contained lead at low levels. Painted metal pipe supports are to be recycled and should not enter the waste stream.

Other Lead Items

Other metallic lead items identified in the utilidors include shielded communication cables. These cables should be removed for recycling.

3. PCB-Containing Materials in the Utilidors

No PCB-containing materials were identified in the utilidors.

4. Mercury-Containing Materials in the Utilidors

No mercury-containing materials were identified in the utilidors.

D. REGULATORY CONSTRAINTS

1. Asbestos-Containing Materials

The Federal Occupational Safety and Health Administration (29 CFR 1926.1101) and the State of Alaska Department of Labor (8 AAC 61) have promulgated regulations requiring testing for airborne asbestos fibers; setting allowable exposure limits for workers potentially exposed to airborne asbestos fibers; establishing contamination controls, work practices, and medical surveillance; and setting worker certification and protection requirements. These regulations apply to all workplace activities involving asbestos.

The EPA regulations, issued as Title 40 of the Code of Federal Regulations, Part 61 (40 CFR 61) under the National Emission Standards for Hazardous Air Pollutants (NESHAP) established procedures for handling ACM during asbestos removal and waste disposal. These regulations required an owner (or the owner's contractor) to notify the EPA of asbestos removal operations and to establish responsibility for the removal, transportation, and disposal of asbestos.

The disposal of asbestos waste is regulated by the EPA, the State of Alaska Department of Environmental Conservation, and the disposal site operator. Wastes being transported to the disposal site must be sealed in leak tight containers prior to disposal and must be accompanied by disposal permits and waste manifests.

2. Lead-Containing Materials

Federal OSHA (29 CFR 1926.62) and the State of Alaska (8 AAC Chapter 61) have promulgated regulations that apply to all construction work where employees may be exposed to lead. The disturbance of any surfaces painted with lead-containing paint requires lead-trained personnel, personnel protective procedures, and air monitoring until exposure levels can be determined. If initial monitoring verifies that the work practices being used are not exposing workers, monitoring and protection procedures may be relaxed.

The EPA requires that actual construction or demolition debris that contains lead or lead-containing paint be tested using TCLP to determine if the waste must be treated as hazardous waste. All federal, state and local standards regulating lead and lead-containing wastes should be followed during the renovation demolition of this building.

E. RECOMMENDATIONS

1. Asbestos-Containing Materials

All asbestos-containing or asbestos-contaminated materials that will be disturbed by the planned repair or demolition work should be removed or cleaned by trained asbestos workers prior to repair or demolition activities. Asbestos-containing materials identified in the utilidors include pipe insulation, cement asbestos pipe, gaskets, packing on valves, utilidor lid sealant and dust and debris.

2. Lead-Containing Materials

Federal OSHA (29 CFR 1926.62) and the State of Alaska (8 AAC Chapter 61) have promulgated regulations that apply to all construction work where employees may be exposed to lead. Lead-containing or lead based paints were used throughout the building and portions of the utilidors and therefore should be addressed to protect construction/demolition workers. Lead is a hazardous waste and the EPA requires that all waste that contains lead be tested to determine if they must be treated as hazardous waste. TCLP test results indicated the expected waste stream should be non-hazardous for lead. All stripping agents and loose paint chips must be treated as hazardous waste.

APPENDIX A

Summary of Sample Results

TABLE 1 - ASBESTOS-CONTAINING MATERIALS

The following table is a summary list of the samples collected from Project Utilidors and the results of the laboratory analysis.

SAMPLE #	*MATERIAL*	*LOCATION*	*ASBESTOS*
Various Utilidors Sampling Conducted July and August, 2002			
EUPIV-A01	Aircell pipe insulation	Manhole 103	40% Chrysotile
EUPIV-A02	Aircell pipe insulation	Condensate pipe, between manhole 103 & 106, 30 feet from 103	40% Chrysotile
EUPIV-A03	Pipe insulation	Condensate pipe, between manhole 103 & 106, 40 feet from 103	95% Amosite
EUPIV-A04	Pipe insulation	Steam line between manhole 333 & 335, 20 feet from 333	95% Amosite
EUPIV-A05	Pipe insulation	Condensate line between manhole 335 & 337-1, near 337-1	None Detected
EUPIV-A06	Black sealant	Between manhole 208 & 209 at opening of buried culvert	10% Chrysotile
EUPIV-A07	Pipe insulation	Condensate line North of Manhole 213	15% Amosite 30% Chrysotile
EUPIV-A08	Pipe insulation	Steam line North of manhole 213	15% Amosite 30% Chrysotile
EUPIV-A09	Tar	Tarpaper wrap on insulated water line S of manhole 213	10% Chrysotile
EUPIV-A10	Wall mastic	Cork panel in underfloor access hatch, Building 3110`	None Detected
Sampling performed July 13, 2000			
UTIL0007-A21	Pipe insulation/wrap	Water line on Broadway by fire hydrant W. of MH 219	None Detected
UTIL0007-A22	Pipe insulation	Steam line on Broadway by fire hydrant W. of MH 219	25% Amosite 1.5% Chrysotile
UTIL0007-A23	Pipe insulation	Condensate line on Broadway by fire hydrant W. of MH 219	25% Amosite 1.3% Chrysotile
UTIL0007-A24	Black pipe insulation wrap	Water line on Broadway E. of MH 218	None Detected
UTIL0007-A25	Pipe insulation	Steam line on Broadway E.	25% Amosite

SAMPLE #	MATERIAL	LOCATION	ASBESTOS
		of MH 218	Trace-Chrysotile
UTIL0007-A26	Pipe insulation	Condensate line on Broadway E. of MH 218	25% Amosite 2.0% Chrysotile
UTIL0007-A27	Cloth insulation wrap	Steam line to Building 3343 from MH 218	None Detected
UTIL0007-A28	Dust/debris	Floor of MH 218	2.5% Chrysotile Trace-Amosite
UTIL0007-A29	Pipe insulation	Steam line to Building 3112, S. of MH 203	65% Amosite
UTIL0007-A30	Insulation wrap	Water line to Building 3112 S. of MH 203	None Detected
UTIL0007-A31	Pipe insulation	Condensate line to Building 3112 S. of MH 203	65% Amosite
UTIL0007-A32	Black pipe insulation wrap	Water line on Broadway E. of MH 202	None Detected
UTIL0007-A33	Pipe insulation	Steam line on Broadway E. of MH 202	80% Amosite
UTIL0007-A34	Pipe insulation	Condensate line on Broadway E. of MH 202	80% Amosite
UTIL0007-A35	Pipe insulation	Steam line to Building at flight line/Broadway from MH 202	20% Chrysotile 2.0% Amosite
UTIL0007-A36	Pipe insulation	Water line to Building service S. of MH 202	60% Chrysotile
UTIL0007-A37	Pipe insulation	Condensate line to Building service S. of MH 202	75% Amosite
UTIL0007-A38	Black Concrete Sealant	Fire hydrant lid at Flightline and Broadway	Tar - 5.0% Chrysotile Grey Plaster - ND
UTIL0007-A39	Pipe insulation	Condensate line, south of manhole 113	20% Amosite 10% Chrysotile
UTIL0007-A40	Pipe insulation	Steam line south of manhole 113	50% Amosite
UTIL0007-A41	Cloth insulation cover	Water line south of manhole 113	None Detected

The testing method used (polarized light microscopy [PLM]) is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-asbestos containing, confirmation should be made by quantitative transmission light microscopy (TEM).

Lead Paint Screening
Eielson Utilidors, Phase IV

No	Site	Inspector	Room	Structure	Substrate	Feature	Condition	Color	Ssec	Date/Time	Depth Index	Results LBP	Results mg/cm^2
1	Eielson PH IV	Morgan	Shutter Cal	1					58	9/25/2002 10:00	0	...	NA
2	Eielson PH IV	Morgan	Calibrate						5.3	9/25/2002 10:01	1	NEG	0
3	Eielson PH IV	Morgan	Calibrate						5.1	9/25/2002 10:01	1	NEG	0.31
4	Eielson PH IV	Morgan	Calibrate						21.9	9/25/2002 10:01	1	POS	1.01
5	Eielson PH IV	Morgan	Calibrate						11	9/25/2002 10:02	1.1	POS	1.72
6	Eielson PH IV	Morgan	Calibrate						4.6	9/25/2002 10:02	1.1	POS	3.53
7	Eielson PH IV	Morgan	MH 103	Vault	Concrte	Vault	Poor	Brown	16.4	9/25/2002 10:04	2.8	NEG	-0.68
8	Eielson PH IV	Morgan	MH 103	Vault	Metal	Lid	Poor	Brown	5.3	9/25/2002 10:05	3.4	NEG	0.09
9	Eielson PH IV	Morgan	S of MH 103	Pipe suppt	Metal	Pipe suppt	Poor	Black	12.6	9/25/2002 10:34	2.6	NEG	0.47
10	Eielson PH IV	Morgan	MH 106	Vault	Concrte	Vault	Poor	Brown	5.6	9/25/2002 11:03	1	NEG	0
11	Eielson PH IV	Morgan	MH 106	Vault	Concrte	Vault	Poor	Brown	7.9	9/25/2002 11:03	1	NEG	0
12	Eielson PH IV	Morgan	N of MH 106	Pipe suppt	Metal	Pipe suppt	Poor	Black	9.4	9/25/2002 11:08	1.6	NEG	0.22
13	Eielson PH IV	Morgan	ditch xing	Vault	Concrte	Vault	Poor	Black	10.1	9/25/2002 11:12	1	NEG	0
14	Eielson PH IV	Morgan	ditch xing	Vault	Concrte	Vault	Poor	Black	14.7	9/25/2002 11:12	1	NEG	0
15	Eielson PH IV	**Morgan**	**MH109**	**Ext Wall**	**Metal**	**Lid**	**Poor**	**Red**	**8.8**	**9/25/2002 11:15**	**5.5**	**POS**	**7.65**
16	Eielson PH IV	Morgan	NH 109	Vault	Concrte	Vault	Poor	Brown	10.1	9/25/2002 11:17	1	NEG	0
17	Eielson PH IV	Morgan	MH 110	Vault	Concrte	Vault	Poor	Brown	10.1	9/25/2002 11:24	1	NEG	0.01
18	Eielson PH IV	Morgan	MH110	Ext Wall	Metal	Lid	Poor	Black	7.2	9/25/2002 11:24	1.3	NEG	0.33
19	Eielson PH IV	Morgan	MH 111-2	Vault	Concrte	Vault	Poor	Brown	28.7	9/25/2002 12:24	1	NEG	0
20	Eielson PH IV	Morgan	MH 111-2	Vault	Metal	Lid	Poor	Brown	7.4	9/25/2002 12:25	6	NEG	0.05
21	Eielson PH IV	Morgan	MH 111	Pipe suppt	Metal	Pipe suppt	Poor	Silver	11.4	9/25/2002 12:40	3.8	NEG	0.23
22	Eielson PH IV	Morgan	MH 111	Pipe suppt	Metal	Pipe suppt	Poor	Red	7	9/25/2002 12:41	2.6	NEG	0.06
23	Eielson PH IV	Morgan	MH 111	Pipe suppt	Metal	Pipe suppt	Poor	Green	4.9	9/25/2002 12:42	1	NEG	0.02
24	Eielson PH IV	Morgan	Calibrate						7.5	9/25/2002 12:56	1	NEG	0
25	Eielson PH IV	Morgan	Calibrate						23.9	9/25/2002 12:56	1	POS	1.03
26	Eielson PH IV	Morgan	Calibrate						18.1	9/25/2002 12:57	1.3	POS	3.08
27	Eielson PH IV	Morgan	Shutter Cal	1					60.5	9/25/2002 14:22	0	...	NA
28	Eielson PH IV	Morgan	Calibrate						3.1	9/25/2002 14:22	1	NEG	0
29	Eielson PH IV	Morgan	Calibrate						5.2	9/25/2002 14:23	1.2	NEG	0.36
30	Eielson PH IV	Morgan	Calibrate						21.9	9/25/2002 14:23	1	POS	1
31	Eielson PH IV	Morgan	Calibrate						21.4	9/25/2002 14:24	1	POS	1.6
32	Eielson PH IV	Morgan	Calibrate						20.1	9/25/2002 14:25	1.3	POS	3.06
33	Eielson PH IV	Morgan	MH 202	Vault	Concrte	Vault	Poor		21.8	9/25/2002 14:28	1.7	NEG	0.05
34	Eielson PH IV	Morgan	MH 202	Vault	Metal	Lid	Poor		3.2	9/25/2002 14:29	1	NEG	0.03
35	Eielson PH IV	Morgan	MH 333	Vault	Concrte	Vault	Poor	Brown	14.7	9/25/2002 15:21	1	NEG	0
36	Eielson PH IV	Morgan	MH 337-1	Vault	Concrte	Vault	Poor	Brown	21.8	9/25/2002 15:59	1	NEG	0
37	Eielson PH IV	Morgan	MH 337-1	Vault	Metal	Lid	Poor	Brown	3.1	9/25/2002 16:00	1	NEG	0.17
38	Eielson PH IV	Morgan	Calibrate						3.2	9/25/2002 18:09	1	NEG	0
39	Eielson PH IV	Morgan	Calibrate						20.2	9/25/2002 18:09	1	POS	1.02
40	Eielson PH IV	Morgan	Calibrate						6.7	9/25/2002 18:10	1.2	POS	3.58
41	Eielson PH IV	Morgan	Shutter Cal	1					57.9	9/26/2002 8:55	0	...	NA
42	Eielson PH IV	Morgan	Calibrate						3.1	9/26/2002 8:57	1	NEG	0
43	Eielson PH IV	Morgan	Calibrate						21.9	9/26/2002 8:57	1	POS	1.07
44	Eielson PH IV	Morgan	Calibrate						8.5	9/26/2002 8:58	1.3	POS	3.55
45	Eielson PH IV	Morgan	MH 209	Vault	Concrte	Vault	Poor	Brown	14.8	9/26/2002 8:59	1.1	NEG	0.01
46	Eielson PH IV	Morgan	MH 209	Vault	Metal	Lid	Poor	Brown	19.5	9/26/2002 9:00	1.3	NEG	0.1
47	Eielson PH IV	Morgan	MH 209	Pipe suppt	Metal	Pipe suppt	Poor	Gray	5.2	9/26/2002 9:02	1.6	NEG	0.19
48	Eielson PH IV	Morgan	MH 210	Vault	Concrte	Vault	Poor	Brown	10.2	9/26/2002 9:08	1	NEG	0

No	Site	Inspector	Room	Structure	Substrate	Feature	Condition	Color	Ssec	Date/Time	Depth Index	Results LBP	Results mg/cm^2
49	Eielson PH IV	Morgan	MH 210	Vault	Metal	Lid	Poor	Brown	3.1	9/26/2002 9:09	1	NEG	0
50	Eielson PH IV	Morgan	MH 208-1	Vault	Concrte	Vault	Poor	Brown	12.5	9/26/2002 9:34	1	NEG	0
51	Eielson PH IV	Morgan	MH 208-1	Vault	Metal	Lid	Poor		3.2	9/26/2002 9:35	1	NEG	0.03
52	Eielson PH IV	Morgan	MH 208	Vault	Concrte	Vault	Poor	Brown	26.3	9/26/2002 9:43	1	NEG	0
53	Eielson PH IV	Morgan	MH 208	Vault	Metal	Lid	Poor	Brown	12.4	9/26/2002 9:45	1	NEG	0
54	Eielson PH IV	Morgan	MH 207	Vault	Concrte	Vault	Poor		7.8	9/26/2002 10:00	1	NEG	0
55	Eielson PH IV	Morgan	MH 207	Vault	Metal	Lid	Poor	Black	11.4	9/26/2002 10:01	1	NEG	0.71
56	Eielson PH IV	Morgan	MH 207	Pipe suppt	Metal	Pipe suppt	Poor	Black	5	9/26/2002 10:06	1.4	NEG	0.12
57	Eielson PH IV	Morgan	Calibrate						3.21	9/26/2002 10:09	1	NEG	0
58	Eielson PH IV	Morgan	Calibrate						19.8	9/26/2002 10:09	1	POS	1.02
59	Eielson PH IV	Morgan	Calibrate						6.2	9/26/2002 10:10	1.2	POS	3.68
60	Eielson PH IV	Morgan	Shutter Cal	1					60.5	9/26/2002 14:22	0	...	NA
61	Eielson PH IV	Morgan	Calibrate						3.1	9/26/2002 14:22	1	NEG	0
62	Eielson PH IV	Morgan	Calibrate						5.2	9/26/2002 14:23	1.2	NEG	0.32
63	Eielson PH IV	Morgan	Calibrate						212.9	9/26/2002 14:23	1	POS	1
64	Eielson PH IV	Morgan	Calibrate						2094	9/26/2002 14:24	1	POS	1.6
65	Eielson PH IV	Morgan	Calibrate						20.1	9/26/2002 14:25	1.3	POS	3.01
66	Eielson PH IV	Morgan	MH 354	Vault	Concrte	Vault	Poor	Brown	10.1	9/26/2002 14:29	1	NEG	0
67	Eielson PH IV	Morgan	MH 354	Vault	Concrte	Vault	Poor	Brown	10.1	9/26/2002 14:34	1	NEG	0.01
68	Eielson PH IV	Morgan	MH 355	Ext Wall	Metal	Lid	Poor	Black	7.2	9/26/2002 14:37	1.3	NEG	0.33
69	Eielson PH IV	Morgan	MH 355	Vault	Concrte	Vault	Poor	Brown	28.7	9/26/2002 14:38	1	NEG	0
70	Eielson PH IV	Morgan	MH 356	Vault	Metal	Lid	Poor	Brown	7.4	9/26/2002 14:40	6	NEG	0.05
71	Eielson PH IV	Morgan	MH 356	Pipe suppt	Metal	Pipe suppt	Poor	Black	5	9/26/2002 14:42	1.4	NEG	0.12
72	Eielson PH IV	Morgan	Calibrate						7.3	9/26/2002 14:50	1	NEG	0
73	Eielson PH IV	Morgan	Calibrate						22.6	9/26/2002 14:51	1	POS	1.04
74	Eielson PH IV	Morgan	Calibrate						18	9/26/2002 14:52	1.3	POS	3.108

Table Heading Descriptions:

Ssec: This is the nominal time in seconds that each sample was analyzed.

Depth Index: Indicates the relative depth of the lead. A Depth Index (DI) of less than 1.5 indicates lead very near the surface layer of paint. A DI between 1.5 and 4.0 indicates moderately covered lead. A DI greater than 4.0 indicates the lead paint is deeply buried beneath multiple layers of paint.

LBP: Results are shown as positive (POS $\geq$ 1.0 mg/cm^2), inconclusive (INC) or negative (NEG < 1.0 mg/cm^2). The results are based on the combined results of the K and L shell readings. L shell and K shell readings are not provided. Positive results are also in bold print.

mg/cm^2: This is the testing results produced by the NITON XL-309 instrument in milligrams of lead per square centimeter (mg/cm^2). The EPA defines lead based paint as paint containing lead at 1.0 mg/cm^2 or greater. A negative number is a result of an internal computation made by the instrument and should be interpreted as zero. Even though paint may be termed negative (less than 1.0 mg/cm) by EPA definition disturbance of the paint may still be regulated by OSHA under 29 CFR 1926.62. Where lead is present at any level, appropriate engineering controls, work practices and personal protective equipment should be used until a negative exposure assessment can be determined.

VOID: This indicates that the test was intentionally terminated by the operator due to operator error (e.g. - operator moved analyzer while testing

APPENDIX B

Field Survey Data Sheets
and
Laboratory Reports

PHASE VI UTILIDORS

EHS ALASKA INCORPORATED

EHS-Alaska, Inc.
10928 Eagle River Road, Suite 202, Eagle River, AK 99577-8052
(907) 694-1383 phone • (907) 694-1382 fax
e-mail • ehsak@ehs-alaska.com

511/5.50 E1E210

CHAIN OF CUSTODY RECORD/FIELD SURVEY DATA

Page 1 of 2

FIELD COLLECTION DATE: 8-2-02 | JOB #: 5707-02 | BULK ANALYSIS REQUESTED: (circle) PLM / TEM BULK / LEAD TCLP / LEAD PPM

PROJECT NAME: COE - EIELSON PHASE IV UTILIDORS | MATERIAL TYPE: (Circle) ASBESTOS LEAD | TOTAL QUANTITIES:

FACILITY: EIELSON UTILIDORS | DISPOSAL: RONTWE | TURNAROUND: 5 DAYS

SPECIAL INSTRUCTIONS:

COLLECTED BY (signature): [signature]
PRINTED NAME: BRIAN L. MORGAN
CERT#: T-7577-E | AHERA#:
SHIPPING METHOD: 6358 1481 4757
COURIER (signature): [signature]
DATE/TIME: 11AM

SELECTED LABORATORY: IATL
SAMPLES ACCEPTED BY: [signature] 8-2-02
DATE/TIME: 15
ANALYST'S SIGNATURE: [signature]
DATE: 8-12-2

COMMENTS: WO 2130
MWO 8/20/02

SAMPLE ID	SAMPLE DESCRIPTION (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION / COMMENTS (INCLUDING PHOTO / XREF)	RESULTS
1. EUPHIV-A01 1551794 MATL. CONDITION: GOOD FAIR POOR	AIRCELL DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	MAN HOLE 103	40%C
2. EUPHIV-A02 1551795 MATL. CONDITION: GOOD FAIR POOR	AIRCELL DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	CONDENSATE LINE BETWEEN MH 103 & MH 106 30' FROM MH 103	40%C
3. EUPHIV-A03 1551796 MATL. CONDITION: GOOD FAIR POOR	PIPE INSULATION DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	STEAM LINE BETWEEN MH 103 & MH 106, 40' FROM MH 103	95%A
4. EUPHIV-A04 1551797 MATL. CONDITION: GOOD FAIR POOR	PIPE INSUL DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	STEAM LINE BETWEEN MH 333 & MH 335, 20' FROM MH 335	95%A
5. EUPHIV-A05 1551798 MATL. CONDITION: GOOD FAIR POOR	PIPE INSULATION DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	CONDENSATE LINE BETWEEN MH 335 & MH 337-1, NEAR MH 335	90%A
6. EUPHIV-A06 1551799 MATL. CONDITION: GOOD FAIR POOR	BLACK SEALANT. DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	BETWEEN MH 208 & MH 209 AT OPENING OF BURIED CULVERT.	10%C
7. EUPHIV-A07 1551800 MATL. CONDITION: GOOD FAIR POOR	PIPE INSULATION DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	CONDENSATE LINE N OF MH 213	30%C 15%A
8. EUPHIV-A08 1551801 MATL. CONDITION: GOOD FAIR POOR	✓ ✓ DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	STEAM LINE N. OF MH 213.	30%C 15%A

RETURN A SIGNED COPY OF THIS FORM WITH THE FINAL REPORT TO EHS-ALASKA

EHS-10/00

EHS ALASKA INCORPORATED

EHS-Alaska, Inc.
10928 Eagle River Road, Suite 202, Eagle River, AK 99577-8052
(907) 694-1383 phone • (907) 694-1382 fax
e-mail • ehsak@ehs-alaska.com

FIELD SURVEY DATA (*continued*)

PROJECT NAME: LOE EIELSON UTILIDORS PH IV

FACILITY: EIELSON UTILIDORS

JOB NUMBER: 5707-02

DATE: 8-2-02

COLLECTED BY: [illegible]

SAMPLE ID	SAMPLE DESCRIPTION (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION/COMMENTS (INCLUDING PHOTO / XREF)	RESULTS
EUPHIV-A09 1551802 MATL. CONDITION: GOOD FAIR POOR	TAR. DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	TARPAPER WRAP ON INSULATED WATER LINE S. OF MH 713	10%C
EUPHIV-A10 1551803 MATL. CONDITION: GOOD FAIR POOR	WALL MASTIC. DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	CORK PANELS IN UNDER FLOOR ACCESS HATCH, BLDG 3110	ND
EUPHIV-A11 1551804 MATL. CONDITION: GOOD FAIR POOR	BLK TAR. DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	WALL OF FH 5105 MANHOLE	ND
MATL. CONDITION: GOOD FAIR POOR	END DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	LS 8-12-2	
MATL. CONDITION: GOOD FAIR POOR	DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:		
MATL. CONDITION: GOOD FAIR POOR	DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:		
MATL. CONDITION: GOOD FAIR POOR	DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:		
MATL. CONDITION: GOOD FAIR POOR	DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:		
MATL. CONDITION: GOOD FAIR POOR	DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:		
MATL. CONDITION: GOOD FAIR POOR	DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:		
MATL. CONDITION: GOOD FAIR POOR	DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:		
MATL. CONDITION: GOOD FAIR POOR	DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:		

IATL International Asbestos Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ 08054

Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
10928 Eagle River Rd., Ste 202
Eagle River AK 99577

Report Date: 08/13/2002
Project: COE-Eielson; PhaseIV; Utilidors
Project No.: 5707-02

BULK SAMPLE ANALYSIS SUMMARY

Lab No. 1551794 **Material Description:** Tan Insulation
Client No.: EUPHIV-A01 **Location:** Man Hole 103

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
40	Chrysotile	40	Cellulose	20

Lab No. 1551795 **Material Description:** Tan Insulation
Client No.: EUPHIV-A02 **Location:** Condensate Line Btwn MH103 & MH106

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
40	Chrysotile	40	Cellulose	20

Lab No. 1551796 **Material Description:** Tan Insulation
Client No.: EUPHIV-A03 **Location:** Steam Line Btwn. MH103 & MH106

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
95	Amosite	None Detected	None Detected	5

Lab No. 1551797 **Material Description:** Tan Insulation
Client No.: EUPHIV-A04 **Location:** Steam Line Btwn. MH333 & MH335

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
95	Amosite	None Detected	None Detected	5

NIST-NVLAP No. 1165 **NY-DOH No. 11021** **AIHA Lab No. 444**

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP or any agency of the U.S. government.

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-asbestos containing, confirmation must be made by quantitative TEM.

Analysis Performed By: Louis P. Solebello
LOUIS SOLEBELLO

Approved By: Frank Ehrenfeld
Frank E. Ehrenfeld, III
Laboratory Director

Date: AUG 1 2 2002

IATL International Asbestos Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ 08054

Telephone: 856-231-9449 Fax: 856-231-9818

PHASE IV UTILIDORS EIE210

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
10928 Eagle River Rd., Ste 202
Eagle River AK 99577

Report Date: 08/13/2002
Project: COE-Eielson; PhaseIV; Utilidors
Project No.: 5707-02

BULK SAMPLE ANALYSIS SUMMARY

Lab No. 1551798
Client No.: EUPHIV-A05
Material Description: Tan Insulation
Location: Condensate Line Btwn MH335 & MH337-1

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
90	Amosite	None Detected	None Detected	10

Lab No. 1551799
Client No.: EUPHIV-A06
Material Description: Black Tar
Location: Between MH208&MH209At OpeningOf Culvert

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
10	Chrysotile	None Detected	None Detected	90

Lab No. 1551800
Client No.: EUPHIV-A07
Material Description: White Insulation
Location: Condensate Line N. Of MH213

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
30	Chrysotile	None Detected	None Detected	55
15	Amosite			

Lab No. 1551801
Client No.: EUPHIV-A08
Material Description: White Insulation
Location: Steam Line N. Of MH213

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
30	Chrysotile	None Detected	None Detected	55
15	Amosite			

NIST-NVLAP No. 1165 **NY-DOH No. 11021** **AIHA Lab No. 444**

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP or any agency of the U.S. government.

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-asbestos containing, confirmation must be made by quantitative TEM.

Analysis Performed By: Louis P. Solbello

Date: AUG 1 3

LOUIS SOLBELLO

Approved By: Frank E. Ehrenfeld, III
Laboratory Director

IATL International Asbestos Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ 08054

Telephone: 856-231-9449 Fax: 856-231-9818

PHASE VI UTILIDORS

EIE210

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
10928 Eagle River Rd., Ste 202
Eagle River AK 99577

Report Date: 08/13/2002
Project: COE-Eielson; PhaseIV; Utilidors
Project No.: 5707-02

BULK SAMPLE ANALYSIS SUMMARY

Lab No. 1551802
Client No.: EUPHIV-A09
Material Description: Black Tar
Location: Wrap On Insulated Water LincS.Of MH213

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
10	Chrysotile	None Detected	None Detected	90

Lab No. 1551803
Client No.: EUPHIV-A10
Material Description: Brown/Black Cork/Tar
Location: Cork Panel In Under Floor Access Hatch

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No. 1551804
Client No.: EUPHIV-A11
Material Description: Black Tar
Location: Wall Of FH5105 Man Hole

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	10	Fibrous Glass	90

NIST-NVLAP No. 1165 **NY-DOH No. 11021** **AIHA Lab No. 444**

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP or any agency of the U.S. government.

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-asbestos containing, confirmation must be made by quantitative TEM.

Analysis Performed By: Louis P. Solebello

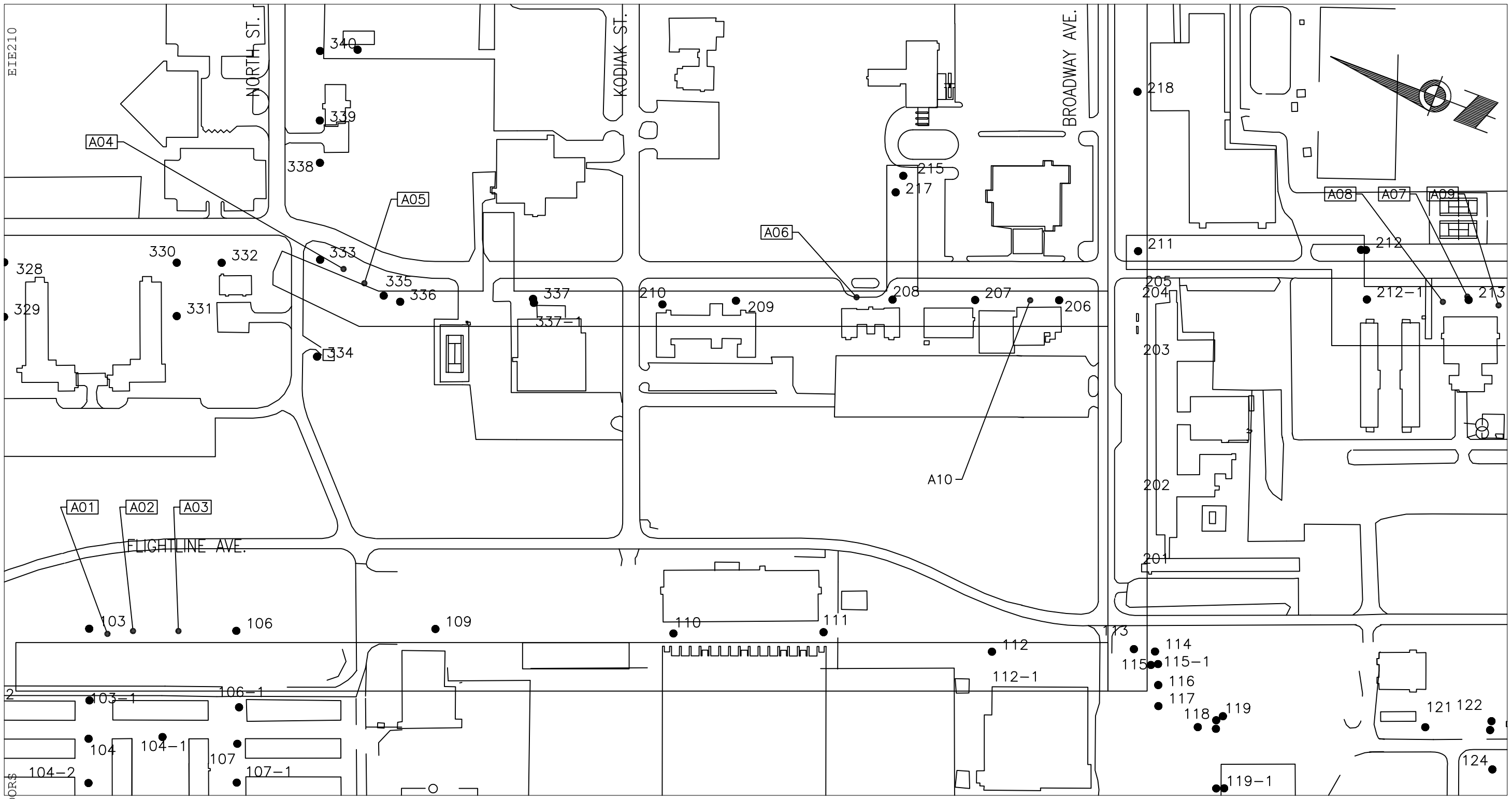
Date: AUG 13 2002

LOUIS SOLEBELLO

Approved By: Frank H. Ehrenfeld, III
Laboratory Director

APPENDIX C

Drawings of Asbestos Sample Locations From 2002 Surveys



LOCATION MAP A

200 100 0 200 400 600

SCALE IN FEET

LEGEND

- AXX — ASBESTOS SAMPLE LOCATION
- AXX — SAMPLE LOCATIONS WHICH CONTAINED ASBESTOS

ALL SAMPLE NUMBERS ARE PRECEDED BY THE PREFIX EUPIV

EHS ALASKA INCORPORATED
ENGINEERING, HEALTH & SAFETY CONSULTANTS
10928 Eagle River Road, Suite 202, Eagle River, AK 99577-8052

EIELSON UTILIDORS
PHASE IV
EIELSON AFB, AK
HAZARDOUS ASSESMENT

PROJECT NO.	5707
DESIGNED:	BLM
DRAWN:	PDJ
CHECKED:	BLM
SCALE:	AS SHOWN
DWG. TITLE:	HAZMAT
JOB No.	5707
DATE:	9/9/02

1 of 1

APPENDIX D

Niton Performance Characteristic Sheet

Performance Characteristic Sheet

EFFECTIVE DATE: April 17, 1998 **EDITION NO.: 4**

MANUFACTURER AND MODEL :
Make: *Niton Corporation*
Models: *XL-309, 701-A, 702-A, and 703-A Spectrum Analyzers*
Source: ^{109}Cd (10 - 40 mCi initial source strength)
Note: This Performance Characteristic Sheet (PCS) is applicable to the listed Niton XRF instruments which have an operating software version of 5.1 (or equivalent) using a variable-time mode, and to Niton instruments having an operating software version of 1.2C (or equivalent) using a fixed-time mode. This sheet supersedes all previous sheets for the XRF instruments made by the Niton Corporation and the 1993 testing of XL prototypes reported in the document titled: *A Field Test of Lead-Based Paint Testing Technologies* : *Technical Report* (EPA Report No. 747-R-95-002b, May 1995).

FIELD OPERATION GUIDANCE

This PCS provides supplemental information to be used in conjunction with Chapter 7 (Lead-Based Paint Inspection) of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown in this sheet are applicable only when operating the instrument using the manufacturer's instructions and the procedures described in Chapter 7 of the HUD Guidelines.

OPERATING PARAMETERS :

Use of variable-time paint test mode ("K & L + Spectra" mode) on instruments running software version 5.1 (or equivalent) using the "Combined Lead Reading" with the instrument's display of a 95%--confident (2-sigma) *Positive* or *Negative* determination versus the action-level as the stopping point of the measurement.

Use of nominal 20-second readings for L -shell results or 120-second readings for K -shell results on instruments running software version 1.2C (or equivalent) in a fixed-time mode.

XRF CALIBRATION CHECK LIMITS :

0.9 to 1.2 mg/cm^2 (inclusive) for instruments running software version 5.1 (or equivalent)
0.9 to 1.1 mg/cm^2 (inclusive) for instruments running software version 1.2C (or equivalent)

SUBSTRATE CORRECTION :
(applicable to instruments running software versions 5.1 (or equivalent) or 1.2C (or equivalent))

For XRF results below 4.0 mg/cm^2, substrate correction recommended for:

None.

Substrate correction is <u>not</u> recommended for:

Brick, Concrete, Drywall, Metal, Plaster, and Wood

THRESHOLDS :
(applicable to instruments running software versions 5.1 (or equivalent) or 1.2C (or equivalent))

DESCRIPTION	SUBSTRATE	THRESHOLD* (mg/cm^2)
Results not corrected for substrate bias	Brick Concrete Drywall Metal Plaster Wood	1.0 1.0 1.0 1.0 1.0 1.0
*For instruments running software version 1.2C (or equivalent), application of the decision making methodology recommended in this PCS can result in inconclusive results regardless of whether decisions are based on L-shell readings, K-shell readings, or both.		

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE :

Performance parameters shown on this sheet are calculated from the EPA/HUD evaluation using archived building components. Three rounds of tests were conducted on approximately 150 test locations in each round.

One round of testing was conducted March 1995 using a single instrument with an October 1994 source at 10 mCi initial strength while running software version 1.2C in a fixed-time mode with nominal 20-second readings for L-shell results or 120-second readings for K-shell results.

The two other rounds of testing were conducted December 1997 using three different instruments, each running software version 5.1. Two of these instruments had new sources installed November 1997, the other instrument had a new source installed December 1997, all with 10 mCi initial strength. The December 1997 testing was performed in the variable-time paint test mode "K & L + Spectra" using the "Combined Lead Reading" with 2-sigma confidence interval as the stopping point of the measurement.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm^2 in the NIST Standard Reference Material (SRM) (e.g., for NIST SRM 2579, use the 1.02 mg/cm^2 film). Measurements should be bracketed by successful XRF calibration check readings. XRF calibration checks are performed at the beginning and end of the day's inspections or at extended delays in testing, and (at least) every four hours during inspections or at a frequency recommended by the manufacturer, whichever is more stringent. If readings are outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instrument into control before XRF testing proceeds. Measurements which are not bracketed by successful calibration checks should be considered suspect.

EVALUATING THE QUALITY OF XRF TESTING :

Randomly select ten testing combinations for re-testing from each house or from two randomly selected units in multifamily housing. (A testing combination is a location on a painted surface as defined in Chapter 7 of the HUD Guidelines.) For testing combinations involving up to four walls in a room, each wall is classified on its individual XRF reading. (See Chapter 7 for testing procedures if there are more than four walls in a room, and for testing exterior walls.)

For instruments running software version 5.1 (or equivalent), conduct the test in the variable-time paint test mode "K & L + Spectra" using the "Combined Lead Reading" with 2-sigma confidence interval as the

stopping point of the measurement. For instruments running software version 1.2C (or equivalent) in the fixed-time mode, use either 20-second readings for the L-shell results or 120-second readings for the K-shell results, as described in the "Classifications of Results" section below.

Conduct XRF re-testing at the ten testing combinations selected for re-testing.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below.

Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. Do not correct the original or retest results for substrate bias. In single-family and multifamily housing, a result is defined as a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF results.

Compute the average of all ten retest XRF results.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

BIAS AND PRECISION :

Bias and precision data were not computed for instruments using software version 5.1 and taking variable mode readings. (See Appendix B, Section B.3.2 of the document titled *Methodology for XRF Performance Characteristic Sheets* , EPA-747-R-45-008, September 1997). During the 1997 testing, there were 12 testing locations with laboratory-measured lead levels equal to or greater than 4.0 mg/cm ^{2} lead which were tested using two instruments in the variable-time paint test mode. None of these testing locations had XRF readings less than 1.0 mg/cm ^{2}. These data are for illustrative purposes only. Substrate correction is not recommended for this XRF instrument.

The bias and precision data given below are for instruments running software version 1.2C (or equivalent) and were computed without substrate correction using the 20 -second L-shell readings from samples with

reported laboratory results less than 4.0 mg/cm ^{2} lead. Readings reported by the instrument in the " *x*" or ">>*x*" format were not used in the computation. During the 1995 testing there were 15 test locations with a laboratory reported result equal to or greater than 4 .0 mg/cm^2 lead. Of these, 12 readings were reported in the ">*x*" or ">>*x*" format, but of the 3 remaining, 1 had an XRF reading less than 1.0 mg/cm ^{2}.

Bias & Precision Results for Niton Model XL-309 Instruments Using Software Version 1.2C (or equivalent)

MEASURED AT	SUBSTRATE	BIAS (mg/cm^2)	PRECISION* (mg/cm^2)
0.0 mg/cm^2	All	0.0	<0.1
0.5 mg/cm^2	All	0.0	0.2
1.0 mg/cm^2	All	0.0	0.3
2.0 mg/cm^2	All	-0.1	0.5
*Precision at 1 standard deviation			

CLASSIFICATION OF RESULTS :

This section describes how to apply information displayed by this instrument to determine the presence or absence of lead in paint using the procedures recommended in Chapter 7 of the HUD Guidelines. These guidelines recommend classifying XRF results as positive, negative, or inconclusive compared to the lead-based paint 1.0 mg/cm ^{2} standard.

For Niton Model XL-309, 701-A, 702-A, and 703-A instruments running software version 5.1 (or equivalent), XRF results are classified using a threshold. There is no inconclusive classification when using the threshold for instruments running software version 5.1. In single-family and multifamily housing, an XRF result is a single reading taken on each testing combination. (A testing combination is a location on a painted surface as defined in Chapter 7 of the HUD Guidelines.) For testing combinations involving up to four walls in a room, each wall is classified on its individual XRF reading. (See Chapter 7 for testing procedures if there are more than four walls in a room, and for testing exterior walls.) For computing the XRF result, use all digits that are displayed by the instrument as the "Combined Lead Reading." Results are classified as positive (i.e., $\geq$ 1.0 mg/cm^2), if greater than or equal to the threshold, or negative (< 1.0 mg/cm^2) if less than the threshold. Threshold values, provided in the tables above, were determined by comparing XRF test results to the 1.0 mg/cm^2 standard.

For Niton Model XL-309 instruments running software version 1.2C (or equivalent), additional procedures are needed to classify readings because this software displays readings <u>and</u> ancillary information useful for classification purposes. An algorithmic procedure is described that makes use of the XRF reading and other displayed information.

The algorithm for classifying results is first applied to 20-second nominal L -shell readings followed by 120-second nominal K-shell readings to resolve inconclusive results, or to recommend laboratory analysis of paint-chip samples, if necessary. A listing of laboratories recognized by the EPA National Lead Laboratory Accreditation Program (NLLAP) for the confirmational analysis of inconclusive results is available from the National Lead Clearinghouse at 1-800-424-LEAD.

XRF results are classified using threshold values for the Model XL-309 software version 1.2C (or equivalent). Results are classified as positive if greater than or equal to the threshold, and as negative if less than the threshold. There is no inconclusive classification when using threshold values. However, in some cases, inconclusive results still may be obtained regardless of whether decisions are based on L-shell readings, K-shell readings, or both, as described below. Use all digits that are reported by the instrument. Threshold values, which were determined for comparing results to the 1 .0 mg/cm^2 standard, are provided in the table above.

This instrument displays its lead-based paint measurements as both L -shell and K-shell readings based on

the corresponding L-shell and K-shell X-ray fluorescence (refer to Chapter 7 of the HUD Guidelines for more details). The L-shell readings (or L-readings) are displayed as a numerical result alone, or as a numerical result preceded by either one greater-than symbol (">") or preceded by two greater-than symbols (">>"). The two greater-than symbols will only be displayed when the detected lead level is greater than 5.0 mg/cm^2. Since the maximum lead level reported by this instrument is 5.0 mg/cm^2, lead levels greater than 5.0 mg/cm^2 are displayed as ">>5.0". Other examples of how L-readings can be displayed (in mg/cm^2 units) are "0.6" and ">0.9". The numerical display alone implies that the instrument measured the lead in the paint at the displayed level using L-shell X-ray fluorescence ; 0.6 mg/cm^2 in the example. A number preceded by a single greater-than symbol indicates that the measurable lead is deeply buried in the paint and the detected lead level is greater than the displayed value. In the example, >0.9 indicates that the instrument detected lead deeply buried in paint at a level greater than 0.9 mg/cm^2. K-shell readings (or K-readings) are displayed in one of two ways: 1) as a single K-reading plus and minus a "precision" value or 2) as an upper K-reading and lower K-reading.

The same method is used for testing in single-family and multifamily housing. The HUD Guidelines recommend taking a single XRF reading on a testing combination. (A testing combination is a location on a painted surface as defined in Chapter 7 of the HUD Guidelines.) For testing combinations involving up to four walls in a room, each wall is classified on its individual XRF reading. (See Chapter 7 for testing procedures if there are more than four walls in a room, and for testing exterior walls.)

A. Take a single 20-second nominal reading on each testing combination.

B. Classify the L-reading based on the type of information displayed.

<u>If two greater-than symbols are displayed then</u>:

- Classify the >>5.0 L-reading as POSITIVE

<u>If one greater-than symbol is displayed then</u>:

- Classify the L-reading as POSITIVE if the numerical result that follows the greater than symbol is equal to or greater than 1.0.

- Classify the L-reading as INCONCLUSIVE if the numerical result that follows the greater than symbol is less than 1.0.

<u>If the numerical L-reading is displayed alone (that is, without any preceding greater-than symbols) then</u>:

- Classify the L-reading as POSITIVE if the numerical result is equal to or greater than 1.0.

- Classify the L-reading as NEGATIVE if the numerical result is less than 1.0.

C. Resolution of results classified as inconclusive.

All results classified as inconclusive above require further investigation. Take a 120-second nominal XRF reading and use the K-shell reading. In multifamily housing, resolve the inconclusive classification with a single K-shell reading or laboratory analysis as described below.

- Classify the result as POSITIVE if either the K-reading minus the displayed precision value <u>or</u> the lower K-reading is equal to or greater than 1.0.

- Classify the result as NEGATIVE if either the K-reading plus the displayed precision value <u>or</u> the upper K-reading is less than 1.0.

- Classify the result as INCONCLUSIVE if neither of the above decision rules using the K-reading provided a classification which can occur when the upper K-reading is equal to or greater than 1.0 or the lower K-reading is less than 1.0.

- To resolve a remaining INCONCLUSIVE classification, remove a paint-chip sample as described in Chapter 7 of the HUD Guidelines and have it analyzed by a qualified laboratory as described in Chapter 7.

TESTING TIMES (FOR SOFTWARE VERSION 5.1) :

For the variable-time paint test mode "K & L + Spectra," the instrument continues measuring until a positive or negative result is indicated relative to an action level (1.0 mg/cm ^{2} for archive testing) and the current precision, or until the reading is terminated by moving the instrument away from the testing surface. None of the variable mode readings were terminated because of the two-minute limit used for archive testing. The following table provides testing time information for this testing mode. Source strength and type of substrate will affect actual testing times.

Testing Times for Instruments Running Software Version 5.1						
Variable mode testing times (seconds)						
	All data			Median for laboratory—measured lead levels (mg/cm ^{2})		
Substrate	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 <= Pb < 1.0	1.0 <= Pb
Wood Drywall	6	8	15	6	20	5
Metal	6	13	20	13	20	6
Brick Concrete Plaster	6	11	20	9	18	6

DOCUMENTATION :
This PCS was developed in accordance with the methodology in the EPA report titled *Methodology for XRF Performance Characteristic Sheets* (EPA 747-R-95-008, September 1997). This report provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Clearinghouse at 1-800-424-LEAD.

This XRF Performance Characteristic Sheet was developed by the Midwest Research Institute (MRI) under a grant from the U. S. Environmental Protection Agency and a separate contract between MRI and the XRF manufacturer. The U.S. Department of Housing and Urban Development (HUD) has determined that the information provided here is acceptable when used as guidance in conjunction with Chapter 7, Lead-Based Paint Inspection, of HUD's *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* . While MRI reserves the right to revise this XRF Performance Characteristic Sheet at any time, HUD's statement of acceptance would not apply to a revision until HUD has reviewed the revision and made a determination of its acceptability.

HAZARDOUS MATERIALS SURVEY REPORT

EIELSON AFB, UTILIDOR REPAIR, PHASE VI
EIELSON AIR FORCE BASE
ALASKA

May 9, 2005

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HAZARDOUS MATERIALS SURVEY REPORT
EIELSON AFB, UTILIDOR REPAIR, PHASE VI

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HAZARDOUS MATERIALS SURVEY REPORT
EIELSON AFB, UTILIDOR REPAIR, PHASE VI

OVERVIEW

Eielson Air Force Base, located outside North Pole, Alaska, was surveyed for the presence of asbestos-containing materials (ACM), and other potentially hazardous materials as a part of the design services for Phase VI Utilidor Repairs for the United States Corps of Engineers. The survey also provided a "good faith" inspection for hazardous materials that may be disturbed during the remodel activities. The proposed work includes the disturbance, demolition, removal and disposal of lead-containing paints and/or lead-containing materials that is incidental to the project. That work does not fall under the requirements of 40 CFR 745 and should not be interpreted as such. Mr. Joseph A. Adami of EHS-Alaska, Inc. (EHS-Alaska) conducted the inspections in March, 2003. Phase VI Utilidor Repairs includes renovation of the utilidor system running parallel with Flightline Avenue between manhole (MH) 702 and MH 710 and from MH 129 to the north portal of MH 140. Abandoned utilidor along Inner Loop Road between MH 749 and 765-7 will be demolished. Utilidor between MH 710 and MH 721, and 701 to 704, will be abandoned and demolished. See the civil sheets for a complete description of Phase VI work.

A EFFECTS ON PROPOSED RENOVATION

Potentially hazardous materials have been identified in Eielson AFB that will be affected by the proposed renovations. Those materials include asbestos, and lead materials. Other potentially hazardous materials, exterior and interior to the utilidor system, such as soil contamination may be present, but are not part of this report.

Only the materials that will be directly affected by this project are required to be removed. The quantities and types of materials are incorporated into the design documents for this renovation. The removal and disposal of potentially hazardous materials are highly regulated, and it is anticipated that asbestos, lead and chemical hazards removal and disposal will be conducted by a subcontractor to the general contractor who is qualified for such removal. It is anticipated that the general contractor and other trades will be able to conduct their work using engineering controls and work practices to control worker exposure and to keep airborne contaminants out of occupied areas of the facility.

Settled and concealed dusts in areas not subject to routine cleaning are present throughout the utilidor system, and those dusts have not been identified to contain regulated air contaminants, but should be assumed to. This should not be read to imply that there is an existing hazard to utilidor entrants. However, depending on the specific work items involved and on the means and methods employed when working in the affected areas, construction workers could be exposed to regulated air contaminants from those dusts in excess of the OSHA Permissible Exposure Limits (PELs).

"Awareness training" (typically 2 hours) and possibly respiratory protection will be required for all Contractor Personnel who will be disturbing the dusts. The extent of the training and protective measures will depend upon the airborne concentrations measured during air monitoring of the contractors work force, which depends on the means and methods employed to control the dusts. The air monitoring may be discontinued following a "negative exposure assessment" showing that worker exposures are below the OSHA permissible exposure limits for the type of work and means and methods employed. Previous air monitoring from similar jobs with similar conditions may be used as historical data to establish a "negative exposure assessment".

B WORK AREA DESCRIPTION

The utilidor segments of Eielson AFB subject to repair, renovation, and abandonment under this project run parallel to Flightline Avenue from MH 701 to Lift Station 4114, the Inner Loop Road from MH 749 east portal to MH765-7 west portal and Flightline Avenue from MH 140 north portal to MH 129.

The utilidor system consists of an open top pre-cast concrete passageway of varying dimensions capped with a concrete slab and covered with soil and fill material. Mastic sealants are present within the utilidors at expansion areas and at the lid seam. Piping within the system varies, but generally consist of one sewer line, one water line, one condensate, and a steam line. In this segment of the system, some portions of the sewer piping were transite as opposed to steel or ductile iron. Hydrant and building services connect in to the system at multiple points. Also present within the utilidors are various electrical and fiber optic cables. Pipe runs throughout the system were designed to be insulated, although in many areas, this insulation has deteriorated and come free. Many segments of the utilidors are currently abandoned, while some remain in service.

The utilidor passageways running parallel to the Inner Loop Road between Central Avenue, and the Quarry Road (MH-749 to MH-765-7) appears to have been abandoned for some time. At the time of this survey, all piping within that segment had been abandoned. Several significant cave-ins were also present along the line. Pipe insulation in this area was in a significant state of deterioration; much of which was clearly marked with asbestos warning labels.

The utilidor system serving Flightline Avenue from MH-701 to Lift Station 4114 remains in partial use (although conditions related to air quality and other hazards present a worker exposure concern for entrance). There is significant deterioration to pipe insulation throughout this area. The southernmost end of this line is in significant disrepair. Pipe insulation clearly labeled “Danger Asbestos” has come loose or fallen from piping, significant amounts of raw sewage fills the bottom of the utilidors for several hundred feet to a depth of over six inches in some places. Steam condensate piping additionally spills into the utilidor at MH-717.

Utilidor running along Flightline Avenue from the within the air field fence adjacent to building 1176, and continuing underneath that building to the south and terminating at MH-140 are primarily in good condition. The abandoned 24” x 24” utilidor line running from MH-140 to MH-144 contains what is assumed to be asbestos insulation on piping, and visual inspections indicate insulation and piping is in fairly poor condition. Most of the lines as well as insulation within utilidors from MH-129 to MH-140 show evidence of recent replacement. Almost all insulated piping in this segment of the utilidor is clearly labeled “Asbestos Free” and is covered in new galvanized covers. The utilidor itself remains in good condition, and few modifications have been made to its actual structure. As designed, these portions also contain black mastic sealants at the internal seam with the lid as well as at hydrants, which has been tested positive for the presence of asbestos.

C. SAMPLING AND ANALYSIS

1. Asbestos-Containing Materials

The surveys included sampling of suspect ACM materials that had not been sampled in prior asbestos surveys, or samples of materials where previous sampling had been inconsistent. The design has relied heavily on previous sampling conducted in other areas of the base, but which were constructed at the same time as the surveyed sections. .

The samples were analyzed for the presence of asbestos by polarized light microscopy (PLM), the method of analysis recommended by the U.S. Environmental Protection Agency (EPA) to determine the composition of suspected asbestos-containing materials (EPA method 600/M4-82-020). Only materials containing more than 1% total asbestos were classified as “asbestos-containing” based on EPA and the Occupational Safety and Health Administration (OSHA) criteria. Samples that were analyzed to have less than 10% asbestos were “point-counted” by the laboratory for more accuracy. Samples that are listed as having a “Trace by Point Count” had asbestos fibers found in the material, but the fibers were not present at the counting grids. Table 1 below contains a summary list of the asbestos bulk samples and the applicable results.

The Bulk Asbestos samples were analyzed for asbestos content by International Asbestos Testing Laboratories (IATL), Mt. Laurel, New Jersey a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory.

Field survey data sheets and laboratory reports of the bulk samples are included in Appendix A. Drawings showing sample locations are included as Appendix C.

2. Lead-Containing Materials

Nearly all metallic surfaces in the utilidors were coated with paint and most surfaces had been repainted. EHS-Alaska tested paint throughout the affected areas using a NITON XL309 X-Ray Fluorescence (XRF) lead paint analyzer (Serial # U862NR0666 with software version 5.3). Refer to the Lead Paint Screening Table in Appendix B that identifies the surfaces tested, and the results. The Paint Test Locations are shown in Appendix C.

EPA and the Department of Housing and Urban Development (HUD) have defined lead-based paint as any paint or other surface coating that contains lead equal to or in excess of 1.0 milligram per square centimeter (mg/ cm2) or 0.5 percent by weight. XRF results are classified as positive (lead is present at 1.0 mg/cm^2 or greater), negative (less than 1.0 mg/ cm^2 of lead was present) or inconclusive (the XRF could not make a conclusive positive or negative determination). Tests that were invalid due to operator error are shown as void tests.

A Performance Characteristic Sheet (PCS) for the NITON XL309 is provided in Appendix D. This PCS data provides supplemental information to be used in conjunction with Chapter 7 of the “HUD Guidelines”. Performance parameters provided in the PCS are applicable when operating the instrument using the manufacturer’s instructions and the procedures described in Chapter 7 of the ”HUD Guidelines”. The instrument was operated in accordance with manufacturer’s instructions and Chapter 7 of the HUD Guidelines. No substrate correction is required for this instrument. There is no inconclusive classification for this instrument when using the 1.0 mg/cm^2 threshold.

D. SURVEY RESULTS

1. Asbestos-Containing Materials

Asbestos field survey data sheets and laboratory reports are included as Appendix A. Refer to Appendix C for sample locations. The following TABLE 1 lists the samples taken in March 2005 throughout the utilidor systems, and the results of the laboratory analysis.

TABLE 1

SAMPLE NUMBER	***MATERIAL***	***LOCATION***	***ASBESTOS CONTENT***
EU32205-A01	Tan Pipe Insulation with Black/Silver Wrapping	Beneath entry to MH-702	None detected in either layer
EU32205-A02	Grey Pipe Insulation	Steam line within MH-702	None detected
EU32205-A03	Black Pipe Insulation Wrap	Steam line within MH-702	None detected
EU32205-A04	White Pipe Insulation	Steam line in service off MH-702	10% Chrysotile, 10% Amosite
EU32205-A05	Black/Brown Tar Paper	Utilidor ceiling between MH-702 and 704	None detected

SAMPLE NUMBER	MATERIAL	LOCATION	ASBESTOS CONTENT
EU32205-A06a	White Pipe Wrap	Entry to MH-702	None detected
EU32205-A06b	White Caulk	Cold water line at MH-702	None detected
EU32205-A07	White Hard Fitting	1" Steam line beneath MH-705	60% Chrysotile, 4.5% Amosite, 2.0% Crocidolite
EU32205-A08	White Pipe Insulation	Steam line between MH-701 and MH-704	35% Chrysotile, 5.7% Amosite
EU32205-A09	Sample not delivered	Sample not delivered	N/A
EU32205-A10	Grew/White Pipe Insulation	Steam line beneath entry to MH-710	75% Amosite
EU32205-A11	Black Tarry Residue	Water pipe opening at MH-710	None detected
EU32205-A12	Grey Transite Pipe	Beneath opening to MH-710	25% Chrysotile
EU32205-A13	Brown Insulation Remnants	Utilidor floor, between MH-708 and MH-710	None detected
EU32205-A14	Grey/Tan Pipe Wrap	At west opening to MH-718	None detected
EU32205-A15	Black Tar Residue	Feed pipe to hydrant off of MH-708	None detected
EU32205-A16	White Joint Compound	Mechanical room within the control tower	% Trace Chrysotile
EU32205-A17	White Sheetrock	Mechanical room within the control tower	None detected
EU32205-A18	Black Tarry Sealant	At seam in lid under hydrant for MH-749i	10% Chrysotile
EU32205-A19	White Pipe Insulation	Main steam line in MH-749 (new main)	None detected
The testing method used (polarized light microscopy [PLM]) is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-asbestos containing, confirmation should be made by quantitative transmission electron microscopy (TEM).			

Gypsum Board Joint Compound

Gypsum board joint compound on walls within the mechanical room of the Eielson Control Tower tested positive for trace percentage amounts of asbestos. By this measure, joint compound found in the tower mechanical room can be removed or disturbed as non-asbestos material. It would be advisable to maintain air monitoring requirements regardless of this status. The GWB and joint compound found here represent the only material of this type that was encountered on this survey. The joint compound was in good condition and was not friable.

Pipe Insulation

Most pipe insulation throughout the utilidors was asbestos-containing. Exceptions to this observation would be the utilidor segment extending along Flightline Drive from MH-129 to MH-140, which was all recently installed and marked as "Asbestos Free". The remainder of areas inspected was primarily insulated with varying types of asbestos wrapping, pre-formed pipe insulation, and valve and elbow packed hard fittings. A significant amount of this material was severely damaged throughout the utilidor system. Pipe insulation contained 10-60% Chrysotile asbestos with some insulation also containing 4.5-75% Amosite asbestos. Additional quantities of 2.0% Crocidolite content was found in some steam line insulation. The insulation was generally in exceptionally poor condition in most areas.

Insulation Tar

Black tar sealants were present on utilidor seams between the poured or cast utilidor body, and the lid segments. Asbestos contents of this tarry sealant tested at between 0-10% Chrysotile asbestos. The tar coating was in fair condition and was not friable.

Transite Sewer Piping

Cement asbestos sewer piping was located and tested in one segment of the utilidor system between MH-715 and MH-717, then continuing south towards MH 721. Just north of MH-721, the transite piping joins ductile iron as a direct bury to the lift station. The same style of piping is located in the service line extending out to Building 2827. The pipe was in good condition and not friable. .

2. Lead-Containing Materials

Paint

EHS-Alaska tested paint throughout the affected areas of the building using a NITON XL309 X-Ray Fluorescence (XRF) lead paint analyzer (Serial # U862NR0666 with software version 5.3).

Refer to the Lead Paint Screening Table in Appendix B that identifies the surfaces tested, and the results. The Paint Test Locations are shown in the Drawings in Appendix C. There were varying lead contents found in the paints, based on what surfaces they are on, with most surfaces containing little lead (but are still classified as lead-containing materials by OSHA). The highest levels of lead were found on orange painted sewer lines throughout all sections of the utilidors, with lower levels on valves, elbows and other painted surfaces. All orange painted lines (both water and sewer) that were tested tested positive for relatively high concentrations of lead within the paint.

3. PCB-Containing Materials

Light Ballasts

Older fluorescent lights typically have PCB-containing ballasts. Unless ballasts were marked “No PCBs,” they must be assumed to contain PCBs and must be disposed of as a hazardous waste when removed for disposal. No fluorescent light fixtures were located within the inspected portions of the utilidors, however not all portions of the utilidor systems between cave-ins were able to be inspected. Due to the age of the utilidors, these may be found when those portions are excavated

4. Mercury-Containing Materials

Fluorescent Lamps

Fluorescent lamps use mercury to excite the phosphor crystals that coat the inside of the lamp. These lamps contain from 15 to 48 milligrams of mercury depending on their age and manufacturer. Any fluorescent light fixtures that are found will be disposed of. All mercury-containing items being removed by this project are required be disposed of as hazardous waste or recycled.

5. Other Hazardous Materials

Sewage

Significant amounts of spilled and free flowing sewage were noted within portions of the utilidor system. Open sewage was located between MH-714 and MH-717. Visual evidence of prior sewage spillage was located throughout the utilidors, and communication with base maintenance personnel confirmed that spillage had occurred in the past throughout the systems. Although not covered under this report, sewage is recognized as a biological hazard, and should be addressed as such when developing work practices and PPE selection.

Soil Contamination

The scope of work for EHS-Alaska, Inc. did not include investigation of soils for petroleum or other contaminations.

E. REGULATORY CONSTRAINTS

1. Asbestos-Containing Materials

The Federal Occupational Safety and Health Administration (29 CFR 1926.1101) and the State of Alaska Department of Labor (8 AAC 61) have promulgated regulations requiring testing for airborne asbestos fibers; setting allowable exposure limits for workers potentially exposed to airborne asbestos fibers; establishing contamination controls, work practices, and medical surveillance; and setting worker certification and protection requirements. These regulations apply to all workplace activities involving asbestos-containing materials.

The EPA regulations, issued as Title 40 of the Code of Federal Regulations, Part 61 (40 CFR 61) under the National Emission Standards for Hazardous Air Pollutants (NESHAP) established procedures for handling ACM during asbestos removal and waste disposal. These regulations required an owner (or the owner's contractor) to notify the EPA of asbestos removal operations and to establish responsibility for the removal, transportation, and disposal of asbestos. Eielson AFB utilidors will not fall under the EPA's Asbestos Hazard Emergency Response Act (AHERA) law regulating asbestos in schools.

2. Lead-Containing Materials

Federal OSHA (29 CFR 1926.62) and the State of Alaska (8 AAC Chapter 61) have promulgated regulations that apply to all construction work where employees may be exposed to lead. The disturbance of any surfaces painted with lead-containing paint requires lead-trained personnel, personnel protective procedures, and air monitoring until exposure levels can be determined. If initial monitoring verifies that the work practices being used are not exposing workers, monitoring and protection procedures may be relaxed.

The EPA requires that actual construction or demolition debris that contains lead or lead-containing paint or other heavy metals be tested using the TCLP to determine if the waste must be treated as hazardous waste. All federal, state and local standards regulating lead and lead-containing wastes are required to be followed during the renovation or demolition of portions of this building.

There are no hazardous waste landfills in Alaska and the lead-containing wastes (if shown to be hazardous waste) will have to be packaged for shipping and disposal. This report assumes that disposal will take place in Seattle or elsewhere in the Pacific Northwest.

3. PCB-Containing Materials

The EPA has promulgated regulations (40 CFR Part 761) that cover the proper handling and disposal of PCB-containing equipment. All construction workers who are required to remove or handle PCB-containing or PCB-

contaminated equipment or to transport or dispose of PCB wastes shall be trained and certified as required by the U.S. Department of Labor (29 CFR 1910.120) and the State of Alaska Department of Labor (8 AAC 61).

4. Mercury-Containing Materials

Mercury and mercury-containing products are considered hazardous waste if TCLP testing of the waste for mercury confirms the mercury content to be greater than the EPA criteria of 0.2 mg/l.

F. RECOMMENDATIONS

1. Asbestos-Containing Materials

The asbestos-containing materials identified in the building are typically in intact condition and are classified as both friable and non-friable ACM. All asbestos-containing materials that will be disturbed by the planned renovation work are required to be removed by trained asbestos workers.

2. Lead-Containing Materials

Federal OSHA (29 CFR 1926.62) and the State of Alaska (8 AAC Chapter 61) have promulgated regulations that apply to all construction work where employees may be exposed to lead.

Worker exposure to lead may be able to be controlled below the OSHA permissible exposure limit if proper engineering controls and procedures are used during renovation. Lead is a potentially hazardous waste and the EPA requires that all wastes that contains lead be tested to determine if they must be treated as hazardous waste. A TCLP test of the waste stream is required to be performed to determine if the waste will be hazardous or non-hazardous.

3. PCB-Containing Materials

PCB-containing ballasts scheduled for removal or replacement will need to be removed, handled, packaged and disposed of in accordance with all regulations.

4. Mercury-Containing Materials

Mercury-containing materials scheduled for removal or replacement will need to be removed, handled, packaged and disposed of in accordance with all regulations. A TCLP test of the waste stream is required to be performed to determine if the wastes will be hazardous or non-hazardous.

G. LIMITATIONS

The conclusions and recommendations contained in this report are based upon professional opinions with regard to the subject matter. These opinions have been arrived at in accordance with currently accepted environmental consulting and engineering standards and practices and are subject to the following inherent limitations:

1. Accuracy of Information.

The laboratory reports utilized in this assessment were provided by the accredited laboratories cited in this report. Although the conclusions, opinions, and recommendations are based in part, on such information, our services did not include the verification of accuracy or authenticity of such reports. Should such information provided be found to be inaccurate or unreliable, EHS-Alaska, Inc. reserves the right to amend or revise its conclusions, opinions, and/or recommendations.

2. Site Conditions.

This survey was conducted during the months of March, 2005 and the site was occupied. All inspections were performed with equipment or stored items in place. Although a concerted effort was made to identify all hazardous materials, some hazardous materials may have been hidden by pipes, bulkheads equipment or submerged and may not have been identified. Other asbestos-containing or potentially hazardous materials may be present in the utilidors that were concealed by structural members, walls, or ceilings.

3. Changing Regulatory Constraints.

The regulations concerning hazardous materials is constantly changing, including the interpretations of the regulations by the local and national regulating agencies. Should the regulations or their interpretation be changed from our current understanding, EHS-Alaska, Inc. reserves the right to amend or revise its conclusions, opinions, and/or recommendations.

APPENDIX A

Asbestos Bulk Sample Field Survey Data Sheets and Laboratory Reports

IATL International Asbestos Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ 08054
Telephone: 856-231-9421 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
11901 Business Blvd.,Suite 208
Eagle River AK 99577

Report Date: 4/1/2005
Project: COE Eilson Phase 6
Project No.: 6203.02

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 2214782
Client No.: EU32205-A01
Description / Location: Tan Insulation At Entry To UT 702

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	98	Fibrous Glass	2

Lab No.: 2214782
Client No.: EU32205-A01
Description / Location: Black/Silver Wrap At Entry To UT 702
Layer No.: 2

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	40	Cellulose	60

Lab No.: 2214783
Client No.: EU32205-A02
Description / Location: Grey Insulation Steam Line At UT 702

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	30	Fibrous Glass	70

Lab No.: 2214784
Client No.: EU32205-A03
Description / Location: Black Wrap Steam Line At UT 702

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	35	Cellulose	65

NIST-NVLAP No. 101165-0 **NY-DOH No. 11021** **AIHA Lab No. 100188**

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA or any agency of the U.S. government
This report shall not be reproduced except in full, without written approval of the laboratory.

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix. Quantification at <1% by volume is possible with this method. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed.

Analysis Performed By: B. Hargrove

Approved By:

Frank E. Ehrenfeld, III
Laboratory Director

Date: 4/1/2005

IATL International Asbestos Testing Laboratories
16000 Horizon Way Unit 100 Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

PHASE VI UTILIDORS

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
11901 Business Blvd.,Suite 208
Eagle River AK 99577

RECEIVED
APR 18 2005
EHS-ALASKA, INC.

Report Date: 4/1/2005
Project: COE Eilson Phase 6
Project No.: 6203.02

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 2214785
Client No.: EU32205-A04
Description / Location: White Insulation
Steam Line In Service Off Of UT 702

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
10	Chrysotile	None Detected	None Detected	80
10	Amosite			

Lab No.: 2214786
Client No.: EU32205-A05
Description / Location: Black/Brown Tar Paper
Utilidor Ceiling Between 702-704

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	65	Cellulose	35

Lab No.: 2214787
Client No.: EU32205-A06
Description / Location: White Wrap
Entry To UT 702

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	70	Cellulose	30

Lab No.: 2214788
Client No.: EU32205-A06
Description / Location: White Caulk
Cold Water Line At UT 704

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	Trace	Cellulose	100

NIST-NVLAP No. 101165-0 **NY-DOH No. 11021** **AIHA Lab No. 100188**

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix. Quantification at <1% by volume is possible with this method. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed.

Analysis Performed By: B. Hargrove

Date: 4/1/2005

IATL International Asbestos Testing Laboratories
16000 Horizon Way Unit 100 Mt. Laurel, NJ 08054
Telephone: 856-231-9440 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
11901 Business Blvd., Suite 208
Eagle River AK 99577

Report Date: 4/1/2005
Project: COE Eilson Phase 6
Project No.: 6203.02

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 2214789
Client No.: EU32205-A07
Description / Location: White Insulation
1" Steam Line In UT 705

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
60	Chrysotile	None Detected	None Detected	PC 33.5
PC 4.5	Amosite			
PC 2.0	Crocidolite			

Lab No.: 2214790
Client No.: EU32205-A08
Description / Location: White Insulation
UT Line Between 701 And 704

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
35	Chrysotile	None Detected	None Detected	PC 59.3
PC 5.7	Amosite			

Lab No.: 2214791
Client No.: EU32205-A09
Description / Location: Sample Not Received

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
Samnple Not Received		Sample Not Received		

Lab No.: 2214792
Client No.: EU32205-A10
Description / Location: Grey/White Insulation
Entry To UT 710

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
75	Amosite	5	Cellulose	20

NIST-NVLAP No. 101165-0 **NY-DOH No. 11021** **AIHA Lab No. 100188**

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix. Quantification at <1% by volume is possible with this method. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed.

Analysis Performed By: B. Hargrove

Date: 4/1/2005

IATL International Asbestos Testing Laboratories
16000 Horizon Way Unit 100 Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

RECEIVED
APR 18 2005
EHS-ALASKA, INC.

Client: EHS Alaska Incorporated
11901 Business Blvd.,Suite 208
Eagle River AK 99577

Report Date: 4/1/2005
Project: COE Eilson Phase 6
Project No.: 6203.02

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 2214793
Client No.: EU32205-A11
Description / Location: Black Tar, A/W Water Pipe Opening @ 710

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 2214794
Client No.: EU32205-A12
Description / Location: Grey Transite Pipe Opening @ 710

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
25	Chrysotile	None Detected	None Detected	75

Lab No.: 2214795
Client No.: EU32205-A13
Description / Location: Brown Insulation UT Between 708 And 710

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	95	Cellulose	5

Lab No.: 2214796
Client No.: EU32205-A14
Description / Location: Grey/Tan Wrap At UT 718 West Opening

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	10	Fibrous Glass	10
		80	Cellulose	

NIST-NVLAP No. 101165-0 **NY-DOH No. 11021** **AIHA Lab No. 100188**

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Analysis Method: EPA 600/R-93/116

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Analysis Performed By: B. Hargrove

Date: 4/1/2005

IATL International Asbestos Testing Laboratories
16000 Horizon Way Unit 100 Mt. Laurel, NJ 08054
Telephone: 856-231-9441 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
11901 Business Blvd.,Suite 208
Eagle River AK 99577

Report Date: 4/1/2005
Project: COE Eilson Phase 6
Project No.: 6203.02

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 2214797
Client No.: EU32205-A15
Description / Location: Black Tar, A/W Pipe Hydrant Off Of 708

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 2214798
Client No.: EU32205-A16
Description / Location: White Joint Compound Control Tower Mech. Room

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
PC Trace	Chrysotile	None Detected	None Detected	100

Lab No.: 2214799
Client No.: EU32205-A17
Description / Location: White Sheetrock Control Tower Mech. Room

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	2	Fibrous Glass	98
		Trace	Cellulose	

Lab No.: 2214800
Client No.: EU32205-A18
Description / Location: Black Tar Hydrant Off Of 749I

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
10	Chrysotile	None Detected	None Detected	90

NIST-NVLAP No. 101165-0 **NY-DOH No. 11021** **AIHA Lab No. 100188**

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This report shall not be reproduced except in full, without written approval of the laboratory.

Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix. Quantification at <1% by volume is possible with this method. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed.

Analysis Performed By: B. Hargrove

Date: 4/1/2005

IATL International Asbestos Testing Laboratories

16000 Horizon Way Unit 100 Mt. Laurel, NJ 08054
Telephone: 856-231-2442 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
11901 Business Blvd.,Suite 208
Eagle River AK 99577

Report Date: 4/1/2005
Project: COE Eilson Phase 6
Project No.: 6203.02

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 2214801
Client No.: EU32205-A19

Description / Location: White Insulation
Steam Line In 749 (New Main)

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	20	Cellulose	80

NIST-NVLAP No. 101165-0 **NY-DOH No. 11021** **AIHA Lab No. 100188**

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix. Quantification at <1% by volume is possible with this method. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed.

Analysis Performed By: B. Hargrove

Date: 4/1/2005

EHS-Alaska, Inc.
11901 Business Blvd., Suite 208
Eagle River, AK 99577-7701
EHS ALASKA INCORPORATED
(907) 694-1383 phone • (907) 694-1382 fax
e-mail • ehsak@ehs-alaska.com

CHAIN OF CUSTODY RECORD/FIELD SURVEY DATA

Page 2 of 2

FIELD COLLECTION DATE: 3-22/3-25-05 | JOB #: 6203.02 | BULK ANALYSIS REQUESTED: (circle) PLM / TEM BULK / LEAD TCLP / LEAD PPM

PROJECT NAME: JOE EILSON PHASE 6 UTILIDOR REPAIRS | MATERIAL TYPE: (Circle) ASBESTOS LEAD | TOTAL QUANTITIES: 28

FACILITY: EILSON AFB, FRONT LINE AVENUE | DISPOSAL: ACCUMAR | TURNAROUND: 24 HOUR

SPECIAL INSTRUCTIONS: N/A

COLLECTED BY (signature): [signature]
PRINTED NAME: TIGAN A. ADAMS
CERT#: 1998-038 AHERA#:
SHIPPING METHOD: FEDEX 790760237774
COURIER (signature):
DATE/TIME:

SELECTED LABORATORY:
SAMPLES ACCEPTED BY: RECEIVED MAY 2 9 2005
DATE/TIME:
ANALYST'S SIGNATURE: [signature]
DATE: 4-1-05

COMMENTS:

CP@4/12/05

SAMPLE ID	SAMPLE DESCRIPTION (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION / COMMENTS (INCLUDING PHOTO / XREF)	RESULTS
1. EU32205-A01 2214782 MATL. CONDITION: GOOD FAIR POOR	BLACK PIPE INSULATION SHEATH DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	AT ENTRY TO UT 702	NONE DETECTED
2. EU32205-A02 2214783 MATL. CONDITION: GOOD FAIR POOR	~~BLACK~~ STEAM PIPE INSULATION ~~DAMAP~~ GREY DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	STEAM LINE AT UT 702	NONE DETECTED
3. EU32205-A03 2214784 MATL. CONDITION: GOOD FAIR POOR	BLACK STEAM LINE WRAP DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	STEAM LINE AT UT 702	NONE DETECTED
4. EU32205-A04 2214785 MATL. CONDITION: GOOD FAIR POOR	WHITE STEAM PIPE INSULATION DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	STEAM LINE INSULATION OFF of UT 702	10% CHRYSOTILE 10% AMOSITE
5. EU32205-A05 2214786 MATL. CONDITION: GOOD FAIR POOR	BLACK UT DAMAP PROOFING DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	UTILIDOR CROSSING BETWEEN 702 → 704	NONE DETECTED
6. EU32205-A06A 2214787 MATL. CONDITION: GOOD FAIR POOR	BLACK COLD WATER PIPE WRAP DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	ENTRY TO UT 702	NONE DETECTED
7. EU32205-A06B 2214788 MATL. CONDITION: GOOD FAIR POOR	WHITE THREAD SEALANT DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	COLD WATER LINE AT UT 704	NONE DETECTED
8. EU2205-A07 2214789 MATL. CONDITION: GOOD FAIR POOR	WHITE HARD FITTING DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	1" STEAM LINE IN UT 705	60% CHRYSOTILE 4.5% AMOSITE 2.0% CROCIDOLITE

RETURN A SIGNED COPY OF THIS FORM WITH THE FINAL REPORT TO EHS-ALASKA

EHS-10/00

EHS ALASKA INCORPORATED
EHS-Alaska, Inc.
11901 Business Blvd., Suite 208
Eagle River, AK 99577-7701
(907) 694-1383 phone • (907) 694-1382 fax
e-mail • ehsak@ehs-alaska.com

FIELD SURVEY DATA (*continued*)

PROJECT NAME: COE EELSON UTILIDOR UPGRADE FACILITY: EELSON AFB

JOB NUMBER: 6203.02 DATE: 3-22/3-25-03 COLLECTED BY: J. ADAMS

SAMPLE ID	SAMPLE DESCRIPTION (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION/COMMENTS (INCLUDING PHOTO / XREF)	RESULTS
EU32205-A08 MATL. CONDITION: GOOD FAIR ~~POOR~~	WHITE PIPE INS. 2214790 DAMAGE POTENTIAL: (LO, MED, HI) ~~WATER:~~ ~~AIR:~~ ~~VIBRATION:~~ ~~CONTACT:~~	UT LINE BETWEEN 701 AND 704	35% CHRYSOTILE 5.7% AMOSITE
EU32205-A09 2214791 MATL. CONDITION: GOOD FAIR POOR	N/A SAMPLE DESTROYED/LOST DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	N/A NR IATL 2214791	
EU32305-A10 2214792 MATL. CONDITION: GOOD FAIR ~~POOR~~	WHITE/GREY STEAM LINE INSULATION AND WRAPPING DAMAGE POTENTIAL: (LO, MED, HI) ~~WATER:~~ ~~AIR:~~ ~~VIBRATION:~~ ~~CONTACT:~~	ENTRY TO UT 710	75% AMOSITE
EU32305-A11 2214793 MATL. CONDITION: GOOD FAIR ~~POOR~~	BLACK WATER PIPE INSULATION DAMAGE POTENTIAL: (LO, ~~MED~~, HI) ~~WATER:~~ ~~AIR:~~ ~~VIBRATION:~~ ~~CONTACT:~~	OPENING @ 710	NONE DETECTED
EU32305-A12 2214794 MATL. CONDITION: GOOD ~~FAIR~~ POOR	GREY TRANSITE PIPE DAMAGE POTENTIAL: (LO, ~~MED~~, HI) ~~WATER:~~ AIR: ~~VIBRATION:~~ ~~CONTACT:~~	OPENING @ 710	25% CHRYSOTILE
EU32305-A13 2214795 MATL. CONDITION: GOOD FAIR ~~POOR~~	INSULATION DEBRIS BROWN DAMAGE POTENTIAL: (LO, ~~MED~~, HI) ~~WATER:~~ ~~AIR:~~ ~~VIBRATION:~~ ~~CONTACT:~~	UT BETWEEN 708 AND 710	NONE DETECTED.
EU32405-A14 2214796 MATL. CONDITION: GOOD FAIR ~~POOR~~	STEAM LINE PIPE WRAP DAMAGE POTENTIAL: (LO, ~~MED~~, HI) ~~WATER:~~ ~~AIR:~~ ~~VIBRATION:~~ ~~CONTACT:~~	AT UT 718 WEST OPENING.	NONE DETECTED
EU32405-A15 2214797 MATL. CONDITION: GOOD ~~FAIR~~ POOR	BLACK PIPE DAMP PROOFING DAMAGE POTENTIAL: (LO, MED, HI) WATER: ~~AIR:~~ ~~VIBRATION:~~ ~~CONTACT:~~	HYDRANT off of 708	NONE DETECTED
EU32405-A16 2214798 MATL. CONDITION: GOOD ~~FAIR~~ POOR	WHITE JOINT COMPOUND/TAPE DAMAGE POTENTIAL: (LO, ~~MED~~, HI) ~~WATER:~~ ~~AIR:~~ ~~VIBRATION:~~ ~~CONTACT:~~	CONTROL TOWER MECH. ROOM	% TRACE CHRYSOTILE
EU32405-A17 2214799 MATL. CONDITION: GOOD FAIR ~~POOR~~	GWB DAMAGE POTENTIAL: (LO, ~~MED~~, HI) ~~WATER:~~ ~~AIR:~~ ~~VIBRATION:~~ ~~CONTACT:~~	CONTROL TOWER MECH. ROOM	NONE DETECTED
EU32505-A18 2214800 MATL. CONDITION: GOOD FAIR ~~POOR~~	BLACK HYDRANT SEALANT DAMAGE POTENTIAL: (LO, ~~MED~~, HI) ~~WATER:~~ ~~AIR:~~ ~~VIBRATION:~~ ~~CONTACT:~~	HYDRANT off of 749 I	10% CHRYSOTILE
EU32505-A19 2214801 MATL. CONDITION: GOOD ~~FAIR~~ POOR	WHITE STEAM LINE INSULATION DAMAGE POTENTIAL: (LO, MED, HI) ~~WATER:~~ ~~AIR:~~ ~~VIBRATION:~~ ~~CONTACT:~~	STEAM LINE IN 749 (NEW MAZO)	NONE DETECTED

APPENDIX B

Lead Analyzer Test Results

Lead Paint Screening
Eielson AFB Phase 6 Utilidor Repairs

No	Site	Inspect	Rm.	Structure	Substrate	Feature	Condition	Color	Ssec	Date/Time	Depth Index	Results LBP	mg/cm2	"+/-"
1	Eielson UT	Adami	Shutter Cal	1					73.1	3/23/2005 13:31	0	...	NA	
2	**Eielson UT**	**Adami**	**Calibrate**	**1.6 Surface**					**15.7**	3/23/2005 13:32	**1**	**POS**	**1.31**	**0.18**
3	**Eielson UT**	**Adami**	**Calibrate**	**1.6 Surface**					**9.4**	3/23/2005 13:33	**1.2**	**POS**	**1.55**	**0.33**
4	Eielson UT	Adami	Calibrate	1.0 Buried					34.4	3/23/2005 13:33	2.4	NEG	0.94	0.2
5	Eielson UT	Adami	Outside	Manhole	Metal	Bulkhd Dr	Fair	Black	21.9	3/23/2005 13:39	1	NEG	0.11	0.03
6	Eielson UT	Adami	Outside	Manhole	Metal	Bulkhd Dr	Fair	Tan	20.6	3/23/2005 13:41	1	NEG	0.05	0.03
7	**Eielson UT**	**Adami**	**Outside**	**Hydrant**	**Metal**	**Hydrant**	**Intact**	**Brown**	**18.7**	3/23/2005 13:44	**1.6**	**POS**	**1.13**	**0.23**
8	Eielson UT	Adami	Outside	Hydrant	Metal	Hydrant	Intact	Grey	21.5	3/23/2005 13:46	3.2	NEG	0.01	0.03
9	**Eielson UT**	**Adami**	**Utilidor**	**Sewer Ln.**	**Metal**	**Pipe**	**Fair**	**Orange**	**17**	3/23/2005 13:53	**1.3**	**POS**	**4.21**	**1.89**
10	**Eielson UT**	**Adami**	**Utilidor**	**Water Ln.**	**Metal**	**Pipe**	**Fair**	**Orange**	**16.4**	3/23/2005 13:55	**1.5**	**POS**	**>>5.0**	
11	Eielson UT	Adami	Utilidor	Steam Ln.	Metal	Hangar	Fair	Black	11.6	3/23/2005 13:57	1.1	NEG	0.01	0.07
12	**Eielson UT**	**Adami**	**Calibrate**	**Surface 1.6**	**Metal**	**Unlisted**	**Fair**	**Orange**	**9.3**	3/23/2005 14:01	**1**	**POS**	**1.45**	**0.29**
13	**Eielson UT**	**Adami**	**Calibrate**	**Surface 3.5**	**Metal**	**Unlisted**	**Fair**	**Orange**	**10.9**	3/23/2005 14:01	**1.2**	**POS**	**3.65**	**0.57**
14	**Eielson UT**	**Adami**	**Calibrate**	**Buried 3.5**	**Metal**	**Unlisted**	**Fair**	**Orange**	**16.2**	3/23/2005 14:02	**2.9**	**POS**	**3.67**	**0.81**
15	Eielson UT	Adami	Shutter Cal	1					73	3/28/2005 10:44	0	...	NA	
16	Eielson UT	Adami	Calibrate	Surface 0.3					29.7	3/28/2005 10:45	1	NEG	0.26	0.03
17	**Eielson UT**	**Adami**	**Calibrate**	**Surface 3.5**					**23.2**	3/28/2005 10:47	**1.2**	**POS**	**3.31**	**0.34**
18	**Eielson UT**	**Adami**	**Calibrate**	**Surface 1.6**					**22.1**	3/28/2005 10:48	**1**	**POS**	**1.49**	**0.19**
19	Eielson UT	Adami	Outside	Manhole	Metal	Bulkhd Dr	Fair	Orange	15.4	3/28/2005 10:54	1	NEG	0.03	0.01
20	Eielson UT	Adami	Outside	Manhole	Metal	Bulkhd Dr	Fair	Black	20	3/28/2005 10:56	1.1	NEG	0.05	0.04
21	Eielson UT	Adami	Outside	Hydrant	Metal	Pipes	Intact	Red	16.3	3/28/2005 11:11	2.5	NEG	0.05	0.13
22	Eielson UT	Adami	Outside	Hydrant	Metal	Pipes	Intact	Red	25.1	3/28/2005 11:12	1.4	NEG	0.03	0.05
23	**Eielson UT**	**Adami**	**Outside**	**Unlisted**	Metal	**Valve**	**Intact**	**Green**	**4.6**	3/28/2005 11:34	**1.3**	**POS**	**0.66**	**0.34**
24	**Eielson UT**	**Adami**	**Outside**	**Unlisted**	Metal	**Valve**	**Intact**	**Green**	**20.3**	3/28/2005 11:36	**1.2**	**POS**	**0.52**	**0.12**
25	**Eielson UT**	**Adami**	**Outside**	**Unlisted**	Metal	**Valve**	**Intact**	**Green**	**21.6**	3/28/2005 11:38	**1.2**	**POS**	**0.39**	**0.1**
26	**Eielson UT**	**Adami**	**Calibrate**	**Surface 3.5**			**Intact**		**17**	3/28/2005 11:42	**1.2**	**POS**	**3.31**	**0.4**
27	**Eielson UT**	**Adami**	**Calibrate**	**Surface 1.0**			**Intact**		**20.3**	3/28/2005 11:42	**1**	**POS**	**0.97**	**0.15**
28	**Eielson UT**	**Adami**	**Calibrate**	**Surface 1.6**			**Intact**		**11.5**	3/28/2005 11:44	**1.1**	**POS**	**1.57**	**0.28**
29	Eielson UT	Adami	Shutter Cal	1			Intact		73.1	3/28/2005 14:40	0	...	NA	
30	**Eielson UT**	**Adami**	**Calibrate**	**Surface 3.5**			**Intact**		**17**	3/28/2005 14:41	**1.2**	**POS**	**3.63**	**0.44**
31	**Eielson UT**	**Adami**	**Calibrate**	**Surface 1.6**			**Intact**		**9.3**	3/28/2005 14:43	**1.1**	**POS**	**1.61**	**0.32**
32	**Eielson UT**	**Adami**	**Calibrate**	**Surface 1.6**			**Intact**		**14.2**	3/28/2005 14:44	**2.4**	**POS**	**1.57**	**0.43**
33	Eielson UT	Adami	Utilidor	Piping	Metal	Hangar	Intact	Red	20.8	3/28/2005 14:46	1	NEG	0.01	0.01
34	Eielson UT	Adami	Utilidor	Steam Ln.	Metal	Pipes	Intact	Black	16.5	3/28/2005 14:47	1.1	NEG	0.51	0.13
35	**Eielson UT**	**Adami**	**Utilidor**	**Water Ln.**	**Metal**	**Pipes**	**Intact**	**Orange**	**21.4**	3/28/2005 14:48	**1.2**	**POS**	**3.58**	**0.39**
36	Eielson UT	Adami	Utilidor	Water Ln.	Metal	Pipe Tee	Intact	Black	16	3/28/2005 14:51	1	NEG	0.04	0.03
37	**Eielson UT**	**Adami**	**Calibrate**	**Surface 1.0**			**Intact**		**20.3**	3/28/2005 14:58	**1**	**POS**	**0.99**	**0.16**
38	**Eielson UT**	**Adami**	**Calibrate**	**Surface 1.6**			**Intact**		**13.6**	3/28/2005 14:59	**1.1**	**POS**	**1.7**	**0.28**
39	**Eielson UT**	**Adami**	**Calibrate**	**Surface 3.5**			**Intact**		**10.9**	3/28/2005 14:59	**1.3**	**POS**	**3.72**	**0.59**
40	Eielson UT	Adami	Shutter Cal	1					73	3/29/2005 9:41	0	...	NA	
41	**Eielson UT**	**Adami**	**Calibrate**	**Surface 1.6**					**22**	3/29/2005 9:41	**1.1**	**POS**	**1.52**	**0.19**
42	Eielson UT	Adami	Calibrate	Surface 1.0					22.5	3/29/2005 9:42	1	NEG	0.92	0.09

No	Site	Inspect	Rm.	Structure	Substrate	Feature	Condition	Color	Ssec	Date/Time	Depth Index	Results LBP	mg/cm2	"+/-"
43	**Eielson UT**	**Adami**	**Calibrate**	**Buried 3.5**					**18.6**	3/29/2005 9:44	**2.7**	**POS**	**3.07**	**0.62**
44	Eielson UT	Adami	Utilidor	Water Ln.	Metal	Pipes	Intact	Red	16.3	3/29/2005 10:37	1	NEG	0	0.01
45	Eielson UT	Adami	Utilidor	Steam Ln.	Metal	Anchor	Intact	Red	17.8	3/29/2005 10:39	1	NEG	0.01	0.03
46	Eielson UT	Adami	Utilidor	Water Ln.	Metal	Hyd. Vlv.	Intact	Red	16.3	3/29/2005 10:43	1	NEG	0.01	0.02
47	**Eielson UT**	**Adami**	**Calibrate**	**Surface 3.5**					**19.1**	3/29/2005 10:47	**1.3**	**POS**	**3.77**	**0.44**
48	Eielson UT	Adami	Calibrate	Surface 0.3					16.4	3/29/2005 10:49	1	NEG	0.25	0.08
49	**Eielson UT**	**Adami**	**Calibrate**	**Surface 1.0**					**22.3**	3/29/2005 10:50	**1.1**	**POS**	**1.04**	**0.16**

Table Heading Descriptions:

Ssec: This is the nominal time in seconds that each sample was analyzed.

Depth Index: Indicates the relative depth of the lead. A Depth Index (DI) of less than 1.5 indicates lead very near the surface layer of paint. A DI between 1.5 and 4.0 indicates moderately covered lead. A DI greater than 4.0 indicates the lead paint is deeply buried beneath multiple layers of paint.

LBP: Results are shown as positive (POS ≥ 1.0 mg/cm^2), inconclusive (INC) or negative (NEG < 1.0 mg/cm^2). The results are based on the combined results of the K and L shell readings. L shell and K shell readings are not provided. Positive results are also in bold print.

mg/cm^2: This is the testing results produced by the NITON XL-309 instrument in milligrams of lead per square centimeter (mg/cm^2). The EPA defines lead based paint as paint containing lead at 1.0 mg/cm^2 or greater. A negative number is a result of an internal computation made by the instrument and should be interpreted as zero. Even though paint may be termed negative (less than 1.0 mg/cm) by EPA definition, disturbance of the paint may still be regulated by OSHA under 29 CFR 1926.62. Where lead is present at any level, appropriate engineering controls, work practices and personal protective equipment should be used until a negative exposure assessment can be determined.

VOID:

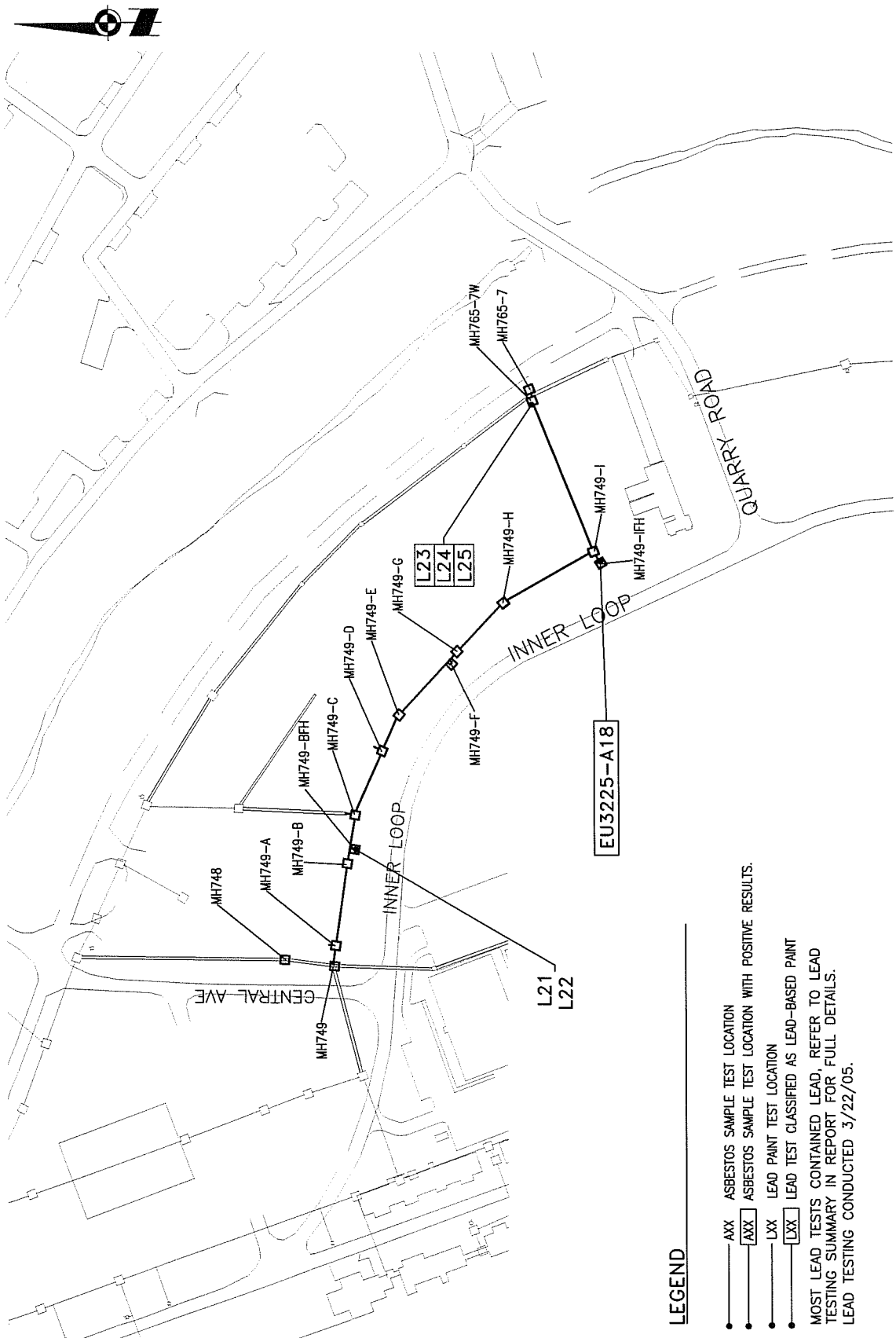
APPENDIX C

Drawings of Sample Locations

EHS ALASKA INCORPORATED
ENGINEERING, HEALTH & SAFETY CONSULTANTS
11901 Business Park, Suite 208, Eagle River, AK 99577-7701
PH: 907-694-1383 FAX: 907-694-1382

EIELSON AIR FORCE BASE
FAIRBANKS, ALASKA
REPAIR UTILIDORS PHASE VI
SAMPLE LOCATION DRAWING

PROJECT NO. 6203
DESIGNED: JAA
DRAWN: FCW
CHECKED:
SCALE: NTS
DWG. TITLE: 6203-SL.DWG
JOB No. 6203-01
DATE: 03/22/05
SL-1
of 3

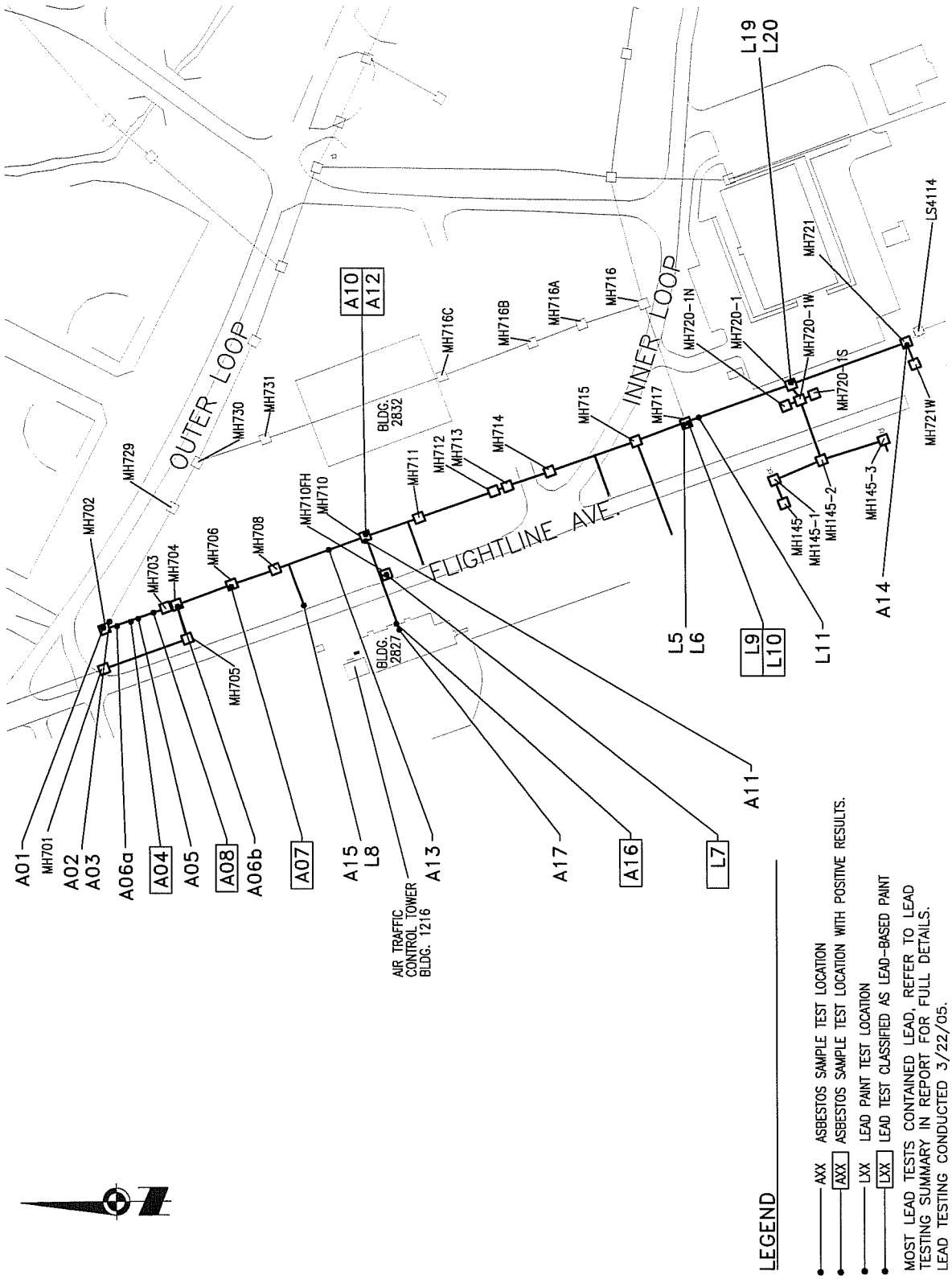


1 INNER LOOP SITE PLAN
SCALE: NOT TO SCALE

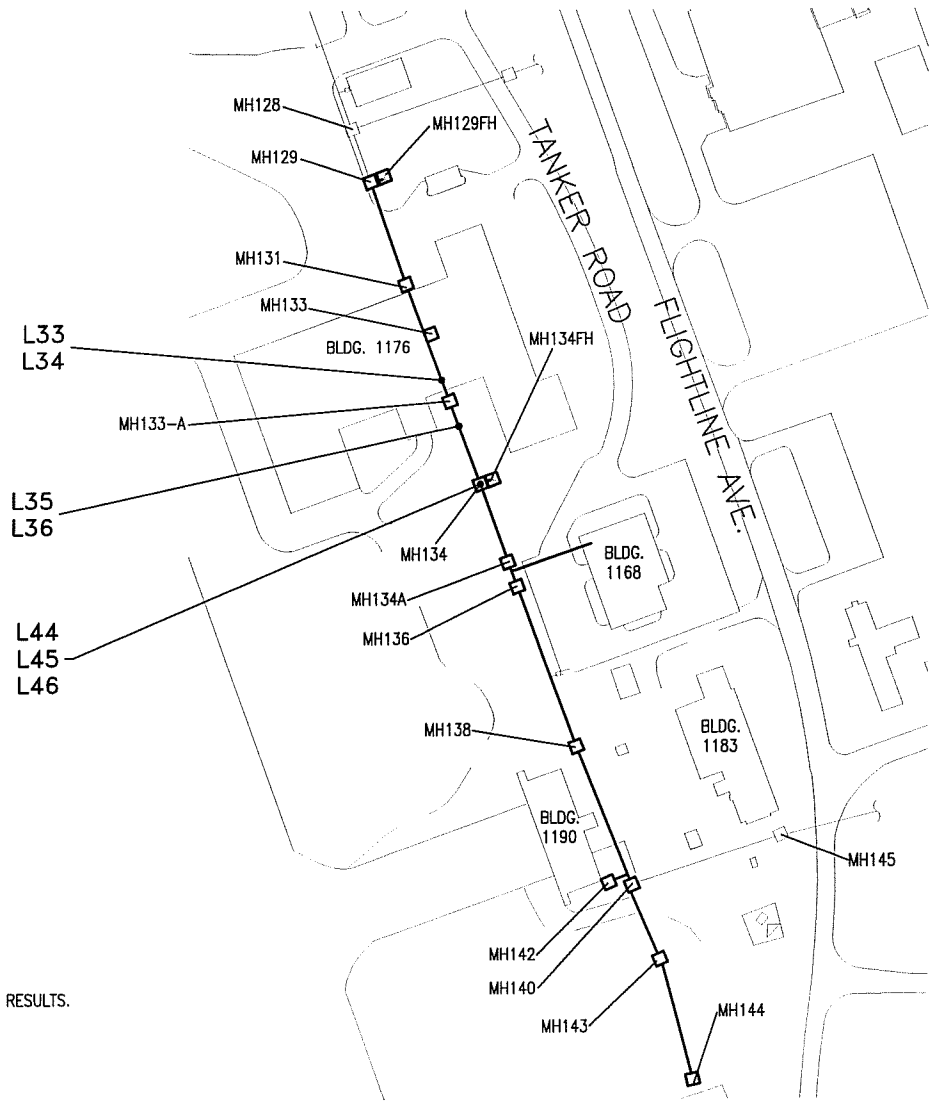
EHS ALASKA INCORPORATED
ENGINEERING, HEALTH & SAFETY CONSULTANTS
11901 Dunkeler Blvd, Suite 200, Eagle River, AK 99577-7701
PH: 907-694-1383 FAX: 907-694-1383

EIELSON AIR FORCE BASE
FAIRBANKS, ALASKA
REPAIR UTILIDORS PHASE VI
SAMPLE LOCATION DRAWING

PROJECT NO.	6203
DESIGNED:	JAA
DRAWN:	HGW
CHECKED:	—
SCALE:	NTS
DWG. TITLE:	6203-SL.DWG
JOB No.	6203-01
DATE:	03/22/05
	SL-2
	of 3



1 SOUTH FLIGHTLINE SITE PLAN
SCALE: NOT TO SCALE



LEGEND

- AXX ASBESTOS SAMPLE TEST LOCATION
- AXX ASBESTOS SAMPLE TEST LOCATION WITH POSITIVE RESULTS.
- LXX LEAD PAINT TEST LOCATION
- LXX LEAD TEST CLASSIFIED AS LEAD-BASED PAINT

MOST LEAD TESTS CONTAINED LEAD, REFER TO LEAD TESTING SUMMARY IN REPORT FOR FULL DETAILS.
LEAD TESTING CONDUCTED 3/22/05.

1 **NORTH FLIGHTLINE SITE PLAN**

SCALE: NOT TO SCALE

EHS ALASKA INCORPORATED
ENGINEERING, HEALTH & SAFETY CONSULTANTS
PH: 907-694-1383 FAX: 907-694-1383

EIELSON AIR FORCE BASE
FAIRBANKS, ALASKA
REPAIR UTILIDORS PHASE VI
SAMPLE LOCATION DRAWING

PROJECT NO.	6203
DESIGNED:	JAA
DRAWN:	FCW
CHECKED:	
SCALE:	NTS
DWG. TITLE:	6203-SL.DWG
JOB No.	6203-01
DATE:	03/22/05

SL-3
of 3

APPENDIX D

NITON
Performance Characteristics Sheets

Performance Characteristic Sheet

EFFECTIVE DATE: April 17, 1998 **EDITION NO.: 4**

MANUFACTURER AND MODEL :
Make: *Niton Corporation*
Models: *XL-309, 701-A, 702-A, and 703-A Spectrum Analyzers*
Source: ^{109}Cd (10 - 40 mCi initial source strength)
Note: This Performance Characteristic Sheet (PCS) is applicable to the listed Niton XRF instruments which have an operating software version of 5.1 (or equivalent) using a variable-time mode, and to Niton instruments having an operating software version of 1.2C (or equivalent) using a fixed-time mode. This sheet supersedes all previous sheets for the XRF instruments made by the Niton Corporation and the 1993 testing of XL prototypes reported in the document titled: *A Field Test of Lead-Based Paint Testing Technologies*: *Technical Report* (EPA Report No. 747-R-95-002b, May 1995).

FIELD OPERATION GUIDANCE

This PCS provides supplemental information to be used in conjunction with Chapter 7 (Lead-Based Paint Inspection) of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown in this sheet are applicable only when operating the instrument using the manufacturer's instructions and the procedures described in Chapter 7 of the HUD Guidelines.

OPERATING PARAMETERS:

Use of variable-time paint test mode ("K & L + Spectra" mode) on instruments running software version 5.1 (or equivalent) using the "Combined Lead Reading" with the instrument's display of a 95%--confident (2-sigma) *Positive* or *Negative* determination versus the action-level as the stopping point of the measurement.

Use of nominal 20-second readings for L-shell results or 120-second readings for K-shell results on instruments running software version 1.2C (or equivalent) in a fixed-time mode.

XRF CALIBRATION CHECK LIMITS:

0.9 to 1.2 mg/cm^2 (inclusive) for instruments running software version 5.1 (or equivalent)
0.9 to 1.1 mg/cm^2 (inclusive) for instruments running software version 1.2C (or equivalent)

SUBSTRATE CORRECTION :
(applicable to instruments running software versions 5.1 (or equivalent) or 1.2C (or equivalent))

For XRF results below 4.0 mg/cm^2, substrate correction recommended for:

None.

Substrate correction is <u>not</u> recommended for:

Brick, Concrete, Drywall, Metal, Plaster, and Wood

THRESHOLDS:
(applicable to instruments running software versions 5.1 (or equivalent) or 1.2C (or equivalent))

DESCRIPTION	SUBSTRATE	THRESHOLD* (mg/cm^2)
Results not corrected for substrate bias	Brick	1.0
	Concrete	1.0
	Drywall	1.0
	Metal	1.0
	Plaster	1.0
	Wood	1.0

*For instruments running software version 1.2C (or equivalent), application of the decision making methodology recommended in this PCS can result in inconclusive results regardless of whether decisions are based on L-shell readings, K-shell readings, or both.

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE:

Performance parameters shown on this sheet are calculated from the EPA/HUD evaluation using archived building components. Three rounds of tests were conducted on approximately 150 test locations in each round.

One round of testing was conducted March 1995 using a single instrument with an October 1994 source at 10 mCi initial strength while running software version 1.2C in a fixed-time mode with nominal 20-second readings for L-shell results or 120-second readings for K-shell results.

The two other rounds of testing were conducted December 1997 using three different instruments, each running software version 5.1. Two of these instruments had new sources installed November 1997, the other instrument had a new source installed December 1997, all with 10 mCi initial strength. The December 1997 testing was performed in the variable-time paint test mode "K & L + Spectra" using the "Combined Lead Reading" with 2-sigma confidence interval as the stopping point of the measurement.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm^2 in the NIST Standard Reference Material (SRM) (e.g., for NIST SRM 2579, use the 1.02 mg/cm^2 film). Measurements should be bracketed by successful XRF calibration check readings. XRF calibration checks are performed at the beginning and end of the day's inspections or at extended delays in testing, and (at least) every four hours during inspections or at a frequency recommended by the manufacturer, whichever is more stringent. If readings are outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instrument into control before XRF testing proceeds. Measurements which are not bracketed by successful calibration checks should be considered suspect.

EVALUATING THE QUALITY OF XRF TESTING:

Randomly select ten testing combinations for re-testing from each house or from two randomly selected units in multifamily housing. (A testing combination is a location on a painted surface as defined in Chapter 7 of the HUD Guidelines.) For testing combinations involving up to four walls in a room, each wall is classified on its individual XRF reading. (See Chapter 7 for testing procedures if there are more than four walls in a room, and for testing exterior walls.)

For instruments running software version 5.1 (or equivalent), conduct the test in the variable-time paint test mode "K & L + Spectra" using the "Combined Lead Reading" with 2-sigma confidence interval as the

stopping point of the measurement. For instruments running software version 1.2C (or equivalent) in the fixed-time mode, use either 20-second readings for the L-shell results or 120-second readings for the K-shell results, as described in the "Classifications of Results" section below.

Conduct XRF re-testing at the ten testing combinations selected for re-testing.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below.

Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. Do not correct the original or retest results for substrate bias. In single-family and multifamily housing, a result is defined as a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF results.

Compute the average of all ten retest XRF results.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

BIAS AND PRECISION:

Bias and precision data were not computed for instruments using software version 5.1 and taking variable mode readings. (See Appendix B, Section B.3.2 of the document titled *Methodology for XRF Performance Characteristic Sheets*, EPA-747-R-45-008, September 1997). During the 1997 testing, there were 12 testing locations with laboratory-measured lead levels equal to or greater than 4.0 mg/cm^2 lead which were tested using two instruments in the variable-time paint test mode. None of these testing locations had XRF readings less than 1.0 mg/cm^2. These data are for illustrative purposes only. Substrate correction is not recommended for this XRF instrument.

The bias and precision data given below are for instruments running software version 1.2C (or equivalent) and were computed without substrate correction using the 20-second L-shell readings from samples with

reported laboratory results less than 4.0 mg/cm^2 lead. Readings reported by the instrument in the "*x*" or ">>*x*" format were not used in the computation. During the 1995 testing there were 15 test locations with a laboratory reported result equal to or greater than 4.0 mg/cm^2 lead. Of these, 12 readings were reported in the ">*x*" or ">>*x*" format, but of the 3 remaining, 1 had an XRF reading less than 1.0 mg/cm^2.

Bias & Precision Results for Niton Model XL-309 Instruments Using Software Version 1.2C (or equivalent)

MEASURED AT	SUBSTRATE	BIAS (mg/cm^2)	PRECISION* (mg/cm^2)
0.0 mg/cm^2	All	0.0	<0.1
0.5 mg/cm^2	All	0.0	0.2
1.0 mg/cm^2	All	0.0	0.3
2.0 mg/cm^2	All	-0.1	0.5
*Precision at 1 standard deviation			

CLASSIFICATION OF RESULTS:

This section describes how to apply information displayed by this instrument to determine the presence or absence of lead in paint using the procedures recommended in Chapter 7 of the HUD Guidelines. These guidelines recommend classifying XRF results as positive, negative, or inconclusive compared to the lead-based paint 1.0 mg/cm^2 standard.

For Niton Model XL-309, 701-A, 702-A, and 703-A instruments running software version 5.1 (or equivalent), XRF results are classified using a threshold. There is no inconclusive classification when using the threshold for instruments running software version 5.1. In single-family and multifamily housing, an XRF result is a single reading taken on each testing combination. (A testing combination is a location on a painted surface as defined in Chapter 7 of the HUD Guidelines.) For testing combinations involving up to four walls in a room, each wall is classified on its individual XRF reading. (See Chapter 7 for testing procedures if there are more than four walls in a room, and for testing exterior walls.) For computing the XRF result, use all digits that are displayed by the instrument as the "Combined Lead Reading." Results are classified as positive (i.e., ≥ 1.0 mg/cm^2), if greater than or equal to the threshold, or negative (< 1.0 mg/cm^2) if less than the threshold. Threshold values, provided in the tables above, were determined by comparing XRF test results to the 1.0 mg/cm^2 standard.

For Niton Model XL-309 instruments running software version 1.2C (or equivalent), additional procedures are needed to classify readings because this software displays readings <u>and</u> ancillary information useful for classification purposes. An algorithmic procedure is described that makes use of the XRF reading and other displayed information.

The algorithm for classifying results is first applied to 20-second nominal L-shell readings followed by 120-second nominal K-shell readings to resolve inconclusive results, or to recommend laboratory analysis of paint-chip samples, if necessary. A listing of laboratories recognized by the EPA National Lead Laboratory Accreditation Program (NLLAP) for the confirmational analysis of inconclusive results is available from the National Lead Clearinghouse at 1-800-424-LEAD.

XRF results are classified using threshold values for the Model XL-309 software version 1.2C (or equivalent). Results are classified as positive if greater than or equal to the threshold, and as negative if less than the threshold. There is no inconclusive classification when using threshold values. However, in some cases, inconclusive results still may be obtained regardless of whether decisions are based on L-shell readings, K-shell readings, or both, as described below. Use all digits that are reported by the instrument. Threshold values, which were determined for comparing results to the 1.0 mg/cm^2 standard, are provided in the table above.

This instrument displays its lead-based paint measurements as both L-shell and K-shell readings based on

the corresponding L-shell and K-shell X-ray fluorescence (refer to Chapter 7 of the HUD Guidelines for more details). The L-shell readings (or L-readings) are displayed as a numerical result alone, or as a numerical result preceded by either one greater-than symbol (">") or preceded by two greater-than symbols (">>"). The two greater-than symbols will only be displayed when the detected lead level is greater than 5.0 mg/cm^2. Since the maximum lead level reported by this instrument is 5.0 mg/cm^2, lead levels greater than 5.0 mg/cm^2 are displayed as ">>5.0". Other examples of how L-readings can be displayed (in mg/cm^2 units) are "0.6" and ">0.9". The numerical display alone implies that the instrument measured the lead in the paint at the displayed level using L-shell X-ray fluorescence; 0.6 mg/cm^2 in the example. A number preceded by a single greater-than symbol indicates that the measurable lead is deeply buried in the paint and the detected lead level is greater than the displayed value. In the example, >0.9 indicates that the instrument detected lead deeply buried in paint at a level greater than 0.9 mg/cm^2. K-shell readings (or K-readings) are displayed in one of two ways: 1) as a single K-reading plus and minus a "precision" value or 2) as an upper K-reading and lower K-reading.

The same method is used for testing in single-family and multifamily housing. The HUD Guidelines recommend taking a single XRF reading on a testing combination. (A testing combination is a location on a painted surface as defined in Chapter 7 of the HUD Guidelines.) For testing combinations involving up to four walls in a room, each wall is classified on its individual XRF reading. (See Chapter 7 for testing procedures if there are more than four walls in a room, and for testing exterior walls.)

A. Take a single 20-second nominal reading on each testing combination.

B. Classify the L-reading based on the type of information displayed.

<u>If two greater-than symbols are displayed then</u>:

- Classify the >>5.0 L-reading as POSITIVE

<u>If one greater-than symbol is displayed then</u>:

- Classify the L-reading as POSITIVE if the numerical result that follows the greater than symbol is equal to or greater than 1.0.

- Classify the L-reading as INCONCLUSIVE if the numerical result that follows the greater than symbol is less than 1.0.

<u>If the numerical L-reading is displayed alone (that is, without any preceding greater-than symbols) then</u>:

- Classify the L-reading as POSITIVE if the numerical result is equal to or greater than 1.0.

- Classify the L-reading as NEGATIVE if the numerical result is less than 1.0.

C. Resolution of results classified as inconclusive.

All results classified as inconclusive above require further investigation. Take a 120-second nominal XRF reading and use the K-shell reading. In multifamily housing, resolve the inconclusive classification with a single K-shell reading or laboratory analysis as described below.

- Classify the result as POSITIVE if either the K-reading minus the displayed precision value <u>or</u> the lower K-reading is equal to or greater than 1.0.

- Classify the result as NEGATIVE if either the K-reading plus the displayed precision value <u>or</u> the upper K-reading is less than 1.0.

- Classify the result as INCONCLUSIVE if neither of the above decision rules using the K-reading provided a classification which can occur when the upper K-reading is equal to or greater than 1.0 or the lower K-reading is less than 1.0.

- To resolve a remaining INCONCLUSIVE classification, remove a paint-chip sample as described in Chapter 7 of the HUD Guidelines and have it analyzed by a qualified laboratory as described in Chapter 7.

TESTING TIMES (FOR SOFTWARE VERSION 5.1):

For the variable-time paint test mode "K & L + Spectra," the instrument continues measuring until a positive or negative result is indicated relative to an action level (1.0 mg/cm^2 for archive testing) and the current precision, or until the reading is terminated by moving the instrument away from the testing surface. None of the variable mode readings were terminated because of the two-minute limit used for archive testing. The following table provides testing time information for this testing mode. Source strength and type of substrate will affect actual testing times.

Testing Times for Instruments Running Software Version 5.1						
Variable mode testing times (seconds)						
	All data			Median for laboratory—measured lead levels (mg/cm^2)		
Substrate	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 <= Pb < 1.0	1.0 <= Pb
Wood Drywall	6	8	15	6	20	5
Metal	6	13	20	13	20	6
Brick Concrete Plaster	6	11	20	9	18	6

DOCUMENTATION:
This PCS was developed in accordance with the methodology in the EPA report titled *Methodology for XRF Performance Characteristic Sheets* (EPA 747-R-95-008, September 1997). This report provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Clearinghouse at 1-800-424-LEAD.

This XRF Performance Characteristic Sheet was developed by the Midwest Research Institute (MRI) under a grant from the U. S. Environmental Protection Agency and a separate contract between MRI and the XRF manufacturer. The U.S. Department of Housing and Urban Development (HUD) has determined that the information provided here is acceptable when used as guidance in conjunction with Chapter 7, Lead-Based Paint Inspection, of HUD's *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*. While MRI reserves the right to revise this XRF Performance Characteristic Sheet at any time, HUD's statement of acceptance would not apply to a revision until HUD has reviewed the revision and made a determination of its acceptability.

HAZARDOUS MATERIALS SURVEY REPORT

MILITARY FAMILY HOUSING AREA: KOYUK AVENUE MH 353 TO 360

EIELSON AFB, UTILIDOR REPAIR, PHASE VI EIELSON AIR FORCE BASE ALASKA

June 28, 2005

EHS-ALASKA, INC.
ENGINEERING, HEALTH & SAFETY CONSULTANTS
11901 BUSINESS BLVD, SUITE 208
EAGLE RIVER, ALASKA 99577

HAZARDOUS MATERIALS SURVEY REPORT
EIELSON AFB, UTILIDOR REPAIR, PHASE VI
MILITARY FAMILY HOUSING AREA:
KOYUK AVE, MH 353 TO 360

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HAZARDOUS MATERIALS SURVEY REPORT
EIELSON AFB, UTILIDOR REPAIR, PHASE VI
MILITARY FAMILY HOUSING AREA:
KOYUK AVE, MH 353 TO 360

OVERVIEW

The utilidors of the Phase IV Utilidor Repair Project on Eielson Air Force Base were surveyed for the presence of asbestos-containing materials (ACM), and other potentially hazardous materials as a part of the project design services. The survey provided a "good faith" inspection for hazardous materials that may be disturbed during the remodel activities. The proposed work includes the disturbance, demolition, removal and disposal of lead-containing paints and/or lead-containing materials that is incidental to the project. That work does not fall under the requirements of 40 CFR 745 and should not be interpreted as such. Mr. Joseph A. Adami of EHS-Alaska, Inc. (EHS-Alaska) conducted the inspections in June, 2005. The Phase VI Utilidor Repairs project has been modified to include utilidor segments from MH 353 to MH 360 along Koyuk Avenue. See the civil sheets for a complete description of Phase VI work.

A EFFECTS ON PROPOSED RENOVATION

Potentially hazardous materials have been identified in Eielson AFB utilidors that will be affected by the proposed renovations. Those materials include asbestos, and lead materials. Other potentially hazardous materials, exterior and interior to the utilidor system, such as soil contamination may be present, but are not part of this report.

Only the materials that will be directly affected by this project are required to be removed. The quantities and types of materials are incorporated into the design documents for this renovation. The removal and disposal of potentially hazardous materials are highly regulated, and it is anticipated that asbestos, lead and chemical hazards removal and disposal will be conducted by a subcontractor to the general contractor who is qualified for such removal. It is anticipated that the general contractor and other trades will be able to conduct their work using engineering controls and work practices to control worker exposure and to keep airborne contaminants out of occupied areas of the facility.

Settled and concealed dusts in areas not subject to routine cleaning are present throughout the utilidor system, and those dusts are assumed to contain regulated air contaminants. This should not be read to imply that there is an existing hazard to utilidor entrants. However, depending on the specific work items involved and on the means and methods employed when working in the affected areas, construction workers could be exposed to regulated air contaminants from those dusts in excess of the OSHA Permissible Exposure Limits (PELs).

Asbestos "awareness training" (typically 2 hours) and possibly respiratory protection will be required for all Contractor Personnel who will be disturbing the dusts. The extent of the training and protective measures will depend upon the airborne concentrations measured during air monitoring of the contractors work force, which depends on the means and methods employed to control the dusts. The air monitoring may be discontinued following a "negative exposure assessment" showing that worker exposures are below the OSHA permissible exposure limits for the type of work and means and methods employed. Previous air monitoring from similar jobs with similar conditions may be used as historical data to establish a "negative exposure assessment".

B WORK AREA DESCRIPTION

The utilidor segments of Eielson AFB subject to repair, renovation, and abandonment under this project run parallel to Flightline Avenue from MH 701 to Lift Station 4114, the Inner Loop Road from MH 749 east portal to MH765-7 west portal and Flightline Avenue from MH 140 north portal to MH 129. This survey concerns the utilidor line adjacent to Koyuk Avenue from MH 353 to MH 360; an additional area that has been added to the scope of the Phase VI work.

The utilidor system consists of an open top pre-cast concrete passageway of varying dimensions capped with a concrete slab and covered with soil and fill material. Many segments of the utilidor by manhole openings are cast in place. Mastic sealants are present within the utilidors at expansion areas and at the lid seams. Piping within the system varies, but generally consist of one sewer line, one water line, one condensate, and a steam line. In this segment of the system, most portions of the 8" sewer piping were transite as opposed to steel or ductile iron. Water hydrants and building services connect to the system at multiple points. Also present within the utilidors are various electrical and communication cables. Pipe runs throughout the system were designed to be insulated, and the majority of piping within this segment remains in good condition.

C. SAMPLING AND ANALYSIS

1. Asbestos-Containing Materials

The surveys included sampling of suspect ACM materials that had not been sampled in prior asbestos surveys, or samples of materials where previous sampling had been inconsistent. The design has relied heavily on previous sampling conducted in other areas of the base, but which were constructed at the same time as the surveyed sections.

The samples were analyzed for the presence of asbestos by polarized light microscopy (PLM), the method of analysis recommended by the U.S. Environmental Protection Agency (EPA) to determine the composition of suspected asbestos-containing materials (EPA method 600/M4-82-020). Only materials containing more than 1% total asbestos were classified as "asbestos-containing" based on EPA and the Occupational Safety and Health Administration (OSHA) criteria. Samples that were analyzed to have less than 10% asbestos were "point-counted" by the laboratory for more accuracy. Samples that are listed as having a "Trace by Point Count" had asbestos fibers found in the material, but the fibers were not present at the counting grids. Table 1 below contains a summary list of the asbestos bulk samples and the applicable results.

The Bulk Asbestos samples were analyzed for asbestos content by International Asbestos Testing Laboratories (IATL), Mt. Laurel, New Jersey a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory.

Field survey data sheets and laboratory reports of the bulk samples are included in Appendix A. Drawings showing sample locations are included as Appendix C.

2. Lead-Containing Materials

Nearly all metallic surfaces in the utilidors were coated with paint and most surfaces had been repainted. EHS-Alaska tested paint throughout the affected areas using a NITON XL309 X-Ray Fluorescence (XRF) lead paint analyzer (Serial # U862NR0666 with software version 5.3). Refer to the Lead Paint Screening Table in Appendix B that identifies the surfaces tested, and the results. The Paint Test Locations are shown in Appendix C.

EPA and the Department of Housing and Urban Development (HUD) have defined lead-based paint as any paint or other surface coating that contains lead equal to or in excess of 1.0 milligram per square centimeter (mg/ cm^2) or 0.5 percent by weight. XRF results are classified as positive (lead is present at 1.0 mg/cm^2 or greater), negative (less than 1.0 mg/ cm^2 of lead was present) or inconclusive (the XRF could not make a conclusive positive or negative determination). Tests that were invalid due to operator error are shown as void tests.

A Performance Characteristic Sheet (PCS) for the NITON XL309 is provided in Appendix D. This PCS data provides supplemental information to be used in conjunction with Chapter 7 of the "HUD Guidelines". Performance parameters provided in the PCS are applicable when operating the instrument using the manufacturer's instructions and the procedures described in Chapter 7 of the "HUD Guidelines".

D. SURVEY RESULTS

1. Asbestos-Containing Materials

Asbestos field survey data sheets and laboratory reports are included as Appendix A. Refer to Appendix C for sample locations. The following TABLE 1 lists the samples taken in June 2005 throughout the utilidor systems, and the results of the laboratory analysis.

TABLE 1

SAMPLE NUMBER	*MATERIAL*	*LOCATION*	*ASBESTOS CONTENT*
EU60805-A01	Tan Pipe Insulation	MH 360 Steam condensate line	None detected
EU60805-A02	Black Pipe Mastic	MH 360 Steam line	None detected
EU60805-A03	White Rope Gasket	MH 360 Maintenance supply shelf	90% Chrysotile
EU60805-A04	Brown Pipe Insulation	Between MH 360 & MH 359; condensate line	None detected
EU60805-A05	Grey Transite Pipe	MH 360 8" sewer line	55% Chrysotile, 10% Crocidolite
EU60805-A06	Tan Pipe Sealant	MH 360 8" sewer line joint	4.8% Chrysotile
EU60805-A07	Black mastic/dampproofing	Hydrant FH-51-18	None detected
EU60805-A08	Silver Valve Sealant	MH 360 10" Steam valve	None detected
The testing method used (polarized light microscopy [PLM]) is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-asbestos containing, confirmation should be made by quantitative transmission electron microscopy (TEM).			

Asbestos Gaskets and Packing on Valves

One sample was obtained of gasket material located on a maintenance shelf within MH 360. This sample indicated that the gasket material was at least 90% Chrysotile asbestos. Flange gaskets and packing on valves throughout the utilidor system could not be sampled without disassembly. Based on the results of the sampled material on the maintenance shelf, it should be assumed that flanges and valves contain asbestos insulation.

Insulation Tar

Black tar sealants were present on utilidor seams between the poured or cast utilidor body, and the lid segments. Asbestos contents of this tarry sealant tested at between 0-10% Chrysotile asbestos in adjacent utilidor areas constructed within the same era, although not specifically sampled for in this survey it is uniformly present throughout most segments of the utilidors that have been inspected up to this point. The tar coating was in fair condition and was not friable.

Transite Sewer Piping

Cement asbestos sewer piping containing 55% Chrysotile and 10% Crocidolite was located and tested throughout this segment of the utilidor system. The pipe was in good condition and not friable. .

Pipe Sealants

Tan sealants found on sanitary sewer piping were sampled and tested for the presence of asbestos. Samples taken at sanitary sewer joints within MH 360 were analyzed to contain 4.8% Chrysotile asbestos. These joints and sealants are present on sanitary sewer piping throughout the utilidor line from MH 360 to MH 353. The sealants appear to be in good condition and not friable.

2. Lead-Containing Materials

Paint

EHS-Alaska tested paint throughout the affected areas of the utilidors using a NITON XL309 X-Ray Fluorescence (XRF) lead paint analyzer (Serial # U862NR0666 with software version 5.3).

Refer to the Lead Paint Screening Table in Appendix B that identifies the surfaces tested, and the results. The Paint Test Locations are shown in the Drawings in Appendix C. There was no lead content found in the paints that would be classified as "Lead Based Paint", based on what surfaces they are on, however most surfaces contain measurable lead (but are still classified as lead-containing materials by OSHA).

3. PCB-Containing Materials

Light Ballasts

Older fluorescent lights typically have PCB-containing ballasts. Unless ballasts were marked "No PCBs," they must be assumed to contain PCBs and must be disposed of as a hazardous waste when removed for disposal. No fluorescent light fixtures were located within the inspected portions of the utilidors.

4. Mercury-Containing Materials

Fluorescent Lamps

Fluorescent lamps use mercury to excite the phosphor crystals that coat the inside of the lamp. These lamps contain from 15 to 48 milligrams of mercury depending on their age and manufacturer. Any fluorescent light fixtures that are found will be disposed of. No mercury-containing items, were encountered on this project.

5. Other Hazardous Materials

Soil Contamination

The scope of work for EHS-Alaska, Inc. did not include investigation of soils for petroleum or other contaminations.

E. REGULATORY CONSTRAINTS

1. Asbestos-Containing Materials

The Federal Occupational Safety and Health Administration (29 CFR 1926.1101) and the State of Alaska Department of Labor (8 AAC 61) have promulgated regulations requiring testing for airborne asbestos fibers; setting allowable exposure limits for workers potentially exposed to airborne asbestos fibers; establishing contamination controls, work practices, and medical surveillance; and setting worker certification and protection requirements. These regulations apply to all workplace activities involving asbestos-containing materials.

The EPA regulations, issued as Title 40 of the Code of Federal Regulations, Part 61 (40 CFR 61) under the National Emission Standards for Hazardous Air Pollutants (NESHAP) established procedures for handling ACM during asbestos removal and waste disposal. These regulations required an owner (or the owner's contractor) to notify the EPA of asbestos removal operations and to establish responsibility for the removal, transportation, and disposal of asbestos. Eielson AFB utilidors do not fall under the EPA's Asbestos Hazard Emergency Response Act (AHERA) law regulating asbestos in schools.

2. Lead-Containing Materials

Federal OSHA (29 CFR 1926.62) and the State of Alaska (8 AAC Chapter 61) have promulgated regulations that apply to all construction work where employees may be exposed to lead. The disturbance of any surfaces painted with lead-containing paint requires lead-trained personnel, personnel protective procedures, and air monitoring until exposure levels can be determined. If initial monitoring verifies that the work practices being used are not exposing workers, monitoring and protection procedures may be relaxed.

The EPA requires that actual construction or demolition debris that contains lead or lead-containing paint or other heavy metals be tested using the TCLP to determine if the waste must be treated as hazardous waste. All federal, state and local standards regulating lead and lead-containing wastes are required to be followed during the renovation or demolition of portions of this building.

There are no hazardous waste landfills in Alaska and the lead-containing wastes (if shown to be hazardous waste) will have to be packaged for shipping and disposal. This report assumes that disposal will take place in Seattle or elsewhere in the Pacific Northwest.

3. PCB-Containing Materials

The EPA has promulgated regulations (40 CFR Part 761) that cover the proper handling and disposal of PCB-containing equipment. All construction workers who are required to remove or handle PCB-containing or PCB-contaminated equipment or to transport or dispose of PCB wastes shall be trained and certified as required by the U.S. Department of Labor (29 CFR 1910.120) and the State of Alaska Department of Labor (8 AAC 61).

4. Mercury-Containing Materials

Mercury and mercury-containing products are considered hazardous waste if TCLP testing of the waste for mercury confirms the mercury content to be greater than the EPA criteria of 0.2 mg/l.

F. RECOMMENDATIONS

1. Asbestos-Containing Materials

The asbestos-containing materials identified in the utilidor are typically in intact condition and are classified as both friable and non-friable ACM. All asbestos-containing materials that will be disturbed by the planned renovation work are required to be removed by trained asbestos workers.

2. Lead-Containing Materials

Federal OSHA (29 CFR 1926.62) and the State of Alaska (8 AAC Chapter 61) have promulgated regulations that apply to all construction work where employees may be exposed to lead.

Worker exposure to lead may be able to be controlled below the OSHA permissible exposure limit if proper engineering controls and procedures are used during renovation. Lead is a potentially hazardous waste and the EPA requires that all wastes that contains lead be tested to determine if they must be treated as hazardous waste. A TCLP test of the waste stream is required to be performed to determine if the waste will be hazardous or non-hazardous.

3. PCB-Containing Materials

PCB-containing ballasts, if encountered, will need to be removed, handled, packaged and disposed of in accordance with all regulations.

4. Mercury-Containing Materials

Mercury-containing materials, if encountered, will need to be removed, handled, packaged and disposed of in accordance with all regulations. A TCLP test of the waste stream is required to be performed to determine if the wastes will be hazardous or non-hazardous.

G. LIMITATIONS

The conclusions and recommendations contained in this report are based upon professional opinions with regard to the subject matter. These opinions have been arrived at in accordance with currently accepted environmental consulting and engineering standards and practices and are subject to the following inherent limitations:

1. Accuracy of Information.

The laboratory reports utilized in this assessment were provided by the accredited laboratories cited in this report. Although the conclusions, opinions, and recommendations are based in part, on such information, our services did not include the verification of accuracy or authenticity of such reports. Should such information provided be found to be inaccurate or unreliable, EHS-Alaska, Inc. reserves the right to amend or revise its conclusions, opinions, and/or recommendations.

2. Site Conditions.

This survey was conducted during the month of June, 2005 and the site was occupied. All inspections were performed with equipment or stored items in place. Although a concerted effort was made to identify all hazardous materials, some hazardous materials may have been hidden by pipes, bulkheads equipment or submerged and may not have been identified. Other asbestos-containing or potentially hazardous materials may be present in the utilidors that were concealed by structural members, walls, or ceilings.

3. Changing Regulatory Constraints.

The regulations concerning hazardous materials are constantly changing, including the interpretations of the regulations by the local and national regulating agencies. Should the regulations or their interpretation be changed from our current understanding, EHS-Alaska, Inc. reserves the right to amend or revise its conclusions, opinions, and/or recommendations.

APPENDIX A

Asbestos Bulk Sample Field Survey Data Sheets and Laboratory Reports

EHS-Alaska, Inc.
11901 Business Blvd., Suite 208
Eagle River, AK 99577-7701
(907) 694-1383 phone • (907) 694-1382 fax
e-mail • ehsak@ehs-alaska.com

EHS ALASKA INCORPORATED

CHAIN OF CUSTODY RECORD/FIELD SURVEY DATA

Page 1 of 1

FIELD COLLECTION DATE: 6-8-05 | JOB #: 6203 | BULK ANALYSIS REQUESTED: (circle) PLM / TEM BULK / LEAD TCLP / LEAD PPM

PROJECT NAME: COE EIELSON UT SURVEY | MATERIAL TYPE: (Circle) ASBESTOS LEAD | TOTAL QUANTITIES: 8

FACILITY: EIELSON AFB UTILIDORS | DISPOSAL: N/A | TURNAROUND: 24 HOUR

SPECIAL INSTRUCTIONS:

COLLECTED BY (signature): [signature]
PRINTED NAME: TREVOR A. ADAMS
CERT# 13781038 AHERA#
SHIPPING METHOD: FED EX
COURIER (signature): 7929 5259 6138
DATE/TIME: 6-17-05 12:00pm

SELECTED LABORATORY: IAT RECEIVED
SAMPLES ACCEPTED BY: [signature]
DATE/TIME: IAT
ANALYST'S SIGNATURE: [signature]
DATE: 6/21/05

COMMENTS: Log in 1. 6/21/05

SAMPLE ID	SAMPLE DESCRIPTION (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION / COMMENTS (INCLUDING PHOTO / XREF)	RESULTS
1. EUG0805-A01 2291221 MATL CONDITION: GOOD FAIR POOR	PIPE INSULATION. DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	MH360 STEAM CONDENSATE	NONE DETECTED
2. EUG0805-A02 2291222 MATL CONDITION: GOOD FAIR POOR	PIPE MASTIC. DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	MH360 STEAM LINE	NONE DETECTED
3. EUG0805-A03 2291223 MATL CONDITION: GOOD FAIR POOR	WHITE GASKET MATL. DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	MH360, ON SPOOL ON FLOOR	90% CHRYSOTILE
4. EUG0805-A04 2291224 MATL CONDITION: GOOD FAIR POOR	BROWN PIPE INSULATION. DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	CONDENSATE LINE BETWEEN MH 360 AND MH359	NONE DETECTED
5. EUG0805-A05 2291225 MATL CONDITION: GOOD FAIR POOR	TRANSITE PIPE, GREY. DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	MH360 SEWER LINE	55% CHRYSOTILE 10% CROCIDOLITE
6. EUG0805-A06 2291226 MATL CONDITION: GOOD FAIR POOR	BLACK JOINT SEALANT. DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	MH360 SEWER JOINT SEAL	4.8% CHRYSOTILE
7. EUG0805-A07 2291227 MATL CONDITION: GOOD FAIR POOR	BLACK HYDRANT MASTIC. DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	HYDRANT BETWEEN MH 360 AND 359	NONE DETECTED
8. EUG0805-A08 2291228 MATL CONDITION: GOOD FAIR POOR	SILVER VALVE INSULATION. DAMAGE POTENTIAL: (LO, MED, HI) WATER: AIR: VIBRATION: CONTACT:	STEAM VALVE MH360	NONE DETECTED

RETURN A SIGNED COPY OF THIS FORM WITH THE FINAL REPORT TO EHS-ALASKA

EHS-10/00

IATL International Asbestos Testing Laboratories
PHASE VI UTILIDORS
16000 Horizon Way Unit 100 Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax 856-231-9818

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
11901 Business Blvd.,Suite 208
Eagle River AK 99577

Report Date: 6/21/2005
Project: EzelsonAFBUtilidors;6/8/05
Project No.: 6203

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 2291221
Client No.: EU60805-A01
Description / Location: Tan Fibrous
MN360 Steam Condensate; Pipe

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	97	Fibrous Glass	3

Lab No.: 2291222
Client No.: EU60805-A02
Description / Location: Black Non-Fibrous
MN360 Steam Line; Pipe

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

Lab No.: 2291223
Client No.: EU60805-A03
Description / Location: White Fibrous
MN360 On Spool On Floor

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
90	Chrysotile	5	Cellulose	5

Lab No.: 2291224
Client No.: EU60805-A04
Description / Location: Tan Fibrous
Condensate Line Btwn MN360 & MN359

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	98	Fibrous Glass	2

NIST-NVLAP No. 101165-0 **NY-DOH No. 11021** **AIHA Lab No. 100188**

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix. Quantification at <1% by volume is possible with this method. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed.

Analysis Performed By: E. Smith

Approved By:

Date: 6/21/2005

Frank E. Ehrenfeld, III
Laboratory Director

IATL International Asbestos Testing Laboratories
16000 Horizon Way Unit 100 Mt. Laurel, NJ 08054
Telephone: 856-231-9449 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated
11901 Business Blvd.,Suite 208
Eagle River AK 99577

Report Date: 6/21/2005
Project: EzelsonAFBUtilidors;6/8/05
Project No.: 6203

BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 2291225
Client No.: EU60805-A05
Description / Location: Grey Fibrous
MN360 Sewer Line; Pipe

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
55	Chrysotile	None Detected	None Detected	35
10	Crocidolite			

Lab No.: 2291226
Client No.: EU60805-A06
Description / Location: Tan Sealant
MN360 Sewer Line; Joint

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
PC 4.8	Chrysotile	None Detected	None Detected	PC 95.2

Lab No.: 2291227
Client No.: EU60805-A07
Description / Location: Black Fibrous
Hydrant Between MN360 & MN359

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	1	Cellulose	99

Lab No.: 2291228
Client No.: EU60805-A08
Description / Location: Silver Non-Fibrous
Steam Valve MN360

% Asbestos	Type	% Non-Asbestos Fibrous Material	Type	% Non-Fibrous Material
None Detected	None Detected	None Detected	None Detected	100

NIST-NVLAP No. 101165-0 **NY-DOH No. 11021** **AIHA Lab No. 100188**

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Analysis Method: EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix. Quantification at <1% by volume is possible with this method. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed.

Analysis Performed By: E. Smith

Date: 6/21/2005

APPENDIX B

Lead Analyzer Test Results

Lead Paint Screening

No	Site	Inspect	Loc.	Rm.	Structure	Substrate	Feature	Condit	Color	Ssec	Date/Time	Depth Index	Results LBP	mg/cm2	"+/-"
1	Eielson UT	Adami		Shutter Cal	1					80.5	6/9/2005 9:24	0	...	NA	
2	Eielson UT	Adami		Calibrate						21.5	6/9/2005 9:26	1.1	POS	3.2	0.34
3	Eielson UT	Adami		Calibrate						18.1	6/9/2005 9:27	1	POS	1.44	0.2
4	Eielson UT	Adami		Calibrate						16.2	6/9/2005 9:28	1	NEG	0.87	0.09
5	Eielson UT	Adami	MH360	Area	Door	Metal	Door Out	Intact	Red	3	6/9/2005 9:35	1	NEG	0.02	0.08
6	Eielson UT	Adami	MH360	Area	Door	Metal	Door Out	Intact	Red	20.3	6/9/2005 9:36	1	NEG	0.02	0.02
7	Eielson UT	Adami	MH360	Area	Door	Metal	Door Out	Intact	Brown	16	6/9/2005 9:38	1	NEG	0.01	0.03
8	Eielson UT	Adami	FH51-18	Area	Hydrant	Metal	Pipes	Intact	Brown	12.4	6/9/2005 9:40	1	NEG	0.03	0.05
9	Eielson UT	Adami	FH51-18	Area	Hydrant	Metal	Pipes	Intact	Brown	16.8	6/9/2005 9:42	1.1	NEG	0.03	0.05
10	Eielson UT	Adami	MH359	Area	Door	Metal	Casing	Intact	Black	20.3	6/9/2005 9:44	1	NEG	0.24	0.04
11	Eielson UT	Adami	MH359-1	Area	Vent	Metal	Exhaust V	Fair	Black	20.1	6/9/2005 9:48	1.1	NEG	0.01	0.04
12	Eielson UT	Adami	MH359-1	Area	Ladder	Metal	Ladder	Intact	Black	13.6	6/9/2005 9:50	1	NEG	0.01	0.02
13	Eielson UT	Adami	MH359-1	Area	Man Hole	Concrte	Unlisted	Intact	Beige	22	6/9/2005 9:52	1	NEG	0	0.01
14	Eielson UT	Adami	MH358-1	Area	Man Hole	Concrte	Unlisted	Intact	Beige	21.9	6/9/2005 9:55	1	NEG	0	0.01
15	Eielson UT	Adami	FH51-17	Area	Hydrant	Metal	Pipes	Fair	Brown	21.7	6/9/2005 9:58	1.3	NEG	0.04	0.05
16	Eielson UT	Adami	MH358	Area	Man Hole	Concrte	Tan	Intact	Tan	19.4	6/9/2005 10:01	1	NEG	0	0.01
17	Eielson UT	Adami	MH360	Man Hole	SS Pipe	Metal	Tee	Fair	Silver	14.5	6/9/2005 10:22	1.8	NEG	0.02	0.12
18	Eielson UT	Adami	MH360	Man Hole	SS Pipe	Metal	Tee	Fair	Silver	0.9	6/9/2005 10:22	1	INCOM	0.01	0.06
19	Eielson UT	Adami	MH360	Man Hole	SS Pipe	Transite	Pipe	Intact	Silver	14.4	6/9/2005 10:23	1	NEG	0	0.03
20	Eielson UT	Adami	MH360	Man Hole	Steam Pipe	Concrte	Pipe	Intact	Silver	15	6/9/2005 10:24	1	INCOM	0	0.01
21	Eielson UT	Adami	MH360	Man Hole	Pipe Hang	Metal	Suport	Fair	Silver	9.8	6/9/2005 10:26	1.4	NEG	0.2	0.15
22	Eielson UT	Adami	MH353	Man Hole	SS Pipe	Metal	Tee	Intact	Red	14.7	6/9/2005 10:41	1	NEG	0	0.01
23	Eielson UT	Adami	MH353	Man Hole	SS Pipe	Metal	Tee	Intact	Red	9.9	6/9/2005 10:42	1	NEG	0	0.06
24	Eielson UT	Adami	MH353	Man Hole	Pipe Hang	Metal	Suport	Intact	Grey	16.9	6/9/2005 10:44	1	NEG	0.01	0.03
25	Eielson UT	Adami	MH353	Man Hole	Ladder	Metal	Ladder	Intact	Silver	13.8	6/9/2005 10:45	1	NEG.	0.05	0.02
26	Eielson UT	Adami		Calibrate						18.6	6/9/2005 10:54	1	NEG	0.74	0.07
27	Eielson UT	Adami		Calibrate						5.1	6/9/2005 10:55	1	POS	2.16	0.53
28	Eielson UT	Adami		Calibrate						41.3	6/9/2005 10:56	1.2	POS	2.36	0.2

Table Heading Descriptions:

Ssec: This is the nominal time in seconds that each sample was analyzed.

Depth Index: Indicates the relative depth of the lead. A Depth Index (DI) of less than 1.5 indicates lead very near the surface layer of paint. A DI between 1.5 and 4.0 indicates moderately covered lead. A DI greater than 4.0 indicates the lead paint is deeply buried beneath multiple layers of paint.

LBP: Results are shown as positive (POS ≥ 1.0 mg/cm^2), inconclusive (INC) or negative (NEG < 1.0 mg/cm^2). The results are based on the combined results of the K and L shell readings. L shell and K shell readings are not provided. Positive results are also in bold print.

mg/cm^2: This is the testing results produced by the NITON XL-309 instrument in milligrams of lead per square centimeter (mg/cm^2). The EPA defines lead based paint as paint containing lead at 1.0 mg/cm^2 or greater. A negative number is a result of an internal computation made by the instrument and should be interpreted as zero. Even though paint may be termed negative (less than 1.0 mg/cm) by EPA definition, disturbance of the paint may still be regulated by OSHA under 29 CFR 1926.62. Where lead is present at any level, appropriate engineering controls, work practices and personal protective equipment should be used until a negative exposure assessment can be determined.

VOID: This indicates that the test was intentionally terminated by the operator due to operator error (e.g. - operator moved analyzer while testing).

PHASE VI UTILIDORS
EIE210

APPENDIX C

Drawings of Sample Locations

EHS ALASKA INCORPORATED
ENGINEERING, HEALTH & SAFETY CONSULTANTS
11901 Business Blvd, Suite 208, Eagle River, AK 99577-7701
PH: 907-694-1383 FAX: 907-694-1382

EIELSON AIR FORCE BASE
FAIRBANKS, ALASKA
REPAIR UTILIDORS PHASE VI
SAMPLE LOCATION DRAWING

PROJECT NO.	6203
DESIGNED:	JAA
DRAWN:	FCW
CHECKED:	
SCALE:	NTS
DWG. TITLE:	6203-SL.DWG
JOB No.	6203-01
DATE:	06/08/05
	SL-1 of 1

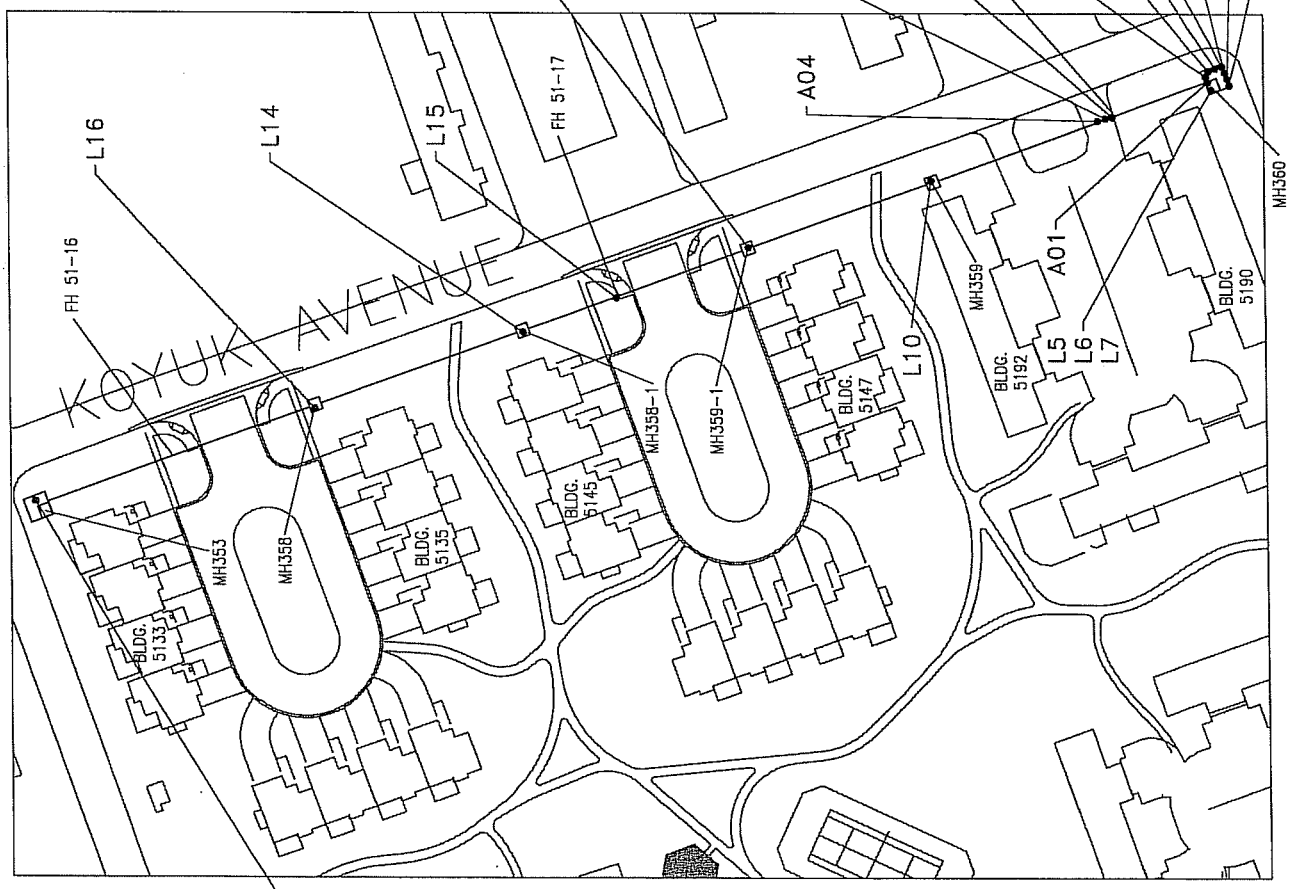
LEGEND

- AXX — ASBESTOS SAMPLE TEST LOCATION
- AXX — ASBESTOS SAMPLE TEST LOCATION WITH POSITIVE RESULTS.
- LXX — LEAD PAINT TEST LOCATION
- LXX — LEAD TEST CLASSIFIED AS LEAD-BASED PAINT

MOST LEAD TESTS CONTAINED LEAD, REFER TO LEAD TESTING SUMMARY IN REPORT FOR FULL DETAILS.
LEAD TESTING CONDUCTED 6/08/05.

1 KOYUK AVENUE SITE PLAN

SCALE: NOT TO SCALE



APPENDIX D

NITON
Performance Characteristics Sheets

Performance Characteristic Sheet

EFFECTIVE DATE: April 17, 1998 **EDITION NO.: 4**

MANUFACTURER AND MODEL :
Make: *Niton Corporation*
Models: *XL-309, 701-A, 702-A, and 703-A Spectrum Analyzers*
Source: ^{109}Cd (10 - 40 mCi initial source strength)
Note: This Performance Characteristic Sheet (PCS) is applicable to the listed Niton XRF instruments which have an operating software version of 5.1 (or equivalent) using a variable-time mode, and to Niton instruments having an operating software version of 1.2C (or equivalent) using a fixed-time mode. This sheet supersedes all previous sheets for the XRF instruments made by the Niton Corporation and the 1993 testing of XL prototypes reported in the document titled: *A Field Test of Lead-Based Paint Testing Technologies: Technical Report* (EPA Report No. 747-R-95-002b, May 1995).

FIELD OPERATION GUIDANCE

This PCS provides supplemental information to be used in conjunction with Chapter 7 (Lead-Based Paint Inspection) of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown in this sheet are applicable only when operating the instrument using the manufacturer's instructions and the procedures described in Chapter 7 of the HUD Guidelines.

OPERATING PARAMETERS:

Use of variable-time paint test mode ("K & L + Spectra" mode) on instruments running software version 5.1 (or equivalent) using the "Combined Lead Reading" with the instrument's display of a 95%--confident (2-sigma) *Positive* or *Negative* determination versus the action-level as the stopping point of the measurement.

Use of nominal 20-second readings for L-shell results or 120-second readings for K-shell results on instruments running software version 1.2C (or equivalent) in a fixed-time mode.

XRF CALIBRATION CHECK LIMITS:

0.9 to 1.2 mg/cm^2 (inclusive) for instruments running software version 5.1 (or equivalent)
0.9 to 1.1 mg/cm^2 (inclusive) for instruments running software version 1.2C (or equivalent)

SUBSTRATE CORRECTION :
(applicable to instruments running software versions 5.1 (or equivalent) or 1.2C (or equivalent))

For XRF results below 4.0 mg/cm^2, substrate correction recommended for:

None.

Substrate correction is <u>not</u> recommended for:

Brick, Concrete, Drywall, Metal, Plaster, and Wood

THRESHOLDS:
(applicable to instruments running software versions 5.1 (or equivalent) or 1.2C (or equivalent))

DESCRIPTION	SUBSTRATE	THRESHOLD* (mg/cm^2)
Results not corrected for substrate bias	Brick	1.0
	Concrete	1.0
	Drywall	1.0
	Metal	1.0
	Plaster	1.0
	Wood	1.0

*For instruments running software version 1.2C (or equivalent), application of the decision making methodology recommended in this PCS can result in inconclusive results regardless of whether decisions are based on L-shell readings, K-shell readings, or both.

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE

Performance parameters shown on this sheet are calculated from the EPA/HUD evaluation using archived building components. Three rounds of tests were conducted on approximately 150 test locations in each round.

One round of testing was conducted March 1995 using a single instrument with an October 1994 source at 10 mCi initial strength while running software version 1.2C in a fixed-time mode with nominal 20-second readings for L-shell results or 120-second readings for K-shell results.

The two other rounds of testing were conducted December 1997 using three different instruments, each running software version 5.1. Two of these instruments had new sources installed November 1997, the other instrument had a new source installed December 1997, all with 10 mCi initial strength. The December 1997 testing was performed in the variable-time paint test mode "K & L + Spectra" using the "Combined Lead Reading" with 2-sigma confidence interval as the stopping point of the measurement.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm^2 in the NIST Standard Reference Material (SRM) (e.g., for NIST SRM 2579, use the 1.02 mg/cm^2 film). Measurements should be bracketed by successful XRF calibration check readings. XRF calibration checks are performed at the beginning and end of the day's inspections or at extended delays in testing, and (at least) every four hours during inspections or at a frequency recommended by the manufacturer, whichever is more stringent. If readings are outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instrument into control before XRF testing proceeds. Measurements which are not bracketed by successful calibration checks should be considered suspect.

EVALUATING THE QUALITY OF XRF TESTING

Randomly select ten testing combinations for re-testing from each house or from two randomly selected units in multifamily housing. (A testing combination is a location on a painted surface as defined in Chapter 7 of the HUD Guidelines.) For testing combinations involving up to four walls in a room, each wall is classified on its individual XRF reading. (See Chapter 7 for testing procedures if there are more than four walls in a room, and for testing exterior walls.)

For instruments running software version 5.1 (or equivalent), conduct the test in the variable-time paint test mode "K & L + Spectra" using the "Combined Lead Reading" with 2-sigma confidence interval as the

stopping point of the measurement. For instruments running software version 1.2C (or equivalent) in the fixed-time mode, use either 20-second readings for the L-shell results or 120-second readings for the K-shell results, as described in the "Classifications of Results" section below.

Conduct XRF re-testing at the ten testing combinations selected for re-testing.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below.

Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. Do not correct the original or retest results for substrate bias. In single-family and multifamily housing, a result is defined as a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF results.

Compute the average of all ten retest XRF results.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

BIAS AND PRECISION:

Bias and precision data were not computed for instruments using software version 5.1 and taking variable mode readings. (See Appendix B, Section B.3.2 of the document titled *Methodology for XRF Performance Characteristic Sheets*, EPA-747-R-45-008, September 1997). During the 1997 testing, there were 12 testing locations with laboratory-measured lead levels equal to or greater than 4.0 mg/cm^2 lead which were tested using two instruments in the variable-time paint test mode. None of these testing locations had XRF readings less than 1.0 mg/cm^2. These data are for illustrative purposes only. Substrate correction is not recommended for this XRF instrument.

The bias and precision data given below are for instruments running software version 1.2C (or equivalent) and were computed without substrate correction using the 20-second L-shell readings from samples with

reported laboratory results less than 4.0 mg/cm^2 lead. Readings reported by the instrument in the "*x*" or ">>*x*" format were not used in the computation. During the 1995 testing there were 15 test locations with a laboratory reported result equal to or greater than 4.0 mg/cm^2 lead. Of these, 12 readings were reported in the ">*x*" or ">>*x*" format, but of the 3 remaining, 1 had an XRF reading less than 1.0 mg/cm^2.

Bias & Precision Results for Niton Model XL-309 Instruments Using Software Version 1.2C (or equivalent)

MEASURED AT	SUBSTRATE	BIAS (mg/cm^2)	PRECISION* (mg/cm^2)
0.0 mg/cm^2	All	0.0	<0.1
0.5 mg/cm^2	All	0.0	0.2
1.0 mg/cm^2	All	0.0	0.3
2.0 mg/cm^2	All	-0.1	0.5

*Precision at 1 standard deviation

CLASSIFICATION OF RESULTS:

This section describes how to apply information displayed by this instrument to determine the presence or absence of lead in paint using the procedures recommended in Chapter 7 of the HUD Guidelines. These guidelines recommend classifying XRF results as positive, negative, or inconclusive compared to the lead-based paint 1.0 mg/cm^2 standard.

For Niton Model XL-309, 701-A, 702-A, and 703-A instruments running software version 5.1 (or equivalent), XRF results are classified using a threshold. There is no inconclusive classification when using the threshold for instruments running software version 5.1. In single-family and multifamily housing, an XRF result is a single reading taken on each testing combination. (A testing combination is a location on a painted surface as defined in Chapter 7 of the HUD Guidelines.) For testing combinations involving up to four walls in a room, each wall is classified on its individual XRF reading. (See Chapter 7 for testing procedures if there are more than four walls in a room, and for testing exterior walls.) For computing the XRF result, use all digits that are displayed by the instrument as the "Combined Lead Reading." Results are classified as positive (i.e., ≥ 1.0 mg/cm^2), if greater than or equal to the threshold, or negative (< 1.0 mg/cm^2) if less than the threshold. Threshold values, provided in the tables above, were determined by comparing XRF test results to the 1.0 mg/cm^2 standard.

For Niton Model XL-309 instruments running software version 1.2C (or equivalent), additional procedures are needed to classify readings because this software displays readings <u>and</u> ancillary information useful for classification purposes. An algorithmic procedure is described that makes use of the XRF reading and other displayed information.

The algorithm for classifying results is first applied to 20-second nominal L-shell readings followed by 120-second nominal K-shell readings to resolve inconclusive results, or to recommend laboratory analysis of paint-chip samples, if necessary. A listing of laboratories recognized by the EPA National Lead Laboratory Accreditation Program (NLLAP) for the confirmational analysis of inconclusive results is available from the National Lead Clearinghouse at 1-800-424-LEAD.

XRF results are classified using threshold values for the Model XL-309 software version 1.2C (or equivalent). Results are classified as positive if greater than or equal to the threshold, and as negative if less than the threshold. There is no inconclusive classification when using threshold values. However, in some cases, inconclusive results still may be obtained regardless of whether decisions are based on L-shell readings, K-shell readings, or both, as described below. Use all digits that are reported by the instrument. Threshold values, which were determined for comparing results to the 1.0 mg/cm^2 standard, are provided in the table above.

This instrument displays its lead-based paint measurements as both L-shell and K-shell readings based on

the corresponding L-shell and K-shell X-ray fluorescence (refer to Chapter 7 of the HUD Guidelines for more details). The L-shell readings (or L-readings) are displayed as a numerical result alone, or as a numerical result preceded by either one greater-than symbol (">") or preceded by two greater-than symbols (">>"). The two greater-than symbols will only be displayed when the detected lead level is greater than 5.0 mg/cm^2. Since the maximum lead level reported by this instrument is 5.0 mg/cm^2, lead levels greater than 5.0 mg/cm^2 are displayed as ">>5.0". Other examples of how L-readings can be displayed (in mg/cm^2 units) are "0.6" and ">0.9". The numerical display alone implies that the instrument measured the lead in the paint at the displayed level using L-shell X-ray fluorescence; 0.6 mg/cm^2 in the example. A number preceded by a single greater-than symbol indicates that the measurable lead is deeply buried in the paint and the detected lead level is greater than the displayed value. In the example, >0.9 indicates that the instrument detected lead deeply buried in paint at a level greater than 0.9 mg/cm^2. K-shell readings (or K-readings) are displayed in one of two ways: 1) as a single K-reading plus and minus a "precision" value or 2) as an upper K-reading and lower K-reading.

The same method is used for testing in single-family and multifamily housing. The HUD Guidelines recommend taking a single XRF reading on a testing combination. (A testing combination is a location on a painted surface as defined in Chapter 7 of the HUD Guidelines.) For testing combinations involving up to four walls in a room, each wall is classified on its individual XRF reading. (See Chapter 7 for testing procedures if there are more than four walls in a room, and for testing exterior walls.)

A. Take a single 20-second nominal reading on each testing combination.

B. Classify the L-reading based on the type of information displayed.

<u>If two greater-than symbols are displayed then</u>:

- Classify the >>5.0 L-reading as POSITIVE

<u>If one greater-than symbol is displayed then</u>:

- Classify the L-reading as POSITIVE if the numerical result that follows the greater than symbol is equal to or greater than 1.0.

- Classify the L-reading as INCONCLUSIVE if the numerical result that follows the greater than symbol is less than 1.0.

<u>If the numerical L-reading is displayed alone (that is, without any preceding greater-than symbols) then</u>:

- Classify the L-reading as POSITIVE if the numerical result is equal to or greater than 1.0.

- Classify the L-reading as NEGATIVE if the numerical result is less than 1.0.

C. Resolution of results classified as inconclusive.

All results classified as inconclusive above require further investigation. Take a 120-second nominal XRF reading and use the K-shell reading. In multifamily housing, resolve the inconclusive classification with a single K-shell reading or laboratory analysis as described below.

- Classify the result as POSITIVE if either the K-reading minus the displayed precision value <u>or</u> the lower K-reading is equal to or greater than 1.0.

- Classify the result as NEGATIVE if either the K-reading plus the displayed precision value <u>or</u> the upper K-reading is less than 1.0.

- Classify the result as INCONCLUSIVE if neither of the above decision rules using the K-reading provided a classification which can occur when the upper K-reading is equal to or greater than 1.0 or the lower K-reading is less than 1.0.

- To resolve a remaining INCONCLUSIVE classification, remove a paint-chip sample as described in Chapter 7 of the HUD Guidelines and have it analyzed by a qualified laboratory as described in Chapter 7.

TESTING TIMES (FOR SOFTWARE VERSION 5.1):

For the variable-time paint test mode "K & L + Spectra," the instrument continues measuring until a positive or negative result is indicated relative to an action level (1.0 mg/cm^2 for archive testing) and the current precision, or until the reading is terminated by moving the instrument away from the testing surface. None of the variable mode readings were terminated because of the two-minute limit used for archive testing. The following table provides testing time information for this testing mode. Source strength and type of substrate will affect actual testing times.

Testing Times for Instruments Running Software Version 5.1						
Variable mode testing times (seconds)						
	All data			Median for laboratory—measured lead levels (mg/cm^2)		
Substrate	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 <= Pb < 1.0	1.0 <= Pb
Wood Drywall	6	8	15	6	20	5
Metal	6	13	20	13	20	6
Brick Concrete Plaster	6	11	20	9	18	6

DOCUMENTATION:
This PCS was developed in accordance with the methodology in the EPA report titled *Methodology for XRF Performance Characteristic Sheets* (EPA 747-R-95-008, September 1997). This report provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Clearinghouse at 1-800-424-LEAD.

This XRF Performance Characteristic Sheet was developed by the Midwest Research Institute (MRI) under a grant from the U. S. Environmental Protection Agency and a separate contract between MRI and the XRF manufacturer. The U.S. Department of Housing and Urban Development (HUD) has determined that the information provided here is acceptable when used as guidance in conjunction with Chapter 7, Lead-Based Paint Inspection, of HUD's *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*. While MRI reserves the right to revise this XRF Performance Characteristic Sheet at any time, HUD's statement of acceptance would not apply to a revision until HUD has reviewed the revision and made a determination of its acceptability.

APPENDIX G

EIELSON UTILIDOR DESIGN GUIDE

(Revised for Repair Utilidors, Phase VI)

I. General Utilidor Construction Criteria

1. In utilidor, steel beam anchors shall be used. Steel beam anchors consist of welded steel plates, channels and wide-flange sections sized as required for pipe system forces. Each steel beam extends between welded steel plates anchored in the walls. Wall anchors for steam and condensate piping shall have bolts extending all the way through the walls with bolts sized according to pipe system forces. Floor anchors must be approved by Utilidor Shop Supervisor, [Al Myers 377-2172].

   In manhole chambers, steel column anchors that extend between welded plates anchored to the ceiling and floor are acceptable upon approval. Install ceiling plate as described for beam anchor plates. Install bottom plate on a concrete housekeeping slab at least 4 inches above the floor and provide corrosion protection coatings on steel within 18 inches of the floor. Refer to project specifications and design criteria for approved corrosion protection.

2. Floor anchors shall be cast-in-place concrete.

3. ASTM C533, type 1 calcium silicate pipe insulation with aluminum jackets should be used to insulate pipe in high-traffic areas including manholes. In all other locations, use fiberglass insulation with button or Velcro®-fastened padded insulation for all valves and fittings.

4. Manholes will have Bilco-style aluminum lids (J-AL, JD-AL or approved equal) with fixed ladders. Frost lids will also have Bilco-style aluminum insulated lids. Some lids may open at the center of the ladder in two halves, opening right and left. Some lids may open at the center of the ladder toward the back of the manhole. See drawing example. *Repair Utilidors, Phase VI: Refer to Design Criteria Section 02509, Access Hatch.*

5. Welding shall be preformed with qualified procedures with performance qualified welders in accordance with latest edition of ASME BPV Section IX code and ANSI B31.1. A qualified weld inspector shall perform 100% visual and 10% radiographic weld inspection. A complete weld inspection report shall be provided at conclusion of job as a record document. *Repair Utilidors, Phase VI clarification: 100% visual inspection of final welds and random visual inspection of 10% of weld passes.*

6. Air Force Civil Engineering Utilidor and or Water Distribution Shop personnel will perform periodic site inspections and report deficiencies to the project inspector.

7. Cracked or damaged utilidor lids must be replaced prior to backfilling. Joints between utilidor lid sections shall be sealed with expanding foam and an elastomeric sealer. *Repair Utilidors, Phase VI: See Design Criteria Section 02509, Utilidor Lid Seal.*

8. Guide and support all steam, condensate, and domestic water piping in accordance with the respective expansion joint manufacturer's recommendations. *Repair Utilidors, Phase VI: See Design Criteria Section 02559, Alignment Guides and Expansion Joints.*

9. Government retains salvage rights. *Repair Utilidors, Phase VI: Specific salvage items are listed on Sheet G1.3.*

10. All utility main shut downs and start-ups will be done by base Utilidor Shop personnel. *Repair Utilidors, Phase VI: See General Notes Sheet, Interruption of Utility Services and, Design Criteria Section 01013, Temporary Utility Service Plan.*

11. *Phase VI: See Plan Sheets for preferred Main Utilidor Pipe Layout Contractor may recommend an alternative pipe support layout. Proposed layout shall maximize aisle access to pipe.*

12. Questions regarding this guide can be directed to Mr. Al Myers (CEOWD – 377-2172) or Mr. Malcolm Nason (CEOW – 377-2264).

II. Steam Distribution and Condensate Return

A. Steam distribution

1. All steam mains or service lateral mains shall be schedule 40 ASTM A106 or A53 black carbon steel pipe and have shielded metal arc welded joints, in the utilidor corridors and the manhole, regardless of size. On smaller diameter piping socket weld fittings are acceptable.

2. All steam trace lines shall be schedule 80 ASTM A106 or A53 black carbon steel pipe and have shielded metal arc welded joints, in the utilidor corridors and the manhole, regardless of size. On smaller diameter piping socket weld fittings are acceptable.

3. Two-inch and smaller diameter pipe used for drain or trap assemblies shall be schedule 80 ASTM A106 or A53 black carbon steel pipe with threaded or welded connections.

4. Valves over two inches shall be 150-pound class outside screw and yoke cast steel valves with class 150 flange.

5. Valves two inches and under shall be 200-pound class *steam*/400-pound class *water*, threaded bronze, union-bonnet gate valves.

6. Valves on straight-line runs of the main distribution shall be flanged regardless of their size.

7. Expansion joints shall be internally- and externally guided packed metal type (Hyspan model 6501 or approved equal). Slip tube shall be schedule 80 with a chrome-plated seal surface. Expansion joints shall be designed to allow injection of packing and lubricant under full operating pressure. Joints shall have 150-pound class flanges with matching raised face companion flanges.

8. All flanges shall be provided with spiral wound, steel ring gaskets with centering rings. Gaskets shall be of appropriate pressure class and temperature rating for selected application. Paper or composition gaskets are not permitted.

9. Flanges shall utilize ASTM A193 grade B7 studs with matching ASTM A194 grade 2H nuts. Do not use bolts. *Phase VI: Install with double nuts.*

10. Provide drip legs with condensate trap assemblies and blow down at steam main low points. For all pipe diameters, drip pocket diameter shall equal the pipe diameter. Blow downs shall be one and one half-inch diameter as a minimum. Install trap assemblies and blow downs as shown in attached detail.

11. Flanged joints in man holes only. Absolutely no flanges on any size piping or fittings except joining valves or expansion joints. No flanged pups, drip legs, or fittings except joining valves or expansion joints. No flanged fittings, drip legs, or pups entering or leaving manholes. They must be welded.

12. Install warm-up valves on each steam isolation valve larger than 4 inches in diameter. Do not install warm-up valves on condensate lines.

13. Welded tee fittings shall be used at connection of service mains or laterals to main distribution lines instead of weld-o-lets when possible. Locate lateral shut-off valves as close to the main as possible followed by properly anchored and guided expansion joints. No elbows, tees or other fittings shall be installed between the main and the shut-off valve. Do not substitute swing joints, flex-pipe or any other device for specified expansion joints. Keep all components in an accessible arrangement.

14. Steam trace is not required in steam distribution or service utilidors. Steam trace is required in fire hydrant service utilidors. Steam trace should be installed in a looped configuration with manually operated isolation valves at the steam distribution main or lateral. Piping shall be not less than 3/4 inch in diameter with welded sockets. Welded joints are acceptable. Manual valves shall be used for steam trace control. Thermostatic valves are not acceptable.

15. Steam distribution main and lateral piping should be supported *at least* every twelve feet to allow for axial pipe movement during expansion and contraction. Roller and shoe supports are preferred.

16. All pipe surfaces shall have a minimum of eight inches clearance from utilidor wall and ceiling surfaces, adjacent piping and other equipment.

B. Condensate return

1. All condensate return piping shall be scheduling 80 ASTM A106 or A53 black carbon steel pipe, shielded metal arc welded regardless of size, in the utilidors and the manholes. For smaller diameter pipe socket weld fittings are acceptable. Flex lines and threaded pipe are not acceptable.

2. Provide drains (one and one-quarter inch minimum diameter) at all low points.

3. Nipples on drip and tracer lines shall be schedule 80.

4. Steam trap assemblies shall be ¾ inch in size and connect steam distribution main and lateral line drip legs and condensate return main or lateral lines via thread-o-lets. Connection to the drip leg shall be via threadolet. Steam traps shall discharge into the condensate return through threadolet connections with one pipe size smaller long-radius elbow welded inside the threadolet. Direct elbow to discharge in direction of flow. Unions shall be schedule 80. Threaded components will be assembled with Teflon tape applied to the male threads; pipe joint compound is not acceptable.

5. Steam traps shall be thermostatic-type with bimetallic regulator element, automatic air discharge, and integral cage unit and strainer (Gestra BK-16, Velan SF-150 or approved equal). Refer to project plan details for typical trap assembly. When steam traps do not have an integral strainer, install strainer upstream of trap and discharge trap to a flash tank. Flash tank discharges to condensate pipe.

6. Steam trap assemblies shall have all valves as close to drip legs, steam or condensate lines as possible, on the first nipple before any fittings. All piping and fittings shall be schedule 80.

7. Expansion joints shall be internally- and externally guided packed metal type (Hyspan model 6501 or approved equal). Slip tube shall be schedule 80 with a chrome-plated seal surface. Expansion joints shall be designed to allow injection of packing and lubricant under full operating pressure. Joints shall have 150-pound class flanges with matching raised face companion flanges.

8. All flanges shall be provided with spiral wound, steel ring gaskets with centering rings. Gaskets shall be of appropriate pressure class and temperature rating for selected application. Paper or composition gaskets are not permitted.

9. Valves over two inches shall be 150-pound class outside screw and yoke cast steel valves with 150-pound class flange.

10. Valves two inches and under shall be *200-pound class steam/400-pound class water,* threaded bronze, union-bonnet gate valves.

III. Domestic Water and Sewer

A. Domestic Water Distribution

1. All main, service and lateral pipe greater than four inches in diameter shall be ANSI C151 ductile iron with ANSI C104 cement lining.

2. Four-inch diameter and smaller pipe shall be schedule 40 ASTM A53 galvanized steel.

3. Joints may be welded, flanged or ANSI/AWWA C606 mechanically connected grooved and shouldered joints. *Phase VI: 4-inch diameter galvanized steel pipe shall have ANSI/AWWA C606 joints. Galvanized steel pipe less than 4-inches may have threaded joints.*

4. Valves larger than two inches shall be 125-pound class, flanged, cast steel gate valves. Service line from the main shall include valves next to the main allowing room for operation and maintenance.

5. Valves two inches and smaller shall be 125-pound class bronze, union bonnet gate valves, *except where noted in plans*. Provide one schedule 40 union adjacent to valve but not between valve and the main. Butterfly and globe valves are not permitted.

6. All flanges shall be provided with one-eighth inch thick rubber gaskets. Use galvanized fasteners.

7. Service lateral piping to hydrants shall not have check valves. Provide Waterous, Kennedy or approved equal hydrants. All hydrants shall be dry-type. Butterfly valves are not acceptable on service lateral to hydrant.

8. Expansion joints shall be laminated bellows-type (Hyspan model 1501 or approved equal). Joint shall feature a stainless steel flow liner and 150-pound class flanges with matching raised face companion flanges. Guide and anchor pipe in accordance with expansion joint manufacturer's recommendations.

B. Sanitary Sewer

1. All main, service and lateral pipe shall be ANSI C151 ductile iron.

2. *Sump pump discharge pipe shall be Schedule 40 ASTM A53 galvanized steel. Pipe diameter shall be as noted in plans. Where sump pumps discharge into a force main or pressure sewer, the sump discharge line shall have (2) two check valves in series.*

3. Joints shall be ANSI/AWWA C606 mechanically connected grooved and shouldered joints. Flexible, restrained, push-on joints meeting ANSI/AWWA C111/A21.11 are also acceptable. Restrained joint fittings and the restraining components shall be Ductile Iron in accordance with applicable requirements of ANSI/AWWA C110/A21.10 and/or C153/A21.53. No-hub joints are not acceptable.

4. *New sewer line shall have the following minimum slopes:*

    - 6 inch services 2%
    - 8 inch 0.40%
    - 10 inch 0.30%
    - 12 inch 0.22%
    - 14 inch 0.17%
    - 16 inch 0.14%
    - 20 inch 0.10%
    - 24 inch 0.08%
    - 30 inch 0.06%

5. Sewer lines eight inches in diameter and greater can be direct buried.

6. Provide at least one clean out in each manhole. Sewers eight inches and larger in diameter shall have Y-style clean outs. ~~Sewers smaller than eight inches in diameter shall have saddle-style clean outs with removable hatch measuring no less than 4 inches by 8 inches~~ *See plans for typical cleanout*.

7. All sewer mains and laterals will be properly anchored. Concrete saddles are preferred.

8. *Utilidor repair projects utilize existing slopes and pipe alignments determined by project boundary points of connection*. Conform with Alaska Department of Environmental Conservation (ADEC) requirements for pipe separation *and installation in utilidors*.

--END OF SECTION--

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SECTION 01012

DESIGN AND CONSTRUCTION DELIVERABLES/PROCEDURES

PART 1 GENERAL

Attachments: Attachment A, Design Certification and Transmittal Letter
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Attachment C, Sample Submittal Paragraph
DD Form 1354 - Transfer and Acceptance of Military Real Property
Instructions for Preparation of DD Form 1354
Index of UFGS Specifications

1.1 SUMMARY

a. Design

This section includes general requirements for developing and submitting a design including preparation of drawings, specifications, design analysis and other design deliverables conforming to the requirements contained in this section. Distribution requirements for design deliverables is also covered in this section. See Section 01013 65 and 100 PERCENT DESIGN REQUIRMENTS and for specific requirements.

b. Construction

This section includes distribution requirements for the construction set of design deliverables and distribution requirements for DD Form 1354 and as-built drawings. Included also are the construction submittal classifications for use in editing the technical guide specifications and instructions on revisions to accepted design during construction.

1.2 DEFINITIONS

1.2.1 Contractor

Firm or company to whom award was made to design and construct the REPAIR UTILIDORS - PHASE VI, located at EIELSON AFB, ALASKA.

1.2.2 Design

Documents or deliverables, as defined in this section, prepared by or under the direct supervision of registered professional architects and engineers and proposed by the Contractor to meet the requirements of this solicitation.

1.2.3 Design Drawings

Documentation showing in graphic and quantitative form the extent, design, location, relationships, and dimensions of the construction to be provided by the Contractor. (Note: Shop Drawings, as defined in Section 01330, "Submittals Procedures" are not to be provided until after design drawings are determined satisfactory for construction.)

1.2.4 Designer

Architects and Engineers (A-E) associated with the Contractor who are responsible for (1)preparing the design documents, (2) checking construction submittals, considered extensions of design (A-E), for compliance with the prepared Construction set design documents and (3) have the qualifications and experience specified herein.

1.2.5 Request for Proposal (RFP)

Documents furnished to prospective offerors containing proposal information and specifying criteria and project requirements for design and construction of a REPAIR UTILIDOR - PHASE VI located at EIELSON AFB, ALASKA. The documents include Division 1 specifications, criteria (specifications and appendices)attached to Section 01010 DESIGN CRITERIA REQUIREMENTS, and the RFP drawings.

1.3 QUALITY ASSURANCE

1.3.1 Construction Personnel Experience

The Contruction Personnel experience shall be as submitted per the requirements of Section 00100 PROPOSAL SUBMISSION REQUIREMENTS. If, because of reasons beyond the control of the construction firm, the named individuals are not able to fulfill this obligation, replacement personnel with similar skills and experience shall be presented for acceptance by the Contracting Officer. The Contractor shall obtain the Contracting Officer's wrtitten consent before making any substitution for these designated personnel.

1.3.2 Designer Qualifications and Experience

The designer qualifications and experience shall be as submitted per the requirements of Section 00100 PROPOSAL SUBMISSION REQUIREMENTS. If, because of reasons beyond the control of the design team, the named individuals are not able to fulfill this obligation, replacement personnel with similar education and experience shall be presented for acceptance by the Contracting Officer. The Contractor shall obtain the Contracting Officer's wrtitten consent before making any substitution for these designated personnel.

1.4 SUBMISSION OF DESIGN DRAWINGS, SPECIFICATIONS AND DESIGN ANALYSIS

1.4.1 Design Certification

Within <u>each design submittal,</u> the Contractor shall certify that all items submitted in the design documents (after construction award) comply with Division 1 specifications (including attachements and appendices) and mandatory requirements of the UFGS. The criteria specified in this RFP are binding contract criteria and in case of any conflict, after award, between the RFP criteria and Contractor's submittals, the RFP criteria will govern unless there is a written and signed agreement between the Contracting Officer and the Contractor waiving a specific requirement. The Contractor shall present with the letter of transmittal for each design submittal (including the 100% corrected design (backcheck) submittal) a certification that the submittal (plans, specifications, design analysis, etc.) complies with the requirements stated above, similar to that shown at Attachment A of this section.

1.4.2 Deviations

Deviations from the RFP technical requirements shall be identified in the letter of transmittal and design certification letter. Deviations from the RFP technical requirements will be considered and accepted by the Contracting Officer, if the changes results in a significant improvement to the project or it exceeds the minimum RFP technical requirements.

1.4.3 Field Inspection

The Contractor shall verify field conditions which are significant to design, by field inspection, researching and obtaining all necessary existing facility as-built drawings and reproducing them for his own use as necessary, and discussing status with knowledgeable personnel. The information shall be reflected in the design documents.

1.4.4 Drawings

1.4.4.1 Software Requirements

All design drawings shall be done by the Contractor using AutoCAD 2000 file format. Format shall conform to the Alaska District CADD Standards

1.4.4.2 RFP Drawings

The drawings furnished with this solicitation will be furnished to the Contractor in AutoCAD 2000.dwg file format. See Section 00800 SPECIAL CONTRACT REQUIREMENTS for when the RFP Drawings will be made available.

1.4.5 Design Documents

Design documents shall include construction drawings, specifications, design analysis, and other design deliverables for categories such as, but not limited to, structural, mechanical, electrical, grading, drainage, paving, and outside utility services. Specifications shall be in sufficient detail to fully describe and demonstrate the quality of materials, the installation and performance of equipment, and the quality of workmanship. Detailing and installation of all equipment and materials shall comply with the manufacturer's recommendations. The design analysis shall be for each discipline of work and shall include all features with the necessary calculations, tables, methods and sources used in determining equipment and material sizes and capacities, and shall provide sufficient information to support the design.

1.4.6 Design Reviews

A minimum of one design review during design will be held at Eielson AFB at the 65 and 100 percent completion stages of the final design. A backcheck review will be made on the Corrected 100 percent design. Once that the Corrected 100 percent design is reviewed and determined to be satisfactory for the purpose of beginning construction, the Contractor shall prepare and distribute sets of documents for construction. The Contractor shall attend the design reviews, visit the site and make other trips as necessary during the design to accomplish the work.

1.4.7 Document Packaging

Each design submittal shall be stamped "For Review Only (65% or 100%) Design", and each sheet of the drawings shall also be stamped. The backcheck design submittal(s) after the Government review of the 100 percent complete site and utility design shall be stamped "100% Corrected Design"; and each sheet of the drawings shall also be stamped. The 100% Corrected Design submittal is for making corrections resulting from review comments and for preparing the final project documents. No additional time for completion of the contract will be granted to the Contractor due to insufficient design submittals. See paragraph 3.7.6 "Government Design Review and Acceptance" for additional requirements.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 DRAWINGS

Prepare, organize, and present drawings in the format specified herein. Provide drawings complete, accurate and explicit enough to show compliance with the RFP requirements and to permit construction. Drawings illustrating systems proposed to meet the requirements of the RFP performance specifications shall reflect proper detailing for each such system to assure appropriate use, proper fit, compatibility of components and coordination with the design analysis and specifications required by this section. Coordinate drawings to ensure there are no conflicts between design disciplines and between drawings and specifications. For specific drawings and requirements, see Sections 01013 65 and 100% DESIGN REQUIREMENTS. The following subparagraphs cover general drawing requirements.

3.1.1 Drawings Format

Drawings shall follow the format presented in Appendix C of ER1110-345-700 for standard and definitive design drawings and Alaska District USACE CADD guidelines. Drawings shall follow the graphic standards and title block selections to match Alaska District USACE CADD standards. The conceptual drawings presented in the DB/RFP shall not be presented in lieu of design drawings. Full size drawings are considered 28 inches x 40 inches. Half-size drawings are considered 14 inches x 20 inches. Recommended drawing scales are specified in Sections 01013 65 and 100% DESIGN REQUIREMENTS. The Cover Sheet of the Contractor prepared drawings shall bear the stamp or seal and signature of the registered architect or appropriate engineer responsible for the work and proposed to meet the RFP requirements. Drawing code numbers for the design and construction drawings shall be as follows:

AF 71-10-313

3.1.2 Drawings Sequence

Arrange drawings by design discipline in accordance with Alaska District CADD Standards.

3.1.3 Drawings Required

As a minimum, the Contractor shall prepare and submit the following design drawings:

a. Title Sheet, Index of Drawings, Legend and Abbreviations and Soil Borings.

b. Civil Drawings

c. Utility Drawings (Water Supply, Wastewater, Gas, and Electrical)

d. Structural Drawings

e. Mechanical Drawings

f. Plumbing drawings

g. Electrical Drawings

h. Fire Protection Drawings

3.2 SPECIFICATIONS

3.2.1 Project Specifications

3.2.1.1 General Requirements

The Contractor shall develop project specifications utilizing the Division 1 Specifications furnished with this RFP; unedited Unified Facilities Guide Specifications (UFGS); designated specification sections furnished with this RFP; and the development of additional project specifications not covered by UFGS. Guide specifications may be downloaded in Acrobat (Read Only) .pdf file format or Specs Intact SGML (zipped) file format at the following internet address, http://www.ccb.org.

The Contractor shall utilize Specsintact software.

Minimum and recommended hardware requirements are as follows:

MINIMUM REQUIREMENTS	RECOMMENDED REQUIREMENTS
486 (Windows 98/2000 or XP) Pentium or Higher Processor	486 (Windows 98/2000 or XP) Pentium or Higher Processor
128+MB RAM (For Workstation) 256+MB RAM (For Server)	128+MB RAM (For Workstation) 256+MB RAM (For Server)
24MB (local) 56MB (Network) Free Hard Drive Space	50 MB (local) 75 MB (Network) Free Hard Drive Space
SVGA Monitor	SVGA Monitor with 800 x 600 resolution
3 1/2 inch 1.44 MB floppy drive	3 1/2 inch 1.44 MB floppy drive
CD ROM Drive	CD ROM Drive
Laser Printer	Laser Printer

Note: Additional Hard Drive space is required for storing project specifications and masters.

3.2.1.2 Technical Specifications

The Contractor shall be required to use unedited UFGS and designated unedited CEGS sections for developing project specifications. Specification paragraphs and subparagraphs shall not be rewritten to lessen the quality of the original master technical specification sections, unless directed otherwise. The technical guide specifications describe the type and quality of material and installation normally acceptable for Corps of Engineers Construction, and often represent specific agreement between the Corps and the applicable industry. The provision of the technical guide specification should not be changed without justification. Justifications and identification for additional materials shall be identified in the design analysis under the appropriate design discipline. Designer notes shall not appear in any design submittals. Only bracketed choices and inapplicable items shall be marked (underlined for additions, strikeout for deletions) and submitted in the 65 and 100 percent design specification submittals. These items shall be removed in the corrected 100 percent design specifications submittal. The Contractor shall complete the editing of all options in these specifications. Where designer notes are provided, the Contractor shall edit the choice in accordance with the recommendations and guidance of the Notes, except where specific guidance has been provided with this RFP (i.e. submittal paragraph). See additional requirements in Section 01013 65 and 100 PERCENT DESIGN REQUIREMENTS.

3.2.1.3 Editing Technical Specifications (Designated UFGS)

(1) Incorporating Established RFP Requirements into Guide Specifications

Where specific requirements in regards to materials, methods and end function requirements are provided in the edited RFP Division 1 and Sections attached to Section 01010 DESIGN CRITERIA REQUIREMENTS (appendices and Division 2-16 specification criteria) provided in this RFP, the unedited Unified Facilities Guide Specifications (UFGS)shall be edited to reflect these requirements. Variations to these requirements will not be permitted, unless authorized as a design deviation by the Contracting Officer.

(2) Requirements of Guide Specifications Not Established By RFP Requirements

Where specific direction has not been provided in regards to materials, methods and end function requirements, the final requirements will be a result of the completed design by the Contractor.

The applicable unedited UFGS Sections, Divisions 2 through 16, shall be edited to:

(a). Provide the highest quality that can be provided within the cost and time authorized;
(b). Meet or exceed the criteria requirements established by the solicitation;
(c). Meet applicable Federal, State and Local Codes; and
(d). Do not sacrifice aesthetics, user requirements established by the solicitation, life-cycle economy, energy conservation, environment protection or life safety.

Lessening the quality of the UFGS specifications shall not be made unless the Contractor provides the Contracting Officer documentation as

to why the standards established by the UFGS Sections cannot be made (See editing requirements above). This documentation shall be included as a design deviation. See Paragraph: DESIGN CERTIFICATION below.

(3) ADDITIONS: If the specifications of the UFGS does not cover a feature that is in the project, new sentences and/or paragraphs shall be inserted in the proper locations to adequately cover the feature of work. Additions shall not lesson the quality of materials indicated by the specifications. If a new material is added, it shall be properly referenced in "Applicable Publications," "MATERIALS," "SUBMITTAL," "TESTS," and "INSTALLATION" paragraphs, as applicable.

(4) DELETION OF INAPPLICABLE TEXT MATERIAL, AS NECESSARY, TO TAILOR THE SPECIFICATIONS TO FIT THE PROJECT: After deletion has been made to all inapplicable paragraphs, subparagraphs, choices, and schedules from the body of the specifications (including but not limited to the correction of lists in "Submittals," "Tests," and "Installation" paragraphs), delete all nonapplicable references listed in the preceding "APPLICABLE PUBLICATIONS" and "MATERIALS" paragraphs. Deletions shall not lessen the quality of materials indicated by the specifications.

(5) Do not remove any special code markings for submittals, references, tests or section references, unless the text is not required.

(6) REFERENCES TO SPECIFICATION SECTIONS. The Contractor shall be responsible for coordinating section references, along with the technical requirements, to specific specification sections (number and title) within the project specifications. Section references (title and number) shall be revised to reflect the titles and numbers of specification sections used.

(7) REFERENCES. The Contractor shall be responsible for coordinating references or publications referenced in the text of each specfications with those references listed at the beginning of each section. See paragraph: Reports below. The Specsintact Software removes references or publications not referenced in the text from the Reference Article, when printing from the Jobs menu.

(8) SUBMITTALS. Each section of the specifications includes a submittal paragraph which lists all applicable Contractor submittals. Submittals shall be properly marked as outlined in the SpecsIntact documentation and in this section. These codings are used for automatic generation of the Submittal Register in the SpecsIntact Software. These codings must NOT be deleted from the text, unless the submittal is not required. The Submittal Item text between the coding shall be identical (word for word, including punctuation and spacing) to the paragraph text in the reference paragraph(s). Text may be either upper or lower case letters. An example of a submittal paragraph is provided in Attachment C, "Sample Submittal Paragraph".

During this design phase, the Contractor's Designer(s) shall develop a complete list of required construction submittals in each technical specification. The list is to be used in preparing the Submittal Register for approval by the Contracting Officer Representative (COR). The example Submittal Register furnished with this Solicitation was created using SpecsIntact Software. The Contractor shall replace this example Submittal Register with the actual submittal register developed

from the completed design specifications. This list is not all inclusive and additional submittals may be required as directed by the COR. Both the attached sample and the Contractor-generated submittal registers identify only the submittal section, type of submittal, description of item submitted, paragraph number related to submittal item (section submittal paragraph if none listed), submittal classification (G or FIO), and submittal reviewer identifier (AE or AO). See the below discussion on submittal classifications for additional information.

See Section 01330 SUBMITTAL PROCEDURES, for complete instructions related to submittal descriptions, classifications, numbers, and submittal process. Unless directed otherwise by the Contracting Officer, the words "Government Approval" associated with "G" designated submittals shall be interpreted as defined herein and in section 01330 SUBMITTAL PROCEDURES.

Submittal Classifications defined in Section 01330 are G-AE, G-AO, and FIO. One of these designations shall be used for all submittal requirements. For each submittal requirement in the Guide specification, designers shall indicate a submittal type (G-AE, G-AO, or FIO) or shall delete the requirement for the submittal if it is not required. The references to submittal types in the designer notes of the technical guide specifications shall be disregarded and submittals shall be designated G-AE, G-AO, or FIO as determined by the Designer in accordance with the instructions in this section and Section 01330 SUBMITTAL PROCEDURES. There shall be no other acronyms used for submittals in the submittal register.

To designate a submittal item as FIO, mark the semi-colon following the submittal item and also the submittal tags up to the Item tag for deletion (i.e. "; [ ], [ ]"). Designers shall identify submittal classifications for all required submittals.

(9) USE OF UFGS SECTIONS

UFGS sections are joint effort of the U.S. Army Corps of Engineers (USACE), the Naval Facilities Engineering Command (NAVFAC) and the Airforce Civil Engineer Support Agency (AFCESA). Unless directed to otherwise, use UFGS sections and Alaska District Guide Specifications for Utilidor Work. Available UFGS sections include sections that have a 5 digit section number with either the letters "A" or "N" following the section number or no letter following the section number. The letters designate the specification proponent ("A" is for USACE and "N" is for NAVFAC). The Contractor shall use sections with the letter "A" following the section number or sections with no letter following the section number. Sections with the letter "N" following the section number shall not be used unless there is no other available section, the solicitation directs the use of these sections or the available sections do not meet the solicitation requirements. Do not use Division 1 Sections that have the letter "N" following the section number. Where UFGS sections include tailoring options for both Army and Navy, use the Army tailoring option. Where conflicts exist that cannot be resolved, the Contracting Officer shall be contacted to resolve the issue.

3.2.1.4 Developing Additional Project Specifications

If the need should arise for developing project specifications on

materials/items not covered in or by the UFGS, the Contractor shall develop specifications utilizing commercial Construction Specifications Institute (CSI), 16 Division, 3 Part Section Format. These specifications shall conform to the applicable criteria requirements indicated in the solicitation. For these specification sections, write at the Mediumscope level of detail as described in CSI Masterformat. Use Mediumscope level section numbers and titles as identified in CSI Masterformat. Adjust section numbers which conflict with the specifications used in the Project Specifications. Each of these developed specification sections shall be in the same format as the CSI format specifications included in the UFGS (including the submittal paragraph). Commercially available guide specifications such as "SpecText" published by The Construction Specifications Institute and "MasterSpec" published by The American Institute of Architects or Unified Facilities Guide Specifications (UFGS) may be used, subject to the format, coding and submittal paragraph requirements. References to the "Architect/Engineer" and the "Owner" shall be changed to refer to the "Government" or "Contracting Officer," as appropriate. The specifications shall clearly identify, where appropriate, the specific products chosen to meet the requirements of the specifications (manufacturers' brand names and model numbers or similar product information). The Contractor shall be responsible for coordinating references, along with the technical requirements, to specific specification sections (number and title) within the project specifications. Section references (title and number) shall be revised to reflect the titles and numbers of specification sections used.

3.2.1.5 Divisions 0 and 1 Sections

Include without change the Division 0 and 1 specifications listed below and contained in the RFP as part of the 100 percent design submittal:

00800: SPECIAL CONTRACT REQUIREMENTS
01013: 65 AND 100 PERCENT DESIGN REQUIREMENTS
01015: SPECIAL ITEMS
01180: RADIOACTIVE MATERIALS PROCEDURES
01270: MEASUREMENT AND PAYMENT
01312: QUALITY CONTROL SYSTEM
01320: PROJECT SCHEDULE
01330: SUBMITTAL PROCEDURES
01355: ENVIRONMENT PROTECTION
01356: STORM WATER POLLUTION PREVENTION MEASURES
01420: SOURCES FOR REFERENCE PUBLICATIONS
01451: CONTRACTOR QUALITY CONTROL
01500: TEMPORARY CONSTRUCTION FACILITIES
01525: SAFETY AND OCCUPATIONAL HEALTH REQUIREMENTS
01582: AIR FORCE PROJECT SIGN
01670: RECYCLED / RECOVERED MATERIALS
01780: CLOSEOUT SUBMITTALS

Copies of these sections will be furnished (upon request) to the successful offeror in Specsintact. Any other Division 1 Specifications required by the Contract shall be the responsibility of the Contractor.

3.2.2 Format for Project Specifications

Submit the project specifications, including a section and project Table of Contents, printed with a word processor (Using Specintact software) using good quality white paper. For 65 and 100 percent design submittals, editing of the UFGS shall be shown as indicated in the Specsintact

documentation for text deletions and for text insertions. The corrected 100 percent specifications with review comments incorporated shall be cleaned up (markings for insertion and deletion removed) and submitted in both hard copy and on magnetic media (A Microsoft Windows compatible CD-ROM and compatible with the "Specsintact" micro computer software package.). The Cover page and any attachments to specification sections shall be prepared in a Microsoft Word (compatible with Microsoft Word 2000)format. Carbon copies are not acceptable.

Format shall be as outlined in the Specsintact documentation.

Each specification section shall include a Section Table of Contents which is combined with the page numbering of the specification section.

The Cover page shall be similar to the RFP Cover page and shall include:

a. Project title, Project Number, activity and location

b. Construction contract number

c. Construction Contractor's name and address

d. Design firm's name and address

e. Names of design team members (Designers of record) responsible for each Contractor prepared technical discipline of the project specification

f. Name and signature of a Principal of the design firm

The Table of Contents shall list the 16 Divisions contained in CSI format and the specification section numbers and titles contained in the project specification.

3.2.3 Reports

The Contractor shall submit the following Specsintact reports with the 100 percent and Corrected 100 percent design submittals: Address Verification, Reference Verification, Section Verification, Bracket Verification, Submittal Verification, Submittal Register and any other reports requested by the Contracting Officer. References shall be reconciled when printing reports. The reports to be submitted for review shall be after the Contractor has corrected the errors generated by these reports. From the errors generated by the reference verification reports, fix only those errors where there is a discrepancy with the issue date of a publication (i.e., NFPA 70, revise to the latest code requirement). Address, Reference and Submittal Reconcilation shall be completed prior to submittal of the 100 percent design.

3.2.4 Construction Submittals

All construction submittals shall be in accordance with Section 01330, "SUBMITTAL PROCEDURES".

Construction submittal types and products, including the submittal description numbers and data package numbers, shall be included in the specification sections, where required. When appropriate, use specific product terms instead of the generic product terms contained in the specifications sections (e.g., asphalt shingles, built-up roofing, EPDM

single ply, etc. vs roof covering; concrete masonry units, brick, metal siding, etc. vs exterior skin; mineral fiber board, block, batt or blanket, polystyrene, polyurethane, polyisocyanurate board vs insulation).

3.2.4.1 Submittals Register (Form)

Prepare and maintain a Submittals Register. The Submittal Register (ENG Form 4288 "Submittal Register" shall be prepared using Specsintact Software. Additional instructions for completing the form are contained in Section 01330, "SUBMITTAL PROCEDURES."

Fill in columns "c" through "f" and submit with the 100 percent design submittal. The Submittal Register will be returned to the Contractor along with the reviewed and accepted design.

Resubmit the Submittal Register as a construction submittal as required in Section 01330, "SUBMITTAL PROCEDURES." The Contracor shall provide an electronic copy of the accepted submittal register (navy4288.txt file), generated by the Specsintact software, three (3) working days prior to the pre-construction conference. The navy4288.txt file will be loaded into RMS by the Government. Remaining columns will be filled in at the appropriate time and by the appropriate authorities during construction.

3.3 DESIGN ANALYSIS

Prepare design analysis (basis of design and calculations) for each design discipline. Specific requirements relative to the technical content to be provided are specified herein and in Section 01013 65 AND 100 PERCENT DESIGN SUBMITTALS. The design analysis shall be a presentation of facts to demonstrate that the concept of the project is fully understood and that the design is based on sound engineering. The design analysis for each discipline shall include:

a. A basis of design consisting of:

(1) An introductory description of the project concept which addresses the salient points of the design;

(2) An orderly and comprehensive documentation of criteria, rationale, assumptions and reasoning for system selection.

b. Calculations required to support the design.

c. Project Engineering Considerations and Instructions (ECI) for Final Design Analysis.

The Contractor shall not make reference to the RFP solicitation to avoid stating the requirements for the basis for design.

3.3.1 Format

The design analysis shall include: a cover page indicating the stage of design "FINAL DESIGN ANALYSIS" for 100 percent design submittal, the project title "REPAIR UTILIDOR - PHASE VI", fiscal year and program funding "FY04 MCP", location "EIELSON AFB, AK", who prepared the design analysis "Prepared By:" followed by Name of AE and Construction Contractor, location of AE and Construction Contractor Office involved with the design, and construction contract number; table of contents; and tabbed separations for each part of design analysis for quick reference. The cover sheet shall

indicate the volume number and total number of volumes for the project. Provide a cover sheet for each volume. Submit design analysis prepared on 8 1/2 by 11 inch white paper. The design analysis for all disciplines shall be bound in one volume, excluding calculations. Multiple volumes for individual disciplines, appropriately numbered, may be provided, when required. For Electronic media requirements, see the NOTES for the Construction Set Distribution (paragraph 3.7.1.6). Narratives shall be provided in decimal paragraph numbering system (i.e. 1, 1.1, 1.1.1, 1.1.1.1 etc.). Narratives shall be an original document that does not copy the text from the RFP document sections, unless directed otherwise and shall be written in the same tense (Past or Present) for the entire design analysis.

Each part of the design analysis shall include part number and page numbering (consecutive page numbering for each part). Organize design analysis narrative into the following parts, as follows:

3.3.1.1 Part 1 - General Description.

This part will provide statements of purpose, authority and applicable criteria. A description of the project and a summary of the economic factors influencing the choice of the civil, structural, mechanical, electrical, fire safety, water supply and wastewater disposal systems used in the project shall be provided along with an indication of how initial and life costs were considered.

a. Purpose. Include the following statement under the heading of "PURPOSE":

"The purpose of this project is to provide..." (add appropriate information to complete the the writeup)

b. Authority. Provide the following authorization statement under the heading "AUTHORITY" for the project:

"The preparation of design documents was authorized by Design Directive # ____ dated ____ 200_."

c. Applicable Criteria. Provide a list of the general criteria that pertains to all disciplines used in the design. Specific criteria used in a particular engineering/architectural discipline shall be listed in the text of the appropriate discipline in Part 2 of the design analysis. Such criteria shall be referenced accordingly.

d. Project Description. Provide a description of the project and summary of economic factors influencing the choice of materials and systems used in the project.

3.3.1.2 Part 2 - Design Requirements and Provisions.

This part of the design analysis shall provide statements of factors considered and provided in the design along with supporting justification of design decisions and design calculations. Include narratives for each of the following areas or disciplines. See Sections 01013 100 PERCENT DESIGN REQUIREMENTS for specific requirements.

a. Civil

b. Water Supply and Wastewater

c. Structural

d. Mechanical

e. Electrical

f. Fire Protection

g. Environmental Protection, Compliance and Permits

h. Health and Safety

i. Sustainable Design Elements

3.3.2 Calculations

All calculations shall be placed in separate appendix volume(s). Calculations shall include a cover page similar to the design analysis narrative cover page, a table of contents, index page and a summary of criteria for each appendix on the first pages and the project title, and location identified on every page of the calculations. All calculation pages shall be clearly legible and photo-ready. Each discipline which requires calculations shall be consecutively numbered (Example: A-1, A-2, A-3 etc. for Water Supply and Wastewater Calculations and B-1, B-2, B-3, etc. for Structural Calculations) and the date. Cite criteria from which the calculations, rationale, and formulae are extracted by publication number, title, edition and page number. The cover page and each page of calculations shall also include the names of the persons originating and checking the calculations. The person checking the calculations shall be a registered professional engineer other than the originator. In addition, the signature and seal of the appropriate registered professional engineer responsible for the work shall appear on the cover page of the calculations for each discipline. Each appendix index page shall list subtopics (e.g. for Structural - Loads, Materials, References, Wind Analysis, Footing Design, Wall Design, Column Design, etc.) with pages numbers where each of these subtopics can be found in the calculations.

Computer printouts shall be consecutively page numbered and identified similar to the calculations. Identify the computer program name, source, and version. All schematic models used for computer input shall be provided.

3.3.3 Engineering Considerations and Instructions (ECI) for Field Personnel

3.3.3.1 Separate Appendix

Under a separate appendix in the Final Design Analysis, the Design-Build Contractor shall include the following items:

a. Features critical to the quality of the final construction product requiring special attention.

b. Submittals requiring special attention during construction.

c. Special user requirements or instructions.

d. Assumed field conditions, pertinent significant aspects, or critical phases of the project used as a basis of project design.

3.3.3.2 Format

Format for ECI's shall include the following information:

"ENGINEERING CONSIDERATIONS AND INSTRUCTIONS

Project Name:_____

Location: _____

Designer Name:_____ Phone:_____

Discipline:_____

Design-Build designers have prepared the following engineering considerations and instructions (ECI). These ECI's should be followed during the construction of the above project. If you have any questions, contact the appropriate Design-Build designer."

3.3.3.3 Distribution of ECI's

In addition to including ECI's in a separate appendix of the final design analysis and after acceptance of the 100 percent corrected design and prior to the start of construction, the design-build Contractor shall e-mail a copy of the ECI's to the appropriate U.S. Army Corps of Engineer's Field representative for his consideration with a copy also sent to the appropriate individual in following office(s): CEPOA-PM-M. The Government will provide the names and e-mail addresses to the design-build Contractor at either the pre-design or pre-construction conference.

3.3.4 Requests for Information, Meeting Minutes and Comments

Copies of Requests for Information (RFI) made by the Contractor to the Government shall be included as an appendix to the design analysis. An index of each RFI, which documents the RFI number, the date RFI given to Government, the date the RFI is answered and the Action Response provided by the Government.

A copy of all meeting minutes and design review comments (if any) with action responses shall be included as an appendix to the design analysis.

Appendices for RFI's and Meeting Minutes and design review comments shall have page numbering that follows the same format as for Calculations listed above.

3.4 DESIGN CERTIFICATION

The Contractor shall provide certification signed by an officer of the Contractor's company attesting that the drawings, specifications and design analysis prepared for the construction of the facility meet the requirements of the RFP. The certification shall accompany the submission of the design documents along with names and disciplines for the designers of record. This design certification shall include a list of deviations (variations) from the solicitation or accepted final design. Prepare the design certification and transmittal letter in the format shown on Attachment A or Attachment B included at the end of this section.

3.5 65 PERCENT DESIGN SUBMITTALS

See Section 01013 65 and 100 PERCENT DESIGN REQUIREMENTS

3.6 100 PERCENT DESIGN SUBMITTALS

See Section 01013 65 and 100 PERCENT DESIGN REQUIREMENTS

3.7 REVIEW BY GOVERNMENT AGENCIES

3.7.1 Distribution of Design Documents for Conformance Review

(a) Government agencies shall receive review design documents thirty (30)days prior to review conferences. Agencies reviewing documents, and in the quantities indicated, are listed below. All documents must contain an index of contents. Work shall be 100% complete when the 100% design is submitted. Design work shall not continue during the review period between the 100% design submission and the 100% design review conference. All submittals shall be transmitted by **express mail**. Originals of transmittal letters should be sent to the Alaska District and copies should accompany each mail package. Transmittal letters shall indicate distribution by use of the "ATTN" code shown in the address. Design document set shall include the items listed below. Some of the Construction submittals are also listed. Design submittals shall be submitted as a complete package. The distribution listed below also applies to all design reviews and design package accepted for construction.

(b) If the Government requires more time than the thirty (30)days given, prior to either of the review conferences, the Contractor will be granted an extension of time equal to the number of calendar days of delay.

(c) The Government requires fourteen (14) days to review 100 Percent Corrected Design submittals after receipt of these documents. If the Government requires more than the days given, the Contractor will be granted an extension of time equal to the number of calendar days of delay.

3.7.1.1 Design Submittal Items

The submittal items listed below are intended to identify the different design submittals required throughout the design process and select submittals required during and at the completion of Construction. Each submittal item has an Abbreviation, which will be used in conjunction with the number of required copies. See paragraphs 3.7.1.3 through 3.7.1.7 for required copies for distribution.

SUBMITTAL ITEM - **ABBREVIATION**

Design Analysis Narrative - **DANar**
Design Analysis Calculations - **DACalcs**
Specifications - **Specs**
Specification Error Reports - **SpecER**
Submittal Register - **SubReg**
Drawings (1/2 size) - **Dwg-1/2**
Drawings (Full size) - Dwg-full
Meeting Minutes with Annotated Comments and Other Attachments - **MMin**
As-Built Drawings - **Asblt**
Electronic Media Drawings - **EMDwg**
Electronic Media Specifications - **EMSpecs**
Electronic Media Design Analysis - **EMDA**

Design Certification Letter - **DCLet**
DD Form 1354 - Transfer and Acceptance of Military Real Property - **DD1354**
Environmental Protection Plan - **EP Plan**
Engineering Considerations and Instructions - **ECI**
Backcheck Review Comments - **Brvw Cmnts**

3.7.1.2 Activity Distribution Addresses

Engineering Division
Attn: CEPOA-PM-M (Pat Zettler)
U.S Army Engineer District, Alaska
Building 2204, 3rd Street
Elmendorf AFB, AK 99506

USACE Eielson Resident Office
Attn: Norm Sams
C/O 354th CES/CECC
2310 Central Ave, Ste 100
Eielson AFB, AK 99702

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3.7.1.3 65 Percent Design Distribution

Activity Submittal Item	CEPOA-PM-M	Eielson Resident Office
DANar-	8	11
DACalcs-	8	11
Specs-*(1)	8	11
SpecER-	1	-
SubReg-	2	4
Dwg-1/2-	8	11
MMin-	8	11
EMDwg-*(2)	1	-
DCLet-	8	11
EP Plan	1	1
ECI-	8	11

3.7.1.4 100 Percent Design Distribution

See paragraphs above explaining Submittal Abbreviation Codes and Activity Distribution Addresses. The number of hardcopies required for each submittal item are listed below.

Activity	CEPOA-PM-M	Eielson Resident Office
Submittal Item		
DANar-	8	11
DACalcs-	8	11
Specs-*(1)	8	11
SpecER-	1	-
SubReg-	2	4
Dwg-1/2-	8	11
MMin-	8	11
EMDwg-*(2)	1	-
DCLet-	8	11
EP Plan	1	1
ECI-	8	11

*100 PERCENT SUBMITTAL NOTES:

Specific Submittal requirements are addressed in Section 01013.

*(1) Copy shall show deletions and insertions (Revisions On) for all UFGS specifications submitted. Process and Print Options for each section furnished shall include the following minimum requirements: Under "Sections" Reconcile References, Print/Process Sections and Renumber Paragraphs boxes are checked; Under "Reports" a Section Table of Contents (Include Without Scope and Combine sections and section tables of contents), and Reference Verification, Submittal Verification, Reference Verification, Submittal Verification, Bracket Verification, Section Verification and Submittal Register boxes are checked; Under "Options" Section Dates shown, Units of Measure as english, Tags are Hidden, Notes are hidden, Revisions are shown, Start Page Numbering with "1", and Restart for each section box is checked; and Under "Header/Footer" jobtitle and jobname as a Header and Section number and Page number as a footer (similar to format shown on this section of the RFP).
*(2) Electronic Media Drawings:
Fifteen (15) percent of all drawings (exludes Cover Sheet, Vicinity Map, Location Plan and Indexes), representative of all design disciplines, shall be submitted in AutoCAD 2000 on CD-ROM to verify that the CADD standards being specified are complied with.

3.7.1.5 100 Percent Corrected Design Distribution

See paragraphs above explaining Submittal Abbreviation Codes and Activity Distribution Addresses. The number of hardcopies required for each submittal item are listed below.

Activity	CEPOA-PM-M	Eielson Resident Office
Submittal Item		

DANar-	8	11
DACalcs-	6	4
Specs-*(1)	8	11
SpecER-	1	-
SubReg-	2	4
Dwg-1/2-	8	11
EMDwg-*(2)	1	-
DCLet-	8	11
EP Plan	1	1
ECI-	8	11

*100 PERCENT CORRECTED SUBMITTAL NOTES:

Specific Submittal requirements are addressed in Section 01013.

*(1) Copy shall show revisions executed (deletions removed and insertions markings removed) for all specification sections submitted. Process and Print Options for each section furnished shall include the following minimum requirements: Under "Sections" Reconcile References and Addresses, Print/Process Sections and Renumber Paragraphs boxes are checked; Under "Reports" a Section Table of Contents (Include Without Scope and Combine sections and section tables of contents), and Reference Verification, Submittal Verification, Reference Verification, Submittal Verification, Bracket Verification, Section Verification and Submittal Register boxes are checked; Under "Options" Section Dates shown, Units of Measure as english, Tags are Hidden, Notes are hidden, Revisions are hidden, Start Page Numbering with "1", and Restart for each section box is checked; and Under "Header/Footer" jobtitle and jobname as a Header and Section number and Page number as a footer (similar to format shown on this section of the RFP).
*(2) Electronic Media Drawings (AutoCAD 2000)on CD-ROM shall be submitted to verify that the CADD standards being specified are complied with.

3.7.1.6 Construction Set Distribution

See paragraphs above explaining Submittal Abbreviation Codes and Activity Distribution Addresses. The number of copies required for each submittal item are listed below.

Activity	CEPOA-PM-M	Eielson Resident Office
Submittal Item		
DANar-	8	11
DACalcs-	6	2
Specs-*(1)	8	11
SpecER-	1	-
SubReg-	2	4
Dwg-1/2-	8	11
Dwg-full-	-	1
EMDwg-*(3)	4	-
EMSpecs-*(3)	4	-
EMDA-*(3)	4	-
DCLet-	8	4
ECI-	8	11
Brvw Cmnts	8	11

*CONSTRUCTION SET SUBMITTAL NOTES:

Specific Submittal requirements are addressed in Section 01013.

*(1) Copy shall shall be the same as the 100 pecent Corrected submittal and incorporate any additional comments made to 100 percent corrected design submittal.
*(2) Each drawing sheet shall be stamped (P.E.) by the appropriate Designer.
*(3) Electronic Media Drawings (AutoCAD 2000), Electronic Media Specifications (Specsintact), and Electronic Media Design Analysis (MS Word (compatible with MS Word 2000) and Adobe Acrobat 5.0. The Design Analysis Calculations shall be included with the design analysis narrative and shall be scanned and saved in Adobe Acrobat 5.0. The design analysis and calculations shall utilize bookmarks for each chapter of the design analysis and each appendix or calculations.
Electronic Media shall be on CD-ROM (Recordable compact disk with minimum 650 megabyte capacity)
*(4) In addition, the Contractor shall e-mail the designated offices a copy of the ECI per requirements stated in this section.

3.7.1.7 As-Built Submittals

See paragraphs above explaining Submittal Abbreviation Codes and Activity Distribution Addresses. The number of copies required for each submittal item are listed below.

Activity	CEPOA-PM-M	Eielson Resident Office
Submittal Item		
Asblt-	*	-
DD1354-	1	2

*NOTES for As-Built Submittals:

*See Section 01780, CLOSEOUT SUBMITTALS for requirements.

3.7.2 Review Comments:

For each design review submittal, the Contractor will be furnished comments from Alaska District and other agencies involved in the review process approximately 21 days after receipt, unless indicated otherwise. Review conference for the 65 and 100 Percent Design submittals will be held approximately 30 days after receipt. If the Contractor disagrees technically with any comment or comments and does not intend to comply with the comment, he/she shall clearly outline, with justification reasons for noncompliance at the design review conference in order that the comments can be resolved. Annotated comments, including the disposition of all comments shall be furnished in writing by the Contractor within five (5) days of the review conference and shall be recorded in the Contractor prepared Meeting Minutes described in paragraph 3.7.6.1. The written documentation shall be forwarded in the same quantities to the distribution list shown in paragraph: "Distribution of Design Documents for Conformance Review" above.

The Government will review the 100% Backcheck Review Documents for a period of fourteen (14) days after receipt of the documents. After this review, a formal letter will be sent to the Contractor allowing him to commence construction or rejecting the submittal.

Any backcheck review comments made by the indicated Government agencies to the 100 percenct Corrected Design Submittals shall be resolved prior to distribution of Construction Set documents. The Contractor shall furnish copies of Annotated backcheck review comments indicating disposition of all comments with the Construction document set.

3.7.3 Using Automated Review Management System:

Conference and post conference action: Government personnel, from the above Government Agencies, will present review comments for discussion and resolution. Copies of comments, annotated with comment action agreed on, will be made available to all parties before the conference adjourns. Unresolved problems will be resolved by immediate follow-on action at the end of conferences. Valid comments will be incorporated. After receipt of final corrected design documents upon incorporation of all backcheck comments (as many backchecks as are deemed necessary by the Government will be conducted), the Alaska District will recommend acceptance to proceed with construction. The Government intends to utilize the Dr. Checks review system, which is available at: http://65.204.17.188/projnet/home/version1/index.cfm, for processing review comments and responses. Access rights will be provided to the Design-Build Contractor after contract award. The Government, however, reserves the right to not accept design document submittals and withhold design payments, if comments are of too great a significance. In this case, every effort shall be made during follow-up action between the Contractor and the Alaska District to resolve conflicts and problems such that documents can be fully accepted. However, if final submittal(s) are incomplete or deficient, requiring correction by the Contractor and resubmittal for review, the cost of rehandling and reviewing will be deducted from payment due the Contractor at the rate of $1000.00(for each design discipline requiring resubmittal) per submittal. "Design Disciplines" in this paragraph consist of Structural, Mechanical, Electrical, Civil/Site work, and Fire Protection.

3.7.4 Delays

Delays caused by the Contractor in completion of the 100 percent design or the 100 percent corrected design will not be considered as valid reason to delay completion of the entire design. The Government may not be held liable for delays caused by re-submittal efforts caused by designs submitted, which are rejected by the reviewers.

3.7.5 Reproduction (For Construction):

Upon the Government's completion of the review of the 100% Corrected Design submittal, the Contractor shall reproduce copies of the design documents (accepted for the purposes of beginning construction), subject to the incorporation of the Corrected 100% design review comments. The Cover Sheet of the Contractor prepared drawings shall bear the stamp or seal and signature of the registered architect or appropriate engineer responsible for the work and proposed to meet the RFP requirements. The date on each drawing shall reflect the month and year that the drawings were cleared for the purposes of beginning construction. The Cover Sheet of the drawings, Cover Sheet of the Specifications, and Cover Sheet of the Design Analysis

shall include the date that the design documents were cleared for the purposes of beginning construction. The Contractor shall provide corrected 100 percent specifications in both hard copy and electronic media (Specsintact Software Version as noted above). Distribution shall be as indicated above. The originals will be retained by the Contractor for recording of as-built conditions. Upon completion of the project, the accepted design documents corrected to reflect as-built conditions shall be supplied to the Government. See Section 01780 CLOSEOUT SUBMITTALS for as-built drawing requirements.

3.7.6 Government Design Review and Acceptance

3.7.6.1 Design Review Conference and Post-Design Review Conference Action:

All design review conferences shall be held on EIELSON AFB. Government personnel will forward review comments to the Contractor for discussion and resolution prior to the design review conference. Copies of comments, annotated with comment action agreed on, will be made available to all parties before the design review conference adjourns. Unresolved problems will be resolved by immediate follow-on action at end of conferences. Valid comments will be incorporated. Upon satisfactory Government review of the 100 percent corrected design documents, the Alaska District will formally provide Government acceptance necessary to initiate construction. The Government, however, reserves the right to not accept design document submittals and to withhold design payments, if comments are of too great a significance. In this case, every effort shall be made during follow-up action between the Contractor and the Alaska District to resolve conflicts and problems such that documents can be fully accepted. However, if final submittal(s) are incomplete or deficient, requiring correction by the Contractor and resubmittal for review, the cost of rehandling and reviewing will be deducted from payment due the Contractor at the rate of $1000.00 (for each design discipline requiring resubmittal) per submittal. The Contractor shall submit to the Contracting Officer within five (5)calendar days, two (2) copies of meeting minutes summarizing major decision points and issues which requires resolution and the action office. Annotated comments shall be attached to these minutes.

3.7.6.2 Complete Design Documents

The Contractor shall submit complete design documents in the same quantity and to the same offices listed above in paragraph "**Distribution of Design Documents for Conformance Review"**, for each corrected 100 percent design submittal (one or more) until the Government is satisfied that all review comments have been addressed and resolved.

3.7.6.3 Accuracy and Completeness of Design

Reviews by the Government of the design documents shall not be construed to be an endorsement of the accuracy or completeness of the design. Design deficiencies or omissions in the accepted design shall be the responsibility of the Contractor.

3.7.6.4 Responses to Review Comments

In responding to review comments presented by the Government, the Contractor's designer shall state how and where comments were addressed.

3.7.7 DD Form 1354, Transfer and Acceptance of Military Real Property

The Contractor shall provide, for acceptance, a completed DD Form 1354 "Transfer and Acceptance of Military Real Property" (Copy attached at the end of this section) with the 100 percent corrected design documents. DD Form 1354 shall be filled out in accordance with attached Instructions for Preparation of DD Form 1354 and Army Pamphlet 415-28 "Guide to Army Real Property Codes" (Copy dated 02/11/2000 is available at the following website: http://www.usapa.army.mil/usapa_home.asp (Under "Search Publications" for "415-28" or or on solicitation CD-ROM in an Adobe Acrobat .pdf format under UFGS specification folder labeled "GUIDES", file name "p415_28.pdf".) The number of copies of the completed DD Form 1354 is noted above.

3.8 REVISIONS TO THE ACCEPTED DESIGN

3.8.1 Minimization of Design Revisions

The accepted design will be used by all parties involved in construction and in administration of the contract. Therefore, it is imperative that the design documents be kept up to date and an effective system of making and distributing changes be implemented. Since changes to the design increase risk of construction errors and deplete available administrative resources, every effort shall be made to minimize revisions to the accepted design. One of the measures of the Contractor's effectiveness of management will be how well the goal of minimizing changes to the accepted design is met. The use of effective quality control during design, and utilization of experienced and capable designers are some of the means that are expected to be used to accomplish this goal.

3.8.2 Supplemental Design Package and Certification

If revisions to the accepted design (Construction Set) become necessary, the Contractor shall submit a Supplmental Design Package using Attachment B "Supplemental Design Certification and Transmittal Form" attached at the end of this specification section. This Supplemental Design Package shall be submitted as a "G-DO" construction submittal in accordance with Section 01330 SUBMITTAL PROCEDURES. The revisions will be considered a "Variation" and the list of deviations from the accepted design shall be identified on the Supplemental Design Certification and Transmittal For and on the constuction submittal form ENG Form 4025-R. Variations from the Construction Set must be approved by the Contractor's Designer and Contractor's Quality Control Representative and accepted by the Contracting Officer as conforming with the RFP before construction of items affected by these revisions can commence. The Contractor shall comply with all the requirements of paragraph "VARIATIONS" of Section 01330 SUBMITTAL PROCEDURES in preparation of the Supplemental Design Package.

Attachment A - DESIGN CERTIFICATION AND TRANSMITTAL LETTER

[Contractor's Letterhead]

Date: _____
Contract No. _____

Reviewing Component Address

Subj: DESIGN CERTIFICATION AND TRANSMITTAL LETTER
Project Title _____
Project Location _____
Contract No. _____

Gentlemen

Enclosed are the following documents, which I hereby certify are in compliance with the RFP requirements of the subject construction contract and can be used to commence construction subject to Government Conformance Review:

1. Design Drawings

2. Project Specification

3. Design Analysis

   a. Civil
   b. Water Supply and Wastewater Collection
   c. Architectural
   d. Interior Design
   e. Structural
   f. Mechanical
   g. Fire Protection
   h. Electrical
   i. Environmental Protection, Compliance and Permits
   j. Health and Safety
   k. Sustainable Design

4. Submittals Register

5. All other Design Deliverables

6. Deviations (List of Deviations with Justification Attached)

[Typed Name and Signature of an
Officer of the Contractor's Company]

Copy to:
[As standard with the Contractor]

Attachment B - SUPPLEMENTAL DESIGN CERTIFICATION AND TRANSMITTAL FORM

[Contractor's Letterhead]

Date: _____
Contract No. _____

Reviewing Component Address

Subj: SUPPLEMENTAL DESIGN CERTIFICATION AND TRANSMITTAL FORM
Project Title _____
Project Location _____
Contract No. _____

Gentlemen

The supplemental design items listed below and the attached documents, unless identified otherwise, I hereby certify are in compliance with the RFP requirements of the subject construction contract and are compatible with other elements of work, subject to Government conformance review:

1. Nature and Features of the Design Variation(s):

2. Why the each Design Variation is desirable and Beneficial to the Government:

3. List of any additional Deviations from the RFP:

4. List of Specific Documents Supporting Design Variation(s):

a. Design Drawings

(1) Sketches:
(2) Reissued Drawings:
(3) Descriptive Changes:

b. Project Specification

(1) Reissued or New Sections:
(2) Descriptive Changes:

c. Design Analysis

(1) Reissued Pages:
(2) Reissued or New Calculations:

d. Any other Design Deliverable:

[Typed Name and Signature of an Officer of the Contractor's Company]

Copy to:

[As standard with the Contractor]

ATTACHMENT C SAMPLE SUBMITTAL PARAGRAPH

The below listing is an example of a typical submittal paragraph as it may appear within the technical guide specifications and with the appropriate text for the submittal review designations, G-DO, G-AO, or FIO (blank).

1.4 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Fire Sprinkler Design Drawings; G-DO

SD-03 Product Data

Meters

Regulators

SD-08 Manufacturer's Instructions

Dielectric Unions

Pressure Reducing Valves

SD-10 Operation and Maintenance Data

Wet Pipe Sprinkler System; G-AO

-- End of Section --

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SECTION 01013

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SECTION 01013

65 AND 100 PERCENT DESIGN REQUIREMENTS

PART 1 65 AND 100 PERCENT DESIGN SUBMITTALS

For general design deliverable requirements, see Section 01012 DESIGN AND CONSTRUCTION DELIVERABLES/PROCEDURES. Specific submittals in Section 01013 65 AND 100 PERCENT DESIGN REQUIREMENTS are noted as being required only for the Contractor's 65% Design Submittal.

1.1 SITE PLANNING

1.1.1 Drawings

1.1.1.1 Location Plan and Vicinity Map

A Vicinity Map consists of a small scale drawing of the project location, similar to a road map. A Location Plan consists of a small scale drawing showing the Government property or reservation limit with the construction project site shown.

1.1.1.2 Survey Plan

The information depicting existing conditions used to generate site drawings shall be shown on this drawing. An engineering survey of the site will be presented to the Contractor selected as a result of this RFP process. Any additional survey information required by the Contractor for design above that shown in the prepared engineering survey shall be procured and paid for by the Contractor. See specification Section 01780, CLOSEOUT SUBMITTALS, 1.2.1.4.b, DATUMS AND COORDINATE SYSTEM

1.1.1.3 Removal Plan

The removal plan will show the existing physical features and condition of the site before construction. Scale shall not exceed 1 inch equals 40 feet. This information should include the field survey to show all above and below ground utilities; drives, roads and parking areas; curbs and walks; landscape/vegetation; and hazardous materials removal. Include notes and instructions for all material to be removed. Hazardous Materials Removal may be shown on separate drawings if necessary. Each physical feature to be removed shall be as indicated on the standard legend sheet, a legend on the removal plan, and properly noted: "to be removed", "to remain", or "to be relocated".

1.1.1.4 Site Plan

The Site Plan shall show all the site layout information necessary to field locate. The Site Plan will identify all site related items such as: curbs, pavements, walks, etc. in accordance with a standard legend sheet or with additional legends or notes. Site Plans shall not exceed 1 inch equals 40 feet. No existing or proposed contours shall be shown on this Plan. The Site Plan, prior to adding the dimensions, should serve as the base sheet to the other Plans, such as: Utilities Plan, Grading and Drainage Plans and Landscape Plan. The Site Plan shall show all existing physical features and utilities within and adjacent to the work site that will

remain after the proposed construction has been completed. This plan will also show any construction limits, and storage areas. Whenever the Site Plan occupies more than one sheet of drawings, a Key Plan shall be included. Additional plans, showing specific areas of the site in smaller scales can be included if more detail is necessary.

1.1.1.5 Site Furnishing Details

The Contractor shall provide designs and details as necessary for site furnishings and accessories. Scale shall not exceed 1 inch equals 2 feet.

1.1.1.6 Landscape Plan

A Landscape Plan scale shall not exceed 1 inch equals 20 feet, showing trees, shrubs, ground covers, seeded and sodded areas, shall be prepared. The Landscape Plan shall be prepared by a fully qualified, experienced professional Landscape Architect. The A-E (Contactor's Designer) shall specify types of plant materials that are locally grown, commercially available and acclimated to the project environment. The Landscape Plan shall include a plant materials schedule or listing. This schedule shall include botanical names, common names, key, size and the method of transplanting. The Landscape Plan shall also show all unsurfaced ground areas disturbed by construction within the project limits with these areas shown to be seeded, sodded, or mulched as required.

1.1.1.7 Landscape Details

The Contractor shall verify the methods of planting to meet the project site/installation requirements and provide the necessary Landscape Details to perform the contract design work. Details shall reflect local practices and conditions for installation. The Contractor shall provide designs and details as necessary for other required site furnishings and accessories.

1.1.1.8 Composite Utilities Plan

A Composite Utilities Plan shall be provided at a scale that shall not exceed 1 inch equals 40 feet. New and existing utilities shall be indicated. Plans shall show layout of the new and existing cleanouts, manholes, fire hydrants, valve boxes, existing water lines, points of connection, and relocations. Show existing sanitary sewer lines, new laterals, and manholes. Show steam distribution lines, both existing and proposed. Include storm drainage, gas, electrical systems, communications and any other utilities which need to be provided for.

1.1.2 Specifications

Provide complete edited specifications for all items. Technical specifications shall be complete and fully coordinated with the drawings. All specification indexes shall be completely edited to reflect the paragraphs retained in the body of the specification. All references that have not been used in the body of the specification shall be edited from the technical specification. Specifications shall be coordinated with the plans and include all items including seeding, sodding, trees and shrubs. Special sections shall be prepared to cover any subjects for which no pattern guide specifications is available.

1.1.3 Design Analysis Narrative

Design analysis shall include the following:

1.1.3.1 References

Provide design references used in preparing the site design.

1.1.3.2 Basis for Design

The Design Analysis should give the basis, specific goals, objectives and priorities for site design of the project. Identify, explain and document use of design criteria and how the design meets goals, objectives and priorities. Identify the preferred site development concept. Document pollution prevention measures and other environmental considerations made during design.

1.2 CIVIL

1.2.1 Drawings

1.2.1.1 Traffic Control Plan

The plan shall indicate pedestrian and vehicle ingress and egress to all Base facilities.

1.2.1.2 Grading and Drainage Plan

A final grading and drainage plan shall be provided at the same scale as the site plan. Provide contour lines at 1-foot intervals and spot elevations to 0.1 foot accuracy. The final plan shall show the final location of all storm drains, culverts, and subdrains. Storm drainage lines and structures shall be labeled. The rim elevation of all manholes, curb inlets, and area inlets shall be indicated.

1.2.1.3 SWPPP Site Map

Provide a site map indicating drainage patterns and approximate slopes anticipated after major grading activities, areas of soil disturbance, areas which will not be disturbed, locations of major structural and nonstructural erosion controls identified in the Storm Water Pollution Prevention Plan, locations where stabilization practices are expected to occur, locations of off-site material, waste, borrow or equipment storage areas, surface waters (including wetlands), and locations where storm water discharges to a surface water. Provide erosion control details per design-build contractor's edited 01356 STORM WATER POLLUTION PREVENTION MEASURES to describe best management practices used to control erosion.

1.2.1.4 Pavement Plans and Details

Provide asphalt paving/concrete paving replacement drawings. The drawings shall designate all AC paving replacements as well as concrete improvements such as walks, miscellaneous slabs, and curbs and gutters. Provide details of concrete curb and gutter, integral curb, typical pavement sections, typical sidewalk section, pavement utility cut details, and interface detail between new and existing pavement.

1.2.1.5 Utility Profiles

Provide utilidor-piping profiles for water, sewer and steam lines with stationing for major fittings, service connections, appurtenances, supports, anchors, and guides. Profile shall also indicate piping slope, diameter and lengths.

1.2.1.6 Utility Manhole Details

Provide 1/2"=1'-0" plans and sections for each manhole. Provide a section in each direction. Equipment shall be located to insure proper maintenance access. Drawings shall show all piping, valves, fittings, flanges, supports, expansion joints, anchors and trap assemblies. All piping 2 inches and over shall be drawn as double line "true" size within the utilidor and manholes. For large complicated manholes provide two (2) plan level views (upper and lower) as necessary to clearly show new piping.

1.2.2 Work Plans and Reports

1.2.2.1 Temporary Utility Service Plan - 65% Submittal Only

Plan shall address Contractor's approach to provide all affected facilities with temporary service during construction. Temporary utilities shall be maintained by the Contractor to Base facilities during construction according to Government requirements and an approved temporary utilities plan. The Contractor shall submit a temporary utilities plan. Temporary services shall be provided to all facilities outside project area with utilities affected by project work. Schedule of facilities within the project area affected by this project and the required utility service during construction is located in the plans on Sheet G1.5.

The temporary utilities plan shall include but is not limited to scheduling of utility switch-over and outages, materials and equipment description, water line disinfection procedures, enclosure of temporary steam lines, sediment control measures in water lines, etc. Provide sediment control measures such as a Y pattern sediment strainer where temporary water piping connects with existing water distribution and building plumbing. Coordinate demolition and repair in order to keep the existing utilities operational for as long as possible minimizing the outlay of materials and labor.

At existing valve locations selected by the Contractor to isolate project areas, the Contractor shall provide and install a new valve.

As part of the temporary utilities plan the Contractor shall provide a Utility Main Shut-Down and Start-Up Procedure for steam, condensate, water, and sewer systems. All utility main shut-downs and start-ups shall be done by the Base Utilidor Shop personnel. The Contractor shall provide all materials and equipment for this procedure. Coordinate shut-down and start-up through the Contracting Officer and give a 7-day notice prior to this work.

Upon approval of utility outage, contractor shall post signs notifying affected buildings of outage date date and time along with a contact number. Signs will be posted at all regularly used entrances.

1.2.2.2 Operability and Maintainability (O&M) Report - 65% Submittal Only

The Contractor shall develop an O&M Report, using ETL 01-1, Reliability and Maintainability Design Checklist, dated 11 October 2001 as a guide. The report shall specifically address the following areas: a) Water and Wastewater systems, b) Steam and Condensate system, c) Electrical and Communications, d) Corrosion prevention and control.

1.2.2.3 Waste Disposal and Borrow Pit Report - 100% Submittal Only

Submit Part I of the Eielson AFB Waste Disposal/Borrow Pit Coordination Review, which is found in Appendix A of the preliminary plan (preliminary plan appended to this RFP in Appendix D), to 354 CES/CEVN (phone number (907)377-5182). See Section 02300, EARTHWORK, Paragraph 3.2, WASTE DISPOSAL AND BORROW SOURCE for submittal preparation.

1.2.3 Specifications

Provide complete edited specifications for all items. Technical specifications shall be complete and fully coordinated with the drawings. All specification indexes shall be completely edited to reflect the paragraphs retained in the body of the specification. All references that have not been used in the body of the specification shall be edited from the technical specification. Product data, systems, and materials in the new detailed specifications shall include, but not limited to:

Concrete Mix Design
Subbase Analysis
Aggregate Base Course
Pipe Material
Fittings and Specials
Joints and Gaskets
Pipe Insulation and Jacket System
Water Valve and Equipment Insulation Covers
Hydrants
Check Valves
Gate Valves
Expansion Joints
Supports
Hangers
Guides
Thrust Restraints
Hyper Chlorinated Water Disposal Method

1.2.4 Design Analysis - 65% Submittal Only

Design analysis shall include the following:

1.2.4.1 References

Provide design references used in preparing the civil design.

1.2.4.2 Narrative

A narrative on earthwork, classified soil materials, pavements, compactive effort, testing/inspection, and storm drainage. Include materials, equipment, and product cut sheet information as necessary. Expand narrative to include paving criteria, job mix design, vehicle loading criteria, and performance requirements. Narrative shall include a thorough discussion for

each utility system including steam, condensate, fire hydrants, water supply for domestic needs as well as fire protection applications and sanitary sewer in accordance with RFP stated requirements. Include piping materials, all necessary utility fittings and appurtenances, product selection, and cut sheet information.

1.2.4.3 Calculations

Provide calculations for all civil design, including improvements and storm water drainage routing as necessary, paving calculations, water and sewer hydraulic calculations, etc. A water and sewer system hydraulic model has been developed for Eielson AFB. It confirms the existing sanitary sewer pipe diameters in the project areas have required capacity for existing and future flow. The model also confirms the existing pipe sizes for the water system with exceptions. Increased water pipe diameters based on the model requirements are noted in the plans. If the design requires deviation from the water and sewer pipe diameters listed in the plans, hydraulic calculations will be required.

1.3 STRUCTURAL

1.3.1 Manhole Floor Plans

Indicate complete dimensions, slabs, new sumps, ladders, etc.

1.3.2 Manhole Details

Detail sheet(s) shall indicate ladders, manhole covers, reinforcing steel, anchor bolts, structural steel pipe supports, etc.

1.3.3 Utilidor Floor Plans

Floor plan showing complete dimensions, column gridlines, beams and designations, including top of steel/concrete elevations.

1.3.4 Utilidor Roof Plans

Roof plan with dimensions and designations of joists, girders, trusses, reinforcement and thickness of roof decks.

1.3.5 Utilidor Sections

Indicate wall sections through foundations, floors, and roof framing with dimensions. Provide sections on connections, bracing, etc.

1.3.6 Utilidor Details

Indicate structural steel pipe anchors and utilidor structural reinforcement, utilidor lids, layout of expansion, construction or control joints showing dimensions and steel reinforcement, details on footings and member sizes of anchor bolts, basic plates, reinforcing and bracing.

1.3.7 Specifications

Technical specifications for final design shall be prepared in accordance with the instructions provided in Section 01012 DESIGN AND CONSTRUCTION DELIVERABLES/PROCEDURES. The technical specifications shall be complete and fully coordinated with the drawings. All specification indexes shall

be completely edited to reflect the paragraphs retained in the body of the specification. All references that have not been used in the body of the specification shall be edited from the technical specification. Product data, systems, and materials in new detailed specifications shall include, but not be limited to:

Concrete Mix Design
Manhole Ladders
Corrosion Protection
Insulation
Waterproofing and Dampproofing
Chemical Grouting
Access Hatch
Exterior Paint for Above Grade Structure
Concrete Masonry Units (CMU) for Facade and Planter Replacement
Pipe Support System

1.3.8 Design Analysis - 65% Submittal Only

1.3.8.1 References

Provide design references used in preparing the structural design.

1.3.8.2 Narrative

Narrative shall include applicable design codes and address structural materials.

1.3.8.3 Calculations

Calculations shall include Design Loads (Dead and Live) for Elements, Miscellaneous Analysis Supporting Civil, Mechanical, and Electrical Disciplines Interfacing with the utilidor system elements. Calculations shall also include analysis for the pipe support and anchoring systems to include the evaluation of expansion, seismic, and thrust restraint issues.

1.4 MECHANICAL

1.4.1 Drawings

1.4.1.1 Mechanical Abbreviation, Legend, and General Notes Sheet

On this sheet, include any mechanical general installation notes that may be required to clarify the construction intent that may not be readily apparent in the specifications or on the drawings. General notes may be provided on a separate sheet if space does not exist on the Abbreviation and Legend sheet.

1.4.1.2 Schedules

Provide Mechanical Equipment Schedules, including expansion joint schedule.

1.4.1.3 Details

To Include:

a) High pressure drip leg detail
b) Main steam trap assembly detail

c) Utilidor sump pump detail
d) Fire hydrant steam trace detail
e) Pressure regulating valves assembly detail
f) Expansion joints detail
g) Typical manhole water service connection detail
h) Pipe anchors and supports coordinated with structural drawings details
i) Utility monitoring sensor pipe tap details and locations
j. Utility service entrance details for each building

1.4.1.4 Heating and Temperature Monitoring Plan

Provide a plan for heating and temperature monitoring for the utilidor system shall be submitted. This plan shall include, but not be limited to: heater types and locations, monitor types and locations, inspection schedule, and contingency plan.

1.4.2 Specifications

Submit 100 percent technical guide specifications for mechanical completely edited and in accordance with Section 01012, DESIGN AND CONSTRUCTION DELIVERABLES/PROCEDURES. Fully coordinate drawings to accurately and clearly identify the final product and installation requirements. Product data, systems and materials in new detailed specifications shall include, but not limited to:

Piping and Fittings
Valves
Steam Traps
Pressure Gauges
Strainers
Steam Venturi Ejector
Alignment Guides
Expansion Joints
Insulation
Manhole Sump Pumps

1.4.3 Design Analysis - 65% Submittal Only

1.4.3.1 References

Provide design references used in preparing the mechanical design.

1.4.3.2 Narrative

Narrative shall include applicable design codes and address steam utility design and shall include system narratives with thorough discussion of steam and condensate piping systems. Discussion shall include piping materials, equipment selection, cut sheets and fire protection.

1.4.3.3 Calculations

The design analysis shall include the following calculations:

a) Steam and condensate piping anchor loads
b) Pipe expansion calculations with expansion joint selections
c) Steam and condensate alignment guide calculations
d) Sump pump sizing calculations

e) Hydrant steam trace line sizing calculations
f) Utilidor heat loss calculations

1.5 ELECTRICAL

1.5.1 Drawings

Drawing scale shall match structural drawing requirements.

1.5.1.1 Electrical Abbreviation, Legend, and General Notes Sheet

On this sheet, include any electrical general installation notes that may be required to clarify the construction intent that may not be readily apparent in the specifications or on the drawings.

1.5.1.2 Schedules

Schedule of existing communication cables, cable sizes, rack system, types and locations, shall be shown.

1.5.1.3 One-Line Diagrams

Electrical One-Line Diagrams of manhole service, sump power, and manhole lighting.

1.5.1.4 Details

Electrical details of service and sump power connections.

1.5.1.5 Communications Plan

Drawing depicting all rack materials, material layouts, connections, elevations, and dimensions clearly shown.

1.5.2 Specifications

Submit 100 percent technical guide specifications for electrical work completely edited and in accordance with Section 01012, DESIGN AND CONSTRUCTION DELIVERABLES/PROCEDURES. Fully coordinate drawings to accurately and clearly identify the final product and installation requirements. Product data, systems, and materials in new detailed specifications shall include, but not limited to:

Electrical Distribution System (materials and components)
Corrosion Protection
Conduit and Fittings
Wire and Cable
Grounding and Bonding Equipment

1.5.3 Design Analysis - 65% Submittal Only

1.5.3.1 References

Provide design references used in preparing the electrical design.

1.5.3.2 Narrative

Narrative shall include applicable design codes and address electrical services to manholes, sump power and manhole lighting. Discussion shall

include electrical materials, equipment selection, and cut sheets.

1.5.3.3 Calculations

Provide electrical service load calculations for each manhole requiring electrical service in accordance with NEC requirements.

1.6 PERMITS

1.6.1 ADEC Approval to Construct and Operate

The Contractor shall obtain, including payment of fees, from the State of Alaska Department of Environmental Conservation (ADEC) Approval to Construct and Approval to Operate for the water distribution and wastewater collection system. The Contractor shall copy the Contracting Officer on all correspondence. In their request for Approval to Construct, the Contractor needs to specify a long enough time period for the Interim Approval to Operate to allow all sections of the repairs to be completed and as-builts drawn up.

1.6.2 Design Analysis

The Contractor shall write a narrative in the Design Analysis entitled: "Environmental Protection Compliance" and address all permit activity. Any revisions that may be required to the permits and/or conformance shall be submitted.

1.7 HEALTH AND SAFETY

1.7.1 Specifications and Work Plans

Fully edit Unified Facilities Guide Specification Section 13280 ASBESTOS ABATEMENT and Section 13281 LEAD IN CONSTRUCTION. Submit all work plans, disposal plans, testing results, and waste manifests as required by Unified Facilities Guide Specification Section 13280 HAZARDOUS MATERIALS ABATEMENT and Section 13281 LEAD LEAD IN CONSTRUCTION. Copies of all testing results shall be maintained throughout construction. At the completion of the hazardous materials portion of the project, copies of all abatement work plans, disposal plans, testing results and reports shall be compiled in one well organized and easy to read folder. Concurrently, two copies of this folder shall be sent out with letters of transmittal to the Contracting Officer and the 354th Environmental Flight Hazardous Waste Manager (377-1659.)

1.7.2 Hazardous Materials Abatement Plan

The Contractor shall submit a Hazardous Materials Abatement Plan in accordance with RFP criteria Section 13000 HAZARDOUS MATERIALS ABATEMENT covering all hazardous material abatement activity.

PART 2 NOT USED

PART 3 NOT USED

-- End of Section --

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SECTION 01015

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PART 2 PRODUCTS - NOT USED

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-- End of Section Table of Contents --

SECTION 01015

SPECIAL ITEMS

PART 1 GENERAL

Attachments: AF Form 592
AF Form 103
EPA Form 3510-9
WG Form 3
EPA Form 3510-13

1.1 SCOPE

Items included in this section cover special features and/or requirements which are not otherwise specified or indicated.

1.2 REFERENCES

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

U.S. AIR FORCE (USAF)

AFOSHSTD91-5 (1997) Welding, Cutting, and Brazing

U.S. ARMY CORPS OF ENGINEERS (USACE)

TI 809-04 (1998) Seismic Design for Buildings

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 241 (2000) Safeguarding Construction, Alteration, and Demolition Operations

STATE OF ALASKA ADMINISTRATIVE CODE (AAC)

18 AAC 72 (1999) Wastewater Treatment and Disposal

1.3 FIRE SAFETY

The Contractor shall obtain a permit from the organization having jurisdiction over the job site for any welding or open flame work.

1.3.1 Fire Protection

The Contractor shall comply with local Air Force fire protection requirements and NFPA 241.

1.3.2 Welding Permit

The Contractor shall obtain AF Form 592 "USAF Welding, Cutting, and Brazing Permit" (copy attached to this section) from the Installation Fire Chief

prior to any welding operations. Welding shall conform to AFOSHSTD91-5 and requires inspection and approval by the Installation Fire Department.

1.4 WORK CLEARANCE AND UTILITY OUTAGES

The Contractor shall limit the number of power outages to the minimum necessary to complete the work. Each outage shall be limited to 4 hours in duration. Work shall be continuous until completed during each outage. Any switching required will be done by facility personnel. The Contractor shall submit a written request in advance, through the Contracting Officer, for each outage. The request shall include the following:

a. The date and time of day the outage will start and length of time it will be in effect.

b. A signed statement, in triplicate, outlining each operation and identifying the equipment on which the work is to be performed.

No outage shall be effected until the Contractor has received approval from the Contracting Officer.

Any work requiring the use of cements or glues shall be done 24 hours prior to outage.

Only mechanical type connections are allowed to be done during approved outages. No use of glues or cements will be authorized during outages due to issues with curing times.

1.4.1 Clearance Request

The Contractor shall have a properly executed AF Form 103, Base Civil Engineering Work Clearance Request (copy attached to this section), coordinated through the Contracting Officer and signed by the Base Civil Engineer prior to any work at the project site.

1.4.2 Utility Outages

Utility outages shall be coordinated with the Base Civil Engineer through the Contracting Officer at least 7 days prior to the planned utility interruption. Outage periods shall exclude Saturdays, Sundays and holidays.

Upon approval of utility outage, contractor shall post signs notifying affected buildings of outage date date and time along with a contact number. Signs will be posted at all regularly used entrances.

1.4.3 Utilities Shop Support

Schedule work requiring utilities shop support for tuesdays, wednesdays, thursdays and fridays. Specific situations may warrant deviations.

1.5 TESTS

The Contractor shall provide testing, except where specifically noted to be performed by the Government, in accordance with SECTION 01451 CONTRACTOR QUALITY CONTROL.

1.6 WARRANTY OF CONSTRUCTION

a. In addition to any other warranties in this contract, the

Contractor warrants, except as provided in subparagraph "i" herein, that the work performed under this contract conforms to the contract requirements and is free of any defect of equipment, material, or design furnished, or workmanship performed by the Contractor or any subcontractor or supplier at any tier.

b. This warranty shall continue for a period of 1 year from the date of final acceptance of the work. If the Government takes possession of any part of the work before final acceptance, this warranty shall continue for a period of 1 year from the date the Government takes possession.

c. The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Government-owned or -controlled real or personal property, when that damage is the result of:

1. The Contractor's failure to conform to contract requirements; or

2. Any defect of equipment, material, workmanship, or design furnished.

d. The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for 1 year from the date of repair or replacement.

e. The Contracting Officer will notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect, or damage.

f. If the Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, the Government shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

g. With respect to all warranties, expressed or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall:

1. Obtain all warranties that would be given in normal commercial practice;

2. Require all warranties to be executed, in writing, for the benefit of the Government, if directed by the Contracting Officer; and

3. Enforce all warranties for the benefit of the Government, if directed by the Contracting Officer.

h. In the event the Contractor's warranty under subparagraph "b" herein has expired, the Government may bring suit at its expense to enforce a subcontractor's, manufacturer's, or supplier's warranty.

i. Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defects of material or design furnished by the Government nor for the repair of any damage which results from any

defect in Government-furnished material or design.

j. This warranty shall not limit the Government's rights under the Inspection of Construction clause of this contract with respect to latent defects, gross mistakes, or fraud.

k. Defects in design or manufacture of equipment, specified by the Government on a "brand name and model" basis, shall not be included in this warranty. In this event, the Contractor shall require any subcontractors, manufacturers, or suppliers thereof to execute their warranties, in writing, directly to the Government.

1.6.1 Failures

Upon receipt of notice from the Government of failure of any part of warranted items during the warranty period, the affected part or parts shall be promptly replaced. Such replacement shall include furnishing and installing the necessary new part or parts, making all necessary repairs, restoring the affected item to the operating condition specified in this contract and making all such tests as are necessary to ensure that there are no remaining defects. Such tests shall be performed in the presence of representatives of the Using Agency indicated below. Upon final acceptance of the work or transfer of responsibility to the Government for operation and maintenance of the items covered, whichever is earlier, the Contractor shall be responsible to the Using Agency for the warranty provisions of this contract. A letter stating the applicable warranty provisions shall be furnished to the Contracting Officer in duplicate, in the format and text shown in the sample letter attached to this section.

1.6.2 Warranty Tag

The Contractor shall provide the following information typed or printed in ink on tag stock or card stock which shall be affixed in easy view location on the warranted installed equipment:

Warranty Tags shall be prepared in accordance with Section 01780 CLOSEOUT SUBMITTALS Paragraph 1.3.3 Warranty Tags.

In case of requirements for major adjustments, repairs or replacements, call the Base Civil Engineer's Contract Manager at (907) 337-5128."

1.7 CAMP FACILITIES

There are no Government owned camp facilities at the jobsite for the Contractor's use.

1.8 PARTNERING

The Government intends to encourage the foundation of a cohesive partnership with the Contractor and its subcontractors. This partnership will be structured to draw on the strengths of each organization to identify and achieve reciprocal goals. The objectives are effective and efficient contract performance, intended to achieve completion within budget, on schedule, and in accordance with plans and specifications.

This partnership will be bilateral in makeup, and participation will be totally voluntary. Implementation of this initiative will be a topic of discussion at the Preconstruction Conference. Other recurring or special purpose meetings, as agreed between the Government and the Contractor, will

be held as necessary to resolve contentious issues and maintain the partnering spirit.

1.9 OPERATION AND MAINTENANCE (O & M) MANUALS

See Section 01780 CLOSEOUT SUBMITTALS.

1.10 HEALTH HAZARD, ASBESTOS AND LEAD BASED PAINT

See Section 13000 HAZARDOUS MATERIALS ABATEMENT

1.11 EARTHQUAKE-RESISTANT EQUIPMENT SUPPORTS

All items of electrical, mechanical, and other installed equipment shall be mounted to prevent damage from lateral motion caused by earthquake. Restraints for seismic loading shall comply with requirements in TI 809-04. Any hooks from which light fixtures or other equipment are suspended shall be closed. Items of suspended or supported equipment subject to causing damage by swaying or tipping shall be cross-braced or laterally secured to the building structure. Any items of equipment mounted without rigid restraint of lateral motion shall have sufficient clearances and flexibility of associated wiring, piping, or other connections to accommodate the full range of such motion as might occur.

1.12 NPDES

Work shall comply with EPA National Pollutant Discharge Elimination System (NPDES General Permit No. AK-R-10-0000 for Construction Activities). The Contractor shall edit and complete Section 01356 STORMWATER POLLUTION PREVENTION MEASURES and include in the 100% Design Submittal.

1.12.1 Storm Water Pollution Prevention Plan

The Contractor shall prepare a Storm Water Pollution Prevention Plan (SWPPP) in accordance with SECTION 01356 STORM WATER POLLUTION PREVENTION MEASURES.

1.12.2 Notice of Intent

The Contractor shall complete EPA Form 3510-9, "Notice of Intent for Storm Water Discharges Associated with Construction Activity Under a NPDES General Permit". The Contractor shall submit the Notice of Intent (NOI) electronically at http://cfpub.epa.gov/npdes/stormwater/enoi.cfm. Provide a copy of the NOI submittal along with a project SWPPP and a one page description of the project, to the Contracting Officer for review.

1.12.3 Filing

Upon receipt of satisfactory submittal from the Contractor, the Government shall promptly submit a separate NOI electronically. In accordance with applicable requirements, no onsite work shall be performed until seven days after both the Contractor and Government NOIs have been electronically posted, notwithstanding any other provisions of the contract.

1.12.4 ADEC

The Government will forward copies of both Form 3510-9's, along with the SWPPP and the one-page project description, to the State of Alaska Department of Environmental Conservation (ADEC) in accordance with State of

Alaska regulations. The final plans and specifications will be included. The Contractor shall pay the fee required for review in accordance with 18 AAC 72 and provide the Government with addressed and postage paid envelop for forwarding NOI forms, SWPP, and project description to ADEC.

1.12.5 Notice of Termination

Upon completion of work at the project site, the Contractor shall prepare EPA Form 3510-13, Notice of Termination of Coverage Under the NPDES General Permit for Storm Water Discharges Associated with Industrial Activity, in accordance with the requirements stated on the form. A copy of the form is attached hereto and made a part of these specifications. The completed form shall be submitted to the Contracting Officer within 10 days after the earliest date that final site conditions meet filing requirements. The Government will forward the form to the NPDES Program Director.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

S A M P L E L E T T E R

Contracting Officer
Date_____
Address (as stated in Notice of Award)

SUBJECT: Warranty Provisions, Contract

GENTLEMEN:

This is to acknowledge our responsibility in connection with the warranty provisions of this contract as set forth in the contract specifications.

The following items, equipment or systems furnished or installed under this contract are hereby warranted against defective design, material and workmanship for a period as indicated:

Warranted Item, Equipment or System	Identification Serial Number, Etc.	Warranty Expires at 11:59 PM Std. Time
_____	_____	_____
_____	_____	_____
_____	_____	_____

Upon receipt of notice from the Government of failure of any part or parts of the warranted item, equipment, or system during the warranty period, the affected part or parts will be replaced promptly with new parts. Such replacement will include furnishing and installing the new part or parts, making all necessary repairs, restoring the item, equipment, or system to the operating condition specified in this contract and making all such tests as are necessary to ensure that there are no remaining defects. Such tests will be performed in the presence of the Representative of the Using Agency indicated below.

We are responsible to _____ for the warranty provisions of this contract. Correspondence regarding the failure of any of the preceding items, equipment or systems covered by the warranty provisions of this contract should be addressed to:

	Telephone Number:
_____	
_____	_____
_____	_____

Very truly yours,

Signed: _____
Title: _____
Organization: _____

USAF WELDING, CUTTING AND BRAZING PERMIT (AF FORM 592)

THIS PERMIT WILL BE RETAINED AT THE WORKSITE UNTIL THE JOB IS COMPLETED WITH A COPY RETAINED BY THE FIRE DEPARTMENT. PERMITS ARE NOT REQUIRED FOR WELDING SHOPS OR OTHER AREAS APPROVED BY THE FIRE DEPARTMENT.

USAF WELDING, CUTTING AND BRAZING PERMIT
(See instructions and checklist on reverse)

1. CONTROL NUMBER: FC-109
2. DATE PERMIT ISSUED: 21 OCT 1986
3. TIME PERMIT ISSUED: 1515
4. EXPIRATION (Date and time): 21 OCT 86 - 1700
5. [X] AIRCRAFT TAIL NO. 751
6. [ ] FACILITY NO.
7. [ ] OPEN AREA (Specify)
- [ ] INSIDE
- [X] OUTSIDE
- FLOOR NO
8. OPERATION TO BE PERFORMED: WELD AFTERBURNER
9. [X] FIRE WATCH IS REQUIRED DURING OPERATION AND 30 MINUTES THEREAFTER.
10. [X] AN AFTER OPERATION INSPECTION IS REQUIRED. CALL 6144 AFTER COMPLETION OF OPERATION AND REMAIN UNTIL ARRIVAL OF FIRE INSPECTOR.
11. [ ] CALL _____ UPON COMPLETION OF OPERATION.
12. SPECIAL PRECAUTIONS:
WATCH FOR FUEL VENTING
ROPE OFF AIRCRAFT
REMOVE UNNECESSARY TRAFFIC FROM AREA
STOP IMMEDIATELY IF A FUEL LEAK OCCURS
13. THE LOCATION WHERE THIS WORK IS TO BE DONE HAS BEEN EXAMINED, NECESSARY PRECAUTIONS TAKEN TO PROVIDE A FIRE SAFE ENVIRONMENT, AND PERMISSION IS GRANTED FOR THIS WORK.
SIGNATURE OF FIRE INSPECTOR ISSUING THE PERMIT: [signature]
14. I AM FULLY QUALIFIED TO PERFORM THIS OPERATION AND UNDERSTAND MY RESPONSIBILITIES AS OUTLINED IN AFOSH STANDARD 127-9
SIGNATURE OF OPERATOR OR ON-SCENE SUPERVISOR: [signature]
15. [X] AN AFTER OPERATION INSPECTION HAS BEEN PERFORMED AND THE AREA IS DECLARED SAFE
SIGNATURE OF FIRE INSPECTOR: [signature] — DATE: 21 OCT 86 — TIME: 1645
16. [ ] OPERATOR/FIRE WATCH HAS DECLARED THE AREA SAFE
NAME AND ORGANIZATION OF CALLER — DATE — TIME

AF FORM OCT 86 592

CONTROL NUMBER (OPTIONAL)

DATE AND TIME PERMIT EXPIRES

DATE AND TIME PERMIT ISSUED

IDENTIFY AIRCRAFT TAIL NUMBER OR BUILDING NUMBER AND FLOOR NUMBER.

IDENTIFY LOCATION IF WELDING IN AN OPEN AREA.

BRIEF DESCRIPTION OF WORK

CHECK IF FIRE WATCH REQUIRED.

CHECK IF FOLLOW-UP INSPECTION NEEDED AND ENTER FIRE INSPECTOR'S PHONE NUMBER

CHECK IF ONLY NOTIFICATION OF COMPLETION IS NEEDED. ENTER FIRE INSPECTOR'S PHONE NUMBER.

FILLED OUT BY FIRE INSPECTOR

FIRE INSPECTOR'S SIGNATURE

OPERATOR OR ON-SCENE SUPERVISOR SIGNS HERE.

AFTER COMPLETION INSPECTION AND SIGNATURE OF FIRE INSPECTOR

CHECK IF OPERATOR OR FIRE WATCH CALLS TO INDICATE JOB IS COMPLETE AND THE AREA IS SAFE. FILL IN CALLER'S NAME, DATE AND TIME.

BASE CIVIL ENGINEERING WORK CLEARANCE REQUEST

(See Instructions on Reverse)

DATE PREPARED

1. Clearance is requested to proceed with work at _____

on Work Order No. _____, Contract No. _____, involving excavation or utility disturbance per attached sketch. This area ☐ has ☐ has not been staked or clearly marked.

2. TYPE OF FACILITY/WORK INVOLVED

☐	A. PAVEMENTS	☐	D. FIRE DETECTION & PROTECTION SYSTEMS				☐	G. AIRCRAFT OR VEHICULAR TRAFFIC FLOW
☐	B. DRAINAGE SYSTEMS	☐	E. UTILITY	☐	OVERHEAD	☐	UNDERGROUND	☐ H. SECURITY
☐	C. RAILROAD TRACKS	☐	F. COMM	☐	OVERHEAD	☐	UNDERGROUND	☐ I. OTHER

3. DATE CLEARANCE REQUIRED	4. DATE OF CLEARANCE	
5. SIGNATURE OF REQUESTING OFFICIAL	6. TELEPHONE NO.	7. ORGANIZATION

	ORGANIZATION	REMARKS *(Use Reverse for additional comments)*	REVIEWER'S NAME AND INITIALS
8. BASE CIVIL ENGINEERING	A. ELECTRICAL DISTRIBUTION		
	B. STEAM DISTRIBUTION		
	C. WATER DISTRIBUTION		
	D. POL DISTRIBUTION		
	E. SEWER DISTRIBUTION		
	F. ENVIRONMENTAL		
	G. PAVEMENTS/ GROUNDS		
	H. FIRE PROTECTION		
	I. ZONE _____		
	J. OTHER *(Specify)*		
9. SECURITY POLICE			
10. SAFETY			
11. COMMUNICATIONS			
12. BASE OPERATIONS			
13. CABLE TV			
14. COMMERCIAL UTILITY COMPANY ☐ TELEPHONE ☐ GAS ☐ ELECTRIC			

15. OTHER *(Specify)* _____

16. REQUESTED CLEARANCE ☐ APPROVED ☐ DISAPPROVED

17. TYPED NAME AND SIGNATURE OF APPROVING OFFICER *(Chief of Operations Flight or Chief of Engineering Flight)*	17a. DATE SIGNED

INSTRUCTIONS

The BCE work clearance request is used for any work (contract or in-house) that may disrupt aircraft or vehicular traffic flow, base utility services, protection provided by fire and intrusion alarm system, or routine activities of the installation. This form is used to coordinate the required work with key base activities and keep customer inconvenience to a minimum. It is also used to identify potentially hazardous work conditions in an attempt to prevent accidents. The work clearance request is processed just prior to the start of work. If delays are encountered and the conditions at the job site change (or may have changed) this work clearance request must be reprocessed.

18. REMARKS. *(This section must describe specific precautionary measure to be taken before and during work accomplishment. Specific comments concerning the approved method of excavation, hand or powered equipment, should be included.)*

AF FORM 103, 19940801 ***(EF-V3) (REVERSE)***

This Form Replaces Form 3510-9 (8-98)
Refer to the Following Pages for Instructions

Form Approved OMB Nos. 2040-0188 and 2040-0211

NPDES Form

United States Environmental Protection Agency
Washington, DC 20460

Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity Under an NPDES General Permit

Submission of this Notice of Intent (NOI) constitutes notice that the party identified in Section II of this form requests authorization to discharge pursuant to the NPDES Construction General Permit (CGP) permit number identified in Section I of this form. Submission of this NOI also constitutes notice that the party identified in Section II of this form meets the eligibility requirements of the CGP for the project identified in Section III of this form. Permit coverage is required prior to commencement of construction activity until you are eligible to terminate coverage as detailed in the CGP. To obtain authorization, you must submit a complete and accurate NOI form. Refer to the instructions at the end of this form.

I. Permit Number

II. Operator Information

Name:

IRS Employer Identification Number (EIN): -

Mailing Address:

Street:

City: State: Zip Code: -

Phone: - - Fax (optional): - -

E-mail (optional):

III. Project/Site Information

Project/Site Name:

Project Street/Location:

City: State: Zip Code: -

County or similar government subdivision:

Latitude/Longitude (Use one of three possible formats, and specify method)

Latitude
1. _ _° _ _ ´ _ _´´ N (degrees, minutes, seconds)
2. _ _° _ _ . _ _´ N (degrees, minutes, decimal)
3. _ _ . _ _ _ _° N (decimal)

Longitude
1. _ _ _° _ _ ´ _ _´´ W (degrees, minutes, seconds)
2. _ _ _° _ _ . _ _´ W (degrees, minutes, decimal)
3. _ _ _ . _ _ _ _° W (decimal)

Method: ☐ U.S.G.S. topographic map ☐ EPA web site ☐ GPS ☐ Other:
• If you used a U.S.G.S. topographic map, what was the scale: _____

Project Located in Indian country? ☐ Yes ☐ No
If so, name of Reservation or if not part of a Reservation, put "Not Applicable": _____

Estimated Project Start Date: / / (Month Date Year) Estimated Project Completion Date: / / (Month Date Year)

Estimated Area to be Disturbed (to the nearest quarter acre): .

IV. SWPPP Information

Has the SWPPP been prepared in advance of filing this NOI? ☐ Yes ☐ No

Location of SWPPP for viewing: ☐ Address in Section II ☐ Address in Section III ☐ Other

If Other:

SWPPP Street: _____

City: _____

State: _____ Zip Code: _____ - _____

SWPPP Contact Information (if different than that in Section II):

Name: _____

Phone: _____ - _____ - _____ Fax (optional): _____ - _____ - _____

E-mail (optional): _____

V. Discharge Information

Identify the name(s) of waterbodies to which you discharge. _____

_____

Is this discharge consistent with the assumptions and requirements of applicable EPA approved or established TMDL(s)?

☐ Yes ☐ No

VI. Endangered Species Information

Under which criterion of the permit have you satisfied your ESA eligibility obligations?

☐ A ☐ B ☐ C ☐ D ☐ E ☐ F

- If you select criterion F, provide permit tracking number of operator under which you are certifying eligibility:

_____

VII. Certification Information

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print Name: _____

Print Title: _____

Signature: _____

Date: _____

Instructions for Completing EPA Form 3510-9

Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity Under an NPDES General Permit

NPDES Form This Form Replaces Form 3510-9 (8/98) Form Approved OMB Nos. 2040-0188 and 2040-0211

Who Must File an NOI Form
Under the provisions of the Clean Water Act, as amended (33 U.S.C. 1251 et.seq.; the Act), federal law prohibits storm water discharges from certain construction activities to waters of the U.S. unless that discharge is covered under a National Pollutant Discharge Elimination System (NPDES) Permit. Operator(s) of construction sites where one or more acres are disturbed, smaller sites that are part of a larger common plan of development or sale where there is a cumulative disturbance of at least one acre, or any other site specifically designated by the Director, must submit an NOI to obtain coverage under an NPDES general permit. Each person, firm, public organization, or any other entity that meets either of the following criteria must file this form: (1) they have operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or (2) they have day-to-day operational control of those activities at the project necessary to ensure compliance with SWPPP requirements or other permit conditions. If you have questions about whether you need an NPDES storm water permit, or if you need information to determine whether EPA or your state agency is the permitting authority, refer to *www.epa.gov/npdes/stormwater/cgp* or telephone the Storm Water Notice Processing Center at (866) 352-7755.

Where to File NOI Form
See the applicable CGP for information on where to send your completed NOI form.

Completing the Form
Obtain and read a copy of the appropriate EPA Storm Water Construction General Permit for your area. To complete this form, type or print, using uppercase letters, in the appropriate areas only. Please place each character between the marks (abbreviate if necessary to stay within the number of characters allowed for each item). Use one space for breaks between words, but not for punctuation marks unless they are needed to clarify your response. If you have any questions on this form, refer to *www.epa.gov/npdes/stormwater/cgp* or telephone the Storm Water Notice Processing Center at (866) 352-7755. Please submit original document with signature in ink - do not send a photocopied signature.

Section I. Permit Number
Provide the number of the permit under which you are applying for coverage (see Appendix B of the general permit for the list of eligible permit numbers).

Section II. Operator Information
Provide the legal name of the person, firm, public organization, or any other entity that operates the project described in this application. An operator of a project is a legal entity that controls at least a portion of site operations and is not necessarily the site manager. Provide the employer identification number (EIN from the Internal Revenue Service; IRS), also commonly referred to as your taxpayer ID. If the applicant does not have an EIN enter "NA" in the space provided. Also provide the operator's mailing address, telephone number, fax number (optional) and e-mail address (if you would like to be notified via e-mail of NOI approval when available). Correspondence for the NOI will be sent to this address.

Section III. Project/Site Information
Enter the official or legal name and complete street address, including city, state, zip code, and county or similar government subdivision of the project or site. If the project or site lacks a street address, indicate the general location of the site (e.g., Intersection of State Highways 61 and 34). Complete site information must be provided for permit coverage to be granted.

The applicant must also provide the latitude and longitude of the facility either in degrees, minutes, seconds; degrees, minutes, decimal; or decimal format. The latitude and longitude of your facility can be determined in several different ways, including through the use of global positioning system (GPS) receivers, U.S. Geological Survey (U.S.G.S.) topographic or quadrangle maps, and EPA's web-based siting tools, among others. Refer to *www.epa.gov/npdes/stormwater/cgp* for further guidance on the use of these methodologies. For consistency, EPA requests that measurements be taken from the approximate center of the construction site. Applicants must specify which method they used to determine latitude and longitude. If a U.S.G.S. topographic map is used, applicants are required to specify the scale of the map used.

Indicate whether the project is in Indian country, and if so, provide the name of the Reservation. If the project is in Indian Country Lands that are not part of a Reservation, indicate "not applicable" in the space provided.

Enter the estimated construction start and completion dates using four digits for the year (i.e., 05/27/1998). Enter the estimated area to be disturbed including but not limited to: grubbing, excavation, grading, and utilities and infrastructure installation. Indicate to the nearest quarter acre. Note: 1 acre = 43,560 sq. ft.

Section IV. SWPPP Information
Indicate whether or not the SWPPP was prepared in advance of filing the NOI form. Check the appropriate box for the location where the SWPPP may be viewed. Provide the name,

Instructions for Completing EPA Form 3510-9

Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity Under an NPDES General Permit

NPDES Form This Form Replaces Form 3510-9 (8/98) Form Approved OMB Nos. 2040-0188 and 2040-0211

fax number (optional), and e-mail address (optional) of the contact person if different than that listed in Section II of the NOI form.

Section V. Discharge Information

Enter the name(s) of receiving waterbodies to which the project's storm water will discharge. These should be the first bodies of water that the discharge will reach. (Note: If you discharge to more than one waterbody, please indicate all such waters in the space provided and attach a separate sheet if necessary.) For example, if the discharge leaves your site and travels through a roadside swale or a storm sewer and then enters a stream that flows to a river, the stream would be the receiving waterbody. Waters of the U.S. include lakes, streams, creeks, rivers, wetlands, impoundments, estuaries, bays, oceans, and other surface bodies of water within the confines of the U.S. and U.S. coastal waters. Waters of the U.S. do not include man-made structures created solely for the purpose of wastewater treatment. U.S. Geological Survey topographical maps may be used to make this determination. If the map does not provide a name, use a format such as "unnamed tributary to Cross Creek". If you discharge into a municipal separate storm sewer system (MS4), you must identify the waterbody into which that portion of the storm sewer discharges. That information should be readily available from the operator of the MS4.

Indicate whether your storm water discharges from construction activities will be consistent with the assumptions and requirements of applicable EPA approved or established TMDL(s). To answer this question, refer to *www.epa.gov/npdes/stormwater/cgp* for state- and regional-specific TMDL information related to the construction general permit. You may also have to contact your EPA regional office or state agency. If there are no applicable TMDLs or no related requirements, please check the "yes" box in the NOI form.

Section VI. Endangered Species Information

Indicate for which criterion (i.e., A, B, C, D, E, or F) of the permit the applicant is eligible with regard to protection of federally listed endangered and threatened species, and designated critical habitat. See Part 1.3.C.6 and Appendix C of the permit. If you select criterion F, provide the permit tracking number of the operator under which you are certifying eligibility. The permit tracking number is the number assigned to the operator by the Storm Water Notice Processing Center after EPA acceptance of a complete NOI.

Section VII. Certification Information

All applications, including NOIs, must be signed as follows:
For a corporation: By a responsible corporate officer. For the purpose of this Section, a responsible corporate officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or

For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this Part, a principal executive officer of a federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of EPA).

Include the name and title of the person signing the form and the date of signing. An unsigned or undated NOI form will not be considered eligible for permit coverage.

Paperwork Reduction Act Notice

Public reporting burden for this application is estimated to average 3.7 hours. This estimate includes time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments regarding the burden estimate, any other aspect of the collection of information, or suggestions for improving this form, including any suggestions which may increase or reduce this burden to: Chief, Information Policy Branch 2136, U.S. Environmental Protection, Agency, 1200 Pennsylvania Avenue, NW, Washington, D.C. 20460. Include the OMB control number on any correspondence. Do not send the completed form to this address.

BASE CIVIL ENGINEER WORK CLEARANCE REQUEST

Permit Number:

1. Clearance is requested to proceed with work at _____ on Work Order No. _____ , Contract No. _____ , involving excavation or utility disturbance per attached sketch.

2. Description of Work *(Particularly describe in detail all ground penetrations)*: _____

3. **INSTRUCTIONS:** This BCE work clearance request is required for any work that may disrupt aircraft or vehicular traffic flow, base utility services, fire protection, intrusion alarm systems, or routine activities of the installation. Work must be coordinated in order to minimize customer inconvenience and ensure the safety of contract workers and base personnel. This request must be processed prior to start of work. If work is not started within 30 days of the approval date or it is suspected that job site conditions have changed, this request must be reprocessed by all shops and revalidated by the approving officer. Further guidance concerning utilities can be found in WI 32-1007. BCE shops (Block 7) will be available to coordinate work requests from 0800-1130 and 1300-1600 Mon-Fri.

4. Requester's Name:

5. Phone Number:

6. Organization:

7. BASE CIVIL ENGINEERING

Organization Location/Phone Number	Utilities in Area? Yes	Utilities in Area? No	Locate Date	Printed Name and Signature	Remarks Use Block 18 for additional
A. Environmental Bldg 5312 552-7305					
B. Steam Distribution (Pit Crew) Bldg 5327 552-3758					
C. Water, Sewer, Gas Lines Bldg 5327 552-3024					
D. Alarm Shop Bldg 5327 552-4168					
E. Facility Maintenance (Heating Lines) Bldg 5327 552-3699/8207					
F. POL Distribution (Pipeline) Bldg 8306 552-3334					
G. POL Distribution (Electrical) Bldg 8306 552-4630					
H. Drainage, Pavements, Grnds, RRs Bldg 9361 552-2994/2995					
I. Fire Department Station #2 Bldg 5126 552-2620/2801					
J. Power Production Bldg 10306 552-2715					
K. Electrical Distribution Bldg 5337 552-2175					
L. Maintenance Engineer (Cath Protect) Bldg 6326 552-4544					
M. Drafting Bldg 6326 552-2765/4965					
N. Construction Management (Last Signature) Bldg 6326 552-4602/7444					

	Organization Location/Phone Number	Utilities in Area? Yes	Utilities in Area? No	Locate Date	Printed Name and Signature	Remarks Use Block 18 for additional
8.	Security Forces Squadron - LED Bldg 8517 552-2132					
9.	Base Communications Cable Maintenance Bldg 7153 552-8541/8544					
10.	Base Operations Bldg 11369 552-3285					
11.	Cable TV (GCI) Commercial Telephone (ATU) Commercial Gas ALASCOM Communications 278-3121					Locate Number:
12.	Fort Richardson Communications 59 Signal BN Ft Rich 384-0000/0001					
13.	BISS Maintenance (Security Systems) Bldg 7210 552-4040					
14.	Weapons Safety Bldg 10427 3rd Floor 552-4681					

18. Additional Remarks:

19. Request Clearance: ☐ Approved ☐ Disapproved

20. Work Must Start Prior To:

21. Signature of Approving Officer: *(Chief, Operations or Chief, Engineering)*

22. Approval Date:

Work clearance is not valid until a permit number has been assigned. Permit numbers will be assigned in the 3 CES/CEO office after the approving officer has signed. Approved work is limited to that described in Block 2 and on any attached drawings.

This Form Replaces Form 3517-7 (8-98)
Refer to the Following Page for Instructions

Form Approved OMB Nos. 2040-0086 and 2040-0211

NPDES Form

United States Environmental Protection Agency
Washington, DC 20460

Notice of Termination (NOT) of Coverage Under an NPDES General Permit for Storm Water Discharges Associated with Construction Activity

Submission of this Notice of Termination constitutes notice that the party identified in Section II of this form is no longer authorized to discharge storm water associated with construction activity under the NPDES program from the site identified in Section III of this form. All necessary information must be included on this form. Refer to the instructions at the end of this form.

I. Permit Information

NPDES Storm Water General Permit Tracking Number: _____

Reason for Termination (Check only one):

- ☐ Final stabilization has been achieved on all portions of the site for which you are responsible.
- ☐ Another operator has assumed control, according to Appendix G, Section 11.C of the CGP, over all areas of the site that have not been finally stabilized.
- ☐ Coverage under an alternative NPDES permit has been obtained.
- ☐ For residential construction only, temporary stabilization has been completed and the residence has been transferred to the homeowner.

II. Operator Information

Name: _____

IRS Employer Identification Number (EIN): ___ - _____

Mailing Address:

Street: _____

City: _____ State: ___ Zip Code: _____ - ____

Phone: ___ - ___ - _____ Fax (optional): ___ - ___ - _____

E-mail (optional): _____

III. Project/Site Information

Project/Site Name: _____

Project Street/Location: _____

City: _____ State: ___ Zip Code: _____ - ____

County or similar government subdivision: _____

IV. Certification Information

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print Name: _____

Print Title: _____

Signature: _____

Date: _____

Instructions for Completing EPA Form 3510-13

Notice of Termination (NOT) of Coverage Under an NPDES General Permit for Storm Water Discharges Associated with Construction Activity

NPDES Form This Form Replaces Form 3517-7 (8-98) Form Approved OMB Nos. 2040-0086 and 2040-0211

Who May File an NOT Form

Permittees who are presently covered under the EPA-issued National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activity may submit an NOT form when final stabilization has been achieved on all portions of the site for which you are responsible; another operator has assumed control in accordance with Appendix G, Section 11.C of the General Permit over all areas of the site that have not been finally stabilized; coverage under an alternative NPDES permit has been obtained; or for residential construction only, temporary stabilization has been completed and the residence has been transferred to the homeowner.

"Final stabilization" means that all soil disturbing activities at the site have been completed and that a uniform perennial vegetative cover with a density of at least 70% of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed. See "final stabilization" definition in Appendix A of the Construction General Permit for further guidance where background native vegetation covers less than 100 percent of the ground, in arid or semi-arid areas, for individual lots in residential construction, and for construction projects on land used for agricultural purposes.

Completing the Form

Type or print, using uppercase letters, in the appropriate areas only. Please place each character between the marks. Abbreviate if necessary to stay within the number of characters allowed for each item. Use only one space for breaks between words, but not for punctuation marks unless they are needed to clarify your response. If you have any questions about this form, refer to *www.epa.gov/npdes/stormwater/cgp* or telephone the Storm Water Notice Processing Center at (866) 352-7755. Please submit original document with signature in ink - do not send a photocopied signature.

Section I. Permit Number

Enter the existing NPDES Storm Water General Permit Tracking Number assigned to the project by EPA's Storm Water Notice Processing Center. If you do not know the permit tracking number, refer to *www.epa.gov/npdes/stormwater/cgp* or contact the Storm Water Notice Processing Center at (866) 352-7755.

Indicate your reason for submitting this Notice of Termination by checking the appropriate box. Check only one:

Final stabilization has been achieved on all portions of the site for which you are responsible.

Another operator has assumed control according to Appendix G, Section 11.C over all areas of the site that have not been finally stabilized.

Coverage under an alternative NPDES permit has been obtained.

For residential construction only, if temporary stabilization has been completed and the residence has been transferred to the homeowner.

Section II. Operator Information

Provide the legal name of the person, firm, public organization, or any other entity that operates the project described in this application and is covered by the permit tracking number identified in Section I. The operator of the project is the legal entity that controls the site operation, rather than the site manager. Provide the employer identification number (EIN from the Internal Revenue Service; IRS). If the applicant does not have an EIN enter "NA" in the space provided. Enter the complete mailing address and telephone number of the operator. *Optional:* enter the fax number and e-mail address of the operator.

Section III. Project/Site Information

Enter the official or legal name and complete street address, including city, state, zip code, and county or similar government subdivision of the project or site. If the project or site lacks a street address, indicate the general location of the site (e.g., Intersection of State Highways 61 and 34). Complete site information must be provided for termination of permit coverage to be valid.

Section IV. Certification Information

All applications, including NOIs, must be signed as follows:

For a corporation: By a responsible corporate officer. For the purpose of this Part, a responsible corporate officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or

For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this Part, a principal executive officer of a federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of EPA).

Include the name and title of the person signing the form and the date of signing. An unsigned or undated NOT form will not be considered valid termination of permit coverage.

Paperwork Reduction Act Notice

Public reporting burden for this application is estimated to average 0.5 hours per notice, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments regarding the burden estimate, any other aspect of the collection of information, or suggestions for improving this form including any suggestions which may increase or reduce this burden to: Chief, Information Policy Branch, 2136, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, NW, Washington, DC 20460. Include the OMB number on any correspondence. Do not sent the completed form to this address.

EPA Form 3510-13 (Rev. 6/03)

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SECTION 01180

RADIOACTIVE MATERIALS PROCEDURES

PART 1 GENERAL

1.1 SCOPE

This section covers the use of items containing radioactive substances, such as soil density measuring devices, on military property or installations.

1.2 REFERENCES

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

U.S. AIR FORCE (USAF)

AFI 40-201	Managing Radioactive Material in the Air Force

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

10 CFR 0-199	Code of Federal Regulations, Title 10, Chapter I, Nuclear Regulatory Commission (NRC)

1.3 REQUIREMENTS

Use of radioactive material on military property or installations shall conform to the following requirements.

1.3.1 Standards

The Contractor shall comply with 10 CFR 0-199 and AFI 40-201.

1.3.2 Usage Request

The Contractor shall submit a temporary radioactive material usage request, through the Contracting Officer, to the Base Radiation Safety Officer (RSO), Bioenvironmental Engineering Services. Submittal shall be made at least 60 days prior to the desired start date or date of arrival of the material, whichever is sooner, for NRC licensed items, and at least 120 days prior to such date for items which do not require an NRC license, such as certain density gages. The request shall include the following information:

a. A detailed description of the proposed activities or usage, to include safety precautions to be enforced.

b. A copy of the written procedures established by the Contractor to ensure the radiological health and safety of Air Force personnel and

the public while the material is on an Air Force installation.

c. A copy of the applicable NRC or Agreement State License possessed by the Contractor, if available. If the material is not controlled by the NRC, the Contractor shall provide a complete and accurate NRC Form 313 for each type of unit to be used, with all necessary supporting documentation, for review and subsequent forwarding to the USAF Radioisotope Committee (RIC), requesting an Air Force Radioactive Materials Use Permit be granted the Contractor for the specified period of use.

NOTE: The RIC may temporarily deny the request until additional information they require for evaluation is provided, or may totally deny the request if the Contractor's proposal does not meet 10 CFR 0-199, AFI 40-201, or other Air Force requirements. An additional 90 day period will be required for review of each additional submittal to the RIC. A decision of the RIC to totally deny a permit will be considered final.

d. A copy of the NRC Form 241 or a similar document for each specific licensable item the Contractor wishes to use.

e. A copy of the contract section(s) describing the work to be performed, and the inclusive dates during which the work will be conducted.

f. The Contractor shall also provide documentation of the names and qualifications of all personnel who will handle, store, transport and/or use the radioactive material proving that they are properly trained to perform these functions. Specific documentation (such as course completion certificates and in-house training certifications and plans) shall be included to show that these personnel are properly trained in accordance with the stipulations of the license(s) or the proposed permit.

1.4 INITIAL NOTIFICATION

Once the Contractor has received written approval for use of the radioactive material through the Contracting Officer, the radioactive material may be brought onto the installation. The Contractor shall notify the RSO immediately upon bringing the material onto the installation, and again 3 working days prior to the initial use of the materials.

1.5 COMPLETE NOTIFICATION

The Contractor shall notify the RSO immediately upon completion of use, and when the material is removed from the installation.

1.6 VIOLATIONS

The Contractor will be subject to inspection by the Contracting Officer, the RSO, and Federal and State agencies or their designated representatives at all times when the materials are on the installation. Any violations of the conditions of the approval, or of applicable regulations, will require immediate cessation of work until the cause is corrected, and written approval for re-start of work is received by the Contracting Officer from the RSO. All delays, down time, etc. incurred as a result of such cessation of work shall be at the Contractor's expense.

1.7 ACCIDENTS

Accidents or incidents involving the radioactive material, and any known or potential exposure of Contractor or non-Contractor personnel to radiation, shall be reported immediately to the RSO and the Contracting Officer, and operations suspended until the circumstances have been evaluated by the RSO, and approval for the re-start has been received by the Contracting Officer.

PART 2 PRODUCTS - NOT USED

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SECTION 01270

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with SECTION 01330 SUBMITTAL PROCEDURES:

SD-03 Product Data

1.2 LUMP SUM PAYMENT ITEMS

Payment items for the work of this contract for which contract lump sum payments will be made are listed in the BIDDING SCHEDULE and described below. All costs for items of work, which are not specifically mentioned to be included in a particular lump sum or unit price payment item, shall be included in the listed lump sum item most closely associated with the work involved. The lump sum price and payment made for each item listed shall constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for which separate payment is not otherwise provided.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

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PART 3 EXECUTION - NOT USED

-- End of Section Table of Contents --

SECTION 01312

QUALITY CONTROL SYSTEM (QCS)

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

The Government will use the Resident Management System for Windows (RMS) to assist in its monitoring and administration of this contract. The Contractor shall use the Government-furnished Construction Contractor Module of RMS, referred to as QCS, to record, maintain, and submit various information throughout the contract period. This joint Government-Contractor use of RMS and QCS will facilitate electronic exchange of information and overall management of the contract. QCS provides the means for the Contractor to input, track, and electronically share information with the Government in the following areas:

Administration

Finances

Quality Control

Submittal Monitoring

Scheduling

Import/Export of Data

1.1.1 Correspondence and Electronic Communications

For ease and speed of communications, both Government and Contractor will, to the maximum extent feasible, exchange correspondence and other documents in electronic format. Correspondence, pay requests and other documents comprising the official contract record shall also be provided in paper format, with signatures and dates where necessary. Paper documents will govern, in the event of discrepancy with the electronic version.

1.1.2 Other Factors

Particular attention is directed to Contract Clause, "Schedules for Construction Contracts", Contract Clause, "Payments", SECTION 01320, PROJECT SCHEDULE, SECTION 01330 SUBMITTAL PROCEDURES, and SECTION 01451 CONTRACTOR QUALITY CONTROL, which have a direct relationship to the reporting to be accomplished through QCS. Also, there is no separate payment for establishing and maintaining the QCS database; all costs associated therewith shall be included in the contract pricing for the work.

1.2 QCS SOFTWARE

QCS is a Windows-based program that can be run on a stand-alone personal computer or on a network. The Government will make available the QCS software to the Contractor after award of the construction contract. Prior

to the Pre-Construction Conference, the Contractor shall be responsible to download, install and use the latest version of the QCS software from the Government's RMS Internet Website. Upon specific justification and request by the Contractor, the Government can provide QCS on 3-1/2 inch high-density diskettes or CD-ROM. Any program updates of QCS will be made available to the Contractor via the Government RMS Website as they become available.

1.3 SYSTEM REQUIREMENTS

The following listed hardware and software is the minimum system configuration that the Contractor shall have to run QCS:

Hardware

IBM-compatible PC with 500 MHz Pentium or higher processor

128+ MB RAM For Workstation/256+MB RAM for Server

4 GB hard drive disk space for sole use by the QCS system

3-1/2 inch high-density floppy drive

Compact disk (CD) Reader

Color monitor

Laser printer compatible with HP LaserJet III or better, with minimum 4 MB installed memory.

Connection to the Internet, minimum 56 Kbps

Software

MS Windows 98, 2000 or XP

Word Processing software compatible with MS Word 97 or newer

Internet browser

The Contractor's computer system shall be protected by virus protection software that is regularly upgraded with all issued manufacturer's updates throughout the life of the contract.

Electronic mail (E-mail) compatible with MS Outlook

1.4 RELATED INFORMATION

1.4.1 QCS User Guide

After contract award, the Contractor shall download instructions for the installation and use of QCS from the Government RMS Internet Website; the Contractor can obtain the current address from the Government. In case of justifiable difficulties, the Government will provide the Contractor with a CD-ROM containing these instructions.

1.4.2 Contractor Quality Control (CQC) Training

The use of QCS will be discussed with the Contractor's QC System Manager

during the mandatory CQC Training class.

1.5 CONTRACT DATABASE

Prior to the pre-construction conference, the Government shall provide the Contractor with basic contract award data to use for QCS. The Government will provide data updates to the Contractor as needed, generally by files attached to E-mail. These updates will generally consist of submittal reviews, correspondence status, QA comments, and other administrative and QA data.

1.6 DATABASE MAINTENANCE

The Contractor shall establish, maintain, and update data for the contract in the QCS database throughout the duration of the contract. The Contractor shall establish and maintain the QCS database at the Contractor's site office. Data updates to the Government shall be submitted by E-mail with file attachments, e.g., daily reports, schedule updates, payment requests. If permitted by the Contracting Officer, a data diskette or CD-ROM may be used instead of E-mail (see paragraph DATA SUBMISSION VIA COMPUTER DISKETTE OR CD-ROM). The QCS database typically shall include current data on the following items:

1.6.1 Administration

1.6.1.1 Contractor Information

The database shall contain the Contractor's name, address, telephone numbers, management staff, and other required items. Within 14 calendar days of receipt of QCS software from the Government, the Contractor shall deliver Contractor administrative data in electronic format via E-mail.

1.6.1.2 Subcontractor Information

The database shall contain the name, trade, address, phone numbers, and other required information for all subcontractors. A subcontractor must be listed separately for each trade to be performed. Each subcontractor/trade shall be assigned a unique Responsibility Code, provided in QCS. Within 14 calendar days of receipt of QCS software from the Government, the Contractor shall deliver subcontractor administrative data in electronic format via E-mail.

1.6.1.3 Correspondence

All Contractor correspondence to the Government shall be identified with a serial number. Correspondence initiated by the Contractor's site office shall be prefixed with "S". Letters initiated by the Contractor's home (main) office shall be prefixed with "H". Letters shall be numbered starting from 0001 (e.g., H-0001 or S-0001). The Government's letters to the Contractor will be prefixed with "C".

1.6.1.4 Equipment

The Contractor's QCS database shall contain a current list of equipment planned for use or being used on the jobsite, including the most recent and planned equipment inspection dates.

1.6.1.5 Management Reporting

QCS includes a number of reports that Contractor management can use to track the status of the project. The value of these reports is reflective of the quality of the data input, and is maintained in the various sections of QCS. Among these reports are: Progress Payment Request worksheet, QA/QC comments, Submittal Register Status, Three-Phase Inspection checklists.

1.6.2 Finances

1.6.2.1 Pay Activity Data

The QCS database shall include a list of pay activities that the Contractor shall develop in conjunction with the construction schedule. The sum of all pay activities shall be equal to the total contract amount, including modifications. Pay activities shall be grouped by Contract Line Item Number (CLIN), and the sum of the activities shall equal the amount of each CLIN. The total of all CLINs equals the Contract Amount.

1.6.2.2 Payment Requests

All progress payment requests shall be prepared using QCS. The Contractor shall complete the payment request worksheet and include it with the payment request. The work completed under the contract, measured as percent or as specific quantities, shall be updated at least monthly. After the update, the Contractor shall generate a payment request report using QCS. The Contractor shall submit the payment requests with supporting data by E-mail with file attachment(s). If permitted by the Contracting Officer, a data diskette may be used instead of E-mail. A signed paper copy of the approved payment request is also required, which shall govern in the event of discrepancy with the electronic version.

1.6.3 Quality Control (QC)

QCS provides a means to track implementation of the 3-phase QC Control System, prepare daily reports, identify and track deficiencies, document progress of work, and support other Contractor QC requirements. The Contractor shall maintain this data on a daily basis. Entered data shall automatically output to the QCS generated daily report. The Contractor shall provide the Government a Contractor Quality Control (CQC) Plan within the time required in SECTION 01451, CONTRACTOR QUALITY CONTROL. Within seven calendar days of Government acceptance, the Contractor shall submit a data diskette or CD-ROM reflecting the information contained in the accepted CQC Plan: schedule, pay activities, features of work, submittal register, QC requirements, and equipment list.

1.6.3.1 Daily Contractor Quality Control (CQC) Reports.

QCS includes the means to produce the Daily CQC Report. The Contractor may use other formats to record basic QC data. However, the Daily CQC Report generated by QCS shall be the Contractor's official report. Data from any supplemental reports by the Contractor shall be summarized and consolidated onto the QCS-generated Daily CQC Report. Daily CQC Reports shall be submitted as required by SECTION 01451 CONTRACTOR QUALITY CONTROL. Reports shall be submitted electronically to the Government using E-mail or diskette within 24 hours after the date covered by the report. Use of either mode of submittal shall be coordinated with the Government representative. The Contractor shall also provide the Government a signed, printed copy of the daily CQC report.

1.6.3.2 Deficiency Tracking.

The Contractor shall use QCS to track deficiencies. Deficiencies identified by the Contractor shall be numerically tracked using QC punch list items. The Contractor shall maintain a current log of its QC punch list items in the QCS database. The Government will log the deficiencies it has identified using its QA punch list items. The Government's QA punch list items will be included in its export file to the Contractor. The Contractor shall regularly update the correction status of both QC and QA punch list items.

1.6.3.3 Three-Phase Control Meetings

The Contractor shall maintain scheduled and actual dates and times of preparatory and initial control meetings in QCS.

1.6.3.4 Accident/Safety Tracking.

The Government will issue safety comments, directions, or guidance whenever safety deficiencies are observed. The Government's safety comments will be included in its export file to the Contractor. The Contractor shall regularly update the correction status of the safety comments. In addition, the Contractor shall utilize QCS to advise the Government of any accidents occurring on the jobsite. This brief supplemental entry is not to be considered as a substitute for completion of mandatory reports, e.g., ENG Form 3394 and OSHA Form 200.

1.6.3.5 Features of Work

The Contractor shall include a complete list of the features of work in the QCS database. A feature of work may be associated with multiple pay activities. However, each pay activity (see subparagraph "Pay Activity Data" of paragraph "Finances") will only be linked to a single feature of work.

1.6.3.6 QC Requirements

The Contractor shall develop and maintain a complete list of QC testing, transferred and installed property, and user training requirements in QCS. The Contractor shall update all data on these QC requirements as work progresses, and shall promptly provide this information to the Government via QCS.

1.6.4 Submittal Management

The Government will provide the initial submittal register, ENG Form 4288, SUBMITTAL REGISTER, in electronic format. Thereafter, the Contractor shall maintain a complete list of all submittals, including completion of all data columns. Dates on which submittals are received and returned by the Government will be included in its export file to the Contractor. The Contractor shall use QCS to track and transmit all submittals. ENG Form 4025, submittal transmittal form, and the submittal register update, ENG Form 4288, shall be produced using QCS. RMS will be used to update, store and exchange submittal registers and transmittals, but will not be used for storage of actual submittals.

1.6.5 Schedule

The Contractor shall develop a construction schedule consisting of pay activities, in accordance with Contract Clause "Schedules for Construction Contracts", or SECTION 01320 PROJECT SCHEDULE, as applicable. This schedule shall be input and maintained in the QCS database either manually or by using the Standard Data Exchange Format (SDEF) (see SECTION 01320 PROJECT SCHEDULE). The updated schedule data shall be included with each pay request submitted by the Contractor.

1.6.6 Import/Export of Data

QCS includes the ability to export Contractor data to the Government and to import submittal register and other Government-provided data, and schedule data using SDEF.

1.7 IMPLEMENTATION

Contractor use of QCS as described in the preceding paragraphs is mandatory. The Contractor shall ensure that sufficient resources are available to maintain its QCS database, and to provide the Government with regular database updates. QCS shall be an integral part of the Contractor's management of quality control.

1.8 DATA SUBMISSION VIA COMPUTER DISKETTE OR CD-ROM

The Government-preferred method for Contractor's submission of updates, payment requests, correspondence and other data is by E-mail with file attachment(s). For locations where this is not feasible, the Contracting Officer may permit use of computer diskettes or CD-ROM for data transfer. Data on the disks or CDs shall be exported using the QCS built-in export function. If used, diskettes and CD-ROMs shall be submitted in accordance with the following:

1.8.1 File Medium

The Contractor shall submit required data on 3-1/2 inch double-sided high-density diskettes formatted to hold 1.44 MB of data, capable of running under Microsoft Windows 98, 2000 or XP. Alternatively, CD-ROMs may be used. They shall conform to industry standards used in the United States. All data shall be provided in English.

1.8.2 Disk or CD-ROM Labels

The Contractor shall affix a permanent exterior label to each diskette and CD-ROM submitted. The label shall indicate, in English, the QCS file name, full contract number, contract name, project location, data date, name and telephone number of person responsible for the data.

1.8.3 File Names

The Government will provide the file names to be used by the Contractor with the QCS software.

1.9 MONTHLY COORDINATION MEETING

The Contractor shall update the QCS database each workday. At least monthly, the Contractor shall generate and submit an export file to the Government with schedule update and progress payment request. As required

in Contract Clause "Payments", at least one week prior to submittal, the Contractor shall meet with the Government representative to review the planned progress payment data submission for errors and omissions. The Contractor shall make all required corrections prior to Government acceptance of the export file and progress payment request. Payment requests accompanied by incomplete or incorrect data submittals will be returned. The Government will not process progress payments until an acceptable QCS export file is received.

1.10 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the requirements of this specification. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, shall be deemed sufficient for the purpose of notification.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

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SECTION 01320

PROJECT SCHEDULE

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of the specification to the extent referenced. The publications are referenced in the text by basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

ER 1-1-11	(1995) Progress, Schedules, and Network Analysis Systems

1.2 QUALIFICATIONS

The Contractor shall designate an authorized representative who shall be responsible for the preparation of all required project schedule reports.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Pursuant to the Contract Clause, SCHEDULE FOR CONSTRUCTION CONTRACTS, a Project Schedule as described below shall be prepared. The scheduling of construction shall be the responsibility of the Contractor. Contractor management personnel shall actively participate in its development. Subcontractors and suppliers working on the project shall also contribute in developing and maintaining an accurate Project Schedule. The approved Project Schedule shall be used to measure the progress of the work, to aid in evaluating time extensions, and to provide the basis of all progress payments.

3.2 BASIS FOR PAYMENT

The schedule shall be the basis for measuring Contractor progress. Lack of an approved schedule or scheduling personnel will result in an inability of the Contracting Officer to evaluate Contractor's progress for the purposes of payment. Failure of the Contractor to provide all information, as specified below, shall result in the disapproval of the entire Project Schedule submission and the inability of the Contracting Officer to evaluate Contractor progress for payment purposes. In the case where Project Schedule revisions have been directed by the Contracting Officer and those revisions have not been included in the Project Schedule, the Contracting Officer may hold retainage up to the maximum allowed by contract, each payment period, until revisions to the Project Schedule have been made.

3.3 PROJECT SCHEDULE

The computer software system utilized by the Contractor to produce the Project Schedule shall be capable of providing all requirements of this specification. Failure of the Contractor to meet the requirements of this specification shall result in the disapproval of the schedule. Manual methods used to produce any required information shall require approval by the Contracting Officer.

3.3.1 Use of the Critical Path Method

The Critical Path Method (CPM) of network calculation shall be used to generate the Project Schedule. The Contractor shall provide the Project Schedule in the Precedence Diagram Method (PDM).

3.3.2 Level of Detail Required

The Project Schedule shall include an appropriate level of detail. Failure to develop or update the Project Schedule or provide data to the Contracting Officer at the appropriate level of detail, as specified by the Contracting Officer, shall result in the disapproval of the schedule. The Contracting Officer will use, but is not limited to, the following conditions to determine the appropriate level of detail to be used in the Project Schedule:

3.3.2.1 Activity Durations

Contractor submissions shall follow the direction of the Contracting Officer regarding reasonable activity durations. Reasonable durations are those that allow the progress of activities to be accurately determined between payment periods (usually less than 2 percent of all non-procurement activities' Original Durations are greater than 20 days).

3.3.2.2 Procurement Activities

Tasks related to the procurement of long lead materials or equipment shall be included as separate activities in the project schedule. Long lead materials and equipment are those materials that have a procurement cycle of over 90 days. Examples of procurement process activities include, but are not limited to: submittals, approvals, procurement, fabrication, and delivery.

3.3.2.3 Critical Activities

The following activities shall be listed as separate line activities on the Contractor's project schedule:

a. Submission and approval of mechanical/electrical layout drawings.

b. Submission and approval of O & M manuals.

c. Submission and approval of as-built drawings.

d. Submission and approval of 1354 data and installed equipment lists.

e. Performance Verification testing.

f. Other systems testing, if required.

g. Prefinal inspection.

h. Correction of punchlist from prefinal inspection.

i. Final inspection.

3.3.2.4 Government Activities

Government and other agency activities that could impact progress shall be shown. These activities include, but are not limited to: approvals, inspections, utility tie-in, Government Furnished Equipment (GFE) and Notice to Proceed (NTP) for phasing requirements.

3.3.2.5 Responsibility

All activities shall be identified in the project schedule by the party responsible to perform the work. Responsibility includes, but is not limited to, the subcontracting firm, Contractor work force, or Government agency performing a given task. Activities shall not belong to more than one responsible party. The responsible party for each activity shall be identified by the Responsibility Code.

3.3.2.6 Work Areas

All activities shall be identified in the project schedule by the work area in which the activity occurs. Activities shall not be allowed to cover more than one work area. The work area of each activity shall be identified by the Work Area Code.

3.3.2.7 Modification or Claim Number

Any activity that is added or changed by contract modification or used to justify claimed time shall be identified by a mod or claim code that changed the activity. Activities shall not belong to more than one modification or claim item. The modification or claim number of each activity shall be identified by the Mod or Claim Number. Whenever possible, changes shall be added to the schedule by adding new activities. Existing activities shall not normally be changed to reflect modifications.

3.3.2.8 Offer Item

All activities shall be identified in the project schedule by the Offer Item to which the activity belongs. An activity shall not contain work in more than one offer item. The offer item for each appropriate activity shall be identified by the Offer Item Code.

3.3.2.9 Phase of Work

All activities shall be identified in the project schedule by the phases of work in which the activity occurs. Activities shall not contain work in more than one phase of work. The project phase of each activity shall be by the unique Phase of Work Code.

3.3.2.10 Category of Work

All Activities shall be identified in the project schedule according to the category of work which best describes the activity. Category of work refers, but is not limited, to the procurement chain of activities including such items as submittals, approvals, procurement, fabrication,

delivery, installation, start-up, and testing. The category of work for each activity shall be identified by the Category of Work Code.

3.3.2.11 Feature of Work

All activities shall be identified in the project schedule according to the feature of work to which the activity belongs. Feature of work refers, but is not limited to, a work breakdown structure for the project. The feature of work for each activity shall be identified by the Feature of Work Code.

3.3.3 Scheduled Project Completion

The schedule interval shall extend from NTP to the contract completion date.

3.3.3.1 Project Start Date

The schedule shall start no earlier than the date on which the NTP was acknowledged. The Contractor shall include as the first activity in the project schedule an activity called "Start Project". The "Start Project" activity shall have an "ES" constraint date equal to the date that the NTP was acknowledged, and a zero day duration.

3.3.3.2 Constraint of Last Activity

Completion of the last activity in the schedule shall be constrained by the contract completion date. Calculation on project updates shall be such that if the early finish of the last activity falls after the contract completion date, then the float calculation shall reflect a negative float on the critical path. The Contractor shall include as the last activity in the project schedule an activity called "End Project". The "End Project" activity shall have an "LF" constraint date equal to the completion date for the project, and a zero day duration.

3.3.3.3 Early Project Completion

In the event the project schedule shows completion of the project prior to the contract completion date, the Contractor shall identify those activities that have been accelerated and/or those activities that are scheduled in parallel to support the Contractor's "early" completion. Contractor shall specifically address each of the activities noted in the narrative report at every project schedule update period to assist the Contracting Officer in evaluating the Contractor's ability to actually complete prior to the contract period.

3.3.4 Interim Completion Dates

Contractually specified interim completion dates shall also be constrained to show negative float if the early finish date of the last activity in that phase falls after the interim completion date.

3.3.4.1 Start Phase

The Contractor shall include as the first activity for a project phase an activity called "Start Phase X" where "X" refers to the phase of work. The "Start Phase X" activity shall have an "ES" constraint date equal to the date on which the NTP was acknowledged, and a zero day duration.

3.3.4.2 End Phase

The Contractor shall include as the last activity in a project phase an activity called "End Phase X" where "X" refers to the phase of work. The "End Phase X" activity shall have an "LF" constraint date equal to the completion date for the project, and a zero day duration.

3.3.4.3 Phase X

The Contractor shall include a hammock type activity for each project phase called "Phase X" where "X" refers to the phase of work. The "Phase X" activity shall be logically tied to the earliest and latest activities in the phase.

3.3.5 Default Progress Data Disallowed

Actual Start and Finish dates shall not be automatically updated by default mechanisms that may be included in CPM scheduling software systems. Actual Start and Finish dates on the CPM schedule shall match those dates provided from Contractor Quality Control Reports. Failure of the Contractor to document the Actual Start and Finish dates on the Daily Quality Control report for every in-progress or completed activity, and failure to ensure that the data contained on the Daily Quality Control reports is the sole basis for schedule updating, shall result in the disapproval of the Contractor's schedule and the inability of the Contracting Officer to evaluate Contractor progress for payment purposes. Updating of the percent complete and the remaining duration of any activity shall be independent functions. Program features which calculate one of these parameters from the other shall be disabled.

3.3.6 Out-of-Sequence Progress

Activities that have posted progress without all preceding logic being satisfied (Out-of-Sequence Progress) will be allowed only on a case-by-case approval of the Contracting Officer. The Contractor shall propose logic corrections to eliminate all out of sequence progress or justify not changing the sequencing for approval prior to submitting an updated project schedule.

3.3.7 Negative Lags

Lag durations contained in the project schedule shall not have a negative value.

3.4 PROJECT SCHEDULE SUBMISSIONS

The Contractor shall provide the submissions as described below. The data disk, reports, and network diagrams required for each submission are contained in paragraph SUBMISSION REQUIREMENTS.

3.4.1 Preliminary Project Schedule Submission

The Preliminary Project Schedule, defining the Contractor's planned operations for the first 60 calendar days shall be submitted for approval within 20 calendar days after the NTP is acknowledged. The approved preliminary schedule shall be used for payment purposes not to exceed 60 calendar days after NTP.

3.4.2 Initial Project Schedule Submission

The Initial Project Schedule shall be submitted for approval within 40 calendar days after NTP. The schedule shall provide a reasonable sequence of activities which represent work through the entire project and shall be at a reasonable level of detail.

3.4.3 Periodic Schedule Updates

Based on the result of progress meetings, specified in "Periodic Progress Meetings," the Contractor shall submit periodic schedule updates. These submissions shall enable the Contracting Officer to assess Contractor's progress. If the Contractor fails or refuses to furnish the information and project schedule data, which in the judgement of the Contracting Officer or authorized representative is necessary for verifying the Contractor's progress, the Contractor shall be deemed not to have provided an estimate upon which progress payment may be made.

3.4.4 Standard Activity Coding Dictionary

The Contractor shall use the activity coding structure defined in the Standard Data Exchange Format (SDEF) in ER 1-1-11, Appendix A. This exact structure is mandatory, even if some fields are not used.

3.5 SUBMISSION REQUIREMENTS

The following items shall be submitted by the Contractor for the preliminary submission, initial submission, and every periodic project schedule update throughout the life of the project:

3.5.1 Data Disks

Two data disks containing the project schedule shall be provided. Data on the disks shall adhere to the SDEF format specified in ER 1-1-11, Appendix A.

3.5.1.1 File Medium

Required data shall be submitted on 3.5 in. disks, formatted to hold 1.44 MB of data, under the MS-DOS Version 5. or 6.x, unless otherwise approved by the Contracting Officer.

3.5.1.2 Disk Label

A permanent exterior label shall be affixed to each disk submitted. The label shall indicate the type of schedule (Preliminary, Initial, Update, or Change), full contract number, project name, project location, data date, name and telephone number of the person responsible for the schedule, and the MS-DOS version used to format the disk.

3.5.1.3 File Name

Each file submitted shall have a name related to either the schedule data date, project name, or contract number. The Contractor shall develop a naming convention that will ensure that the names of the files submitted are unique. The Contractor shall submit the file naming convention to the Contracting Officer for approval.

3.5.2 Narrative Report

A Narrative Report shall be provided with the preliminary, initial, and each update of the project schedule. This report shall be provided as the basis of the Contractor's progress payment request. The Narrative Report shall include: a description of activities along the 2 most critical paths, a description of current and anticipated problem areas or delaying factors and their impact, and an explanation of corrective actions taken or required to be taken. The narrative report is expected to relay to the Government, the Contractor's thorough analysis of the schedule output and its plans to compensate for any problems, either current or potential, which are revealed through that analysis.

3.5.3 Approved Changes Verification

Only project schedule changes that have been previously approved by the Contracting Officer shall be included in the schedule submission. The Narrative Report shall specifically reference, on an activity by activity basis, all changes made since the previous period and relate each change to documented, approved schedule changes.

3.5.4 Schedule Reports

The format for each activity for the schedule reports listed below shall contain: Activity Numbers, Activity Description, Original Duration, Remaining Duration, Early Start Date, Early Finish Date, Late Start Date, Late Finish Date, Total Float. Actual Start and Actual Finish Dates shall be printed for those activities in progress or completed.

3.5.4.1 Activity Report

A list of all activities sorted according to activity number.

3.5.4.2 Logic Report

A list of Preceding and Succeeding activities for every activity in ascending order by activity number. Preceeding and succeeding activities shall include all information listed above in paragraph Schedule Reports. A blank line shall be left between each activity grouping.

3.5.4.3 Total Float Report

A list of all incomplete activities sorted in ascending order of total float. Activities which have the same amount of total float shall be listed in ascending order of Early Start Dates. Completed activities shall not be shown on this report.

3.5.4.4 Earnings Report

A compilation of the Contractor's Total Earnings on the project from the NTP until the most recent Monthly Progress Meeting. This report shall reflect the Earnings of specific activities based on the agreements made in the field and approved between the Contractor and Contracting Officer at the most recent Monthly Progress Meeting. Provided that the Contractor has provided a complete schedule update, this report shall serve as the basis of determining Contractor Payment. Activities shall be grouped by offer item and sorted by activity numbers. This report shall: sum all activities in an offer item and provide an offer item percent; and complete and sum all offer items to provide a total project percent complete. The

printed report shall contain, for each activity: the Activity Number, Activity Description, Original Budgeted Amount, Total Quantity, Quantity to Date, Percent Complete (based on cost), and Earnings to Date.

3.5.5 Network Diagram

The network diagram shall be required on the initial schedule submission and on monthly schedule update submissions. The network diagram shall depict and display the order and interdependence of activities and the sequence in which the work is to be accomplished. The Contracting Officer will use, but is not limited to, the following conditions to review compliance with this paragraph:

3.5.5.1 Continuous Flow

Diagrams shall show a continuous flow from left to right with no arrows from right to left. The activity number, description, duration, and estimated earned value shall be shown on the diagram.

3.5.5.2 Project Milestone Dates

Dates shall be shown on the diagram for start of project, any contract required interim completion dates, and contract completion date(s).

3.5.5.3 Critical Path

The critical path shall be clearly shown.

3.5.5.4 Banding

Activities shall be grouped to assist in the understanding of the activity sequence. Typically, this flow will group activities by category of work, work area and/or responsibility.

3.5.5.5 S-Curves

Earnings curves showing projected early and late earnings and earnings to date.

3.6 PERIODIC PROGRESS MEETINGS

Progress meetings to discuss payment shall include a monthly onsite meeting or other regular intervals mutually agreed to at the preconstruction conference. During this meeting the Contractor shall describe, on an activity by activity basis, all proposed revisions and adjustments to the project schedule required to reflect the current status of the project. The Contracting Officer will need to approve activity progress, proposed revisions, and adjustments as appropriate.

3.6.1 Meeting Attendance

The Contractor's Project Manager and Scheduler shall attend the regular progress meeting.

3.6.2 Update Submission Following Progress Meeting

A complete update of the project schedule containing all approved progress, revisions, and adjustments, based on the regular progress meeting, shall be submitted not later than 4 working days after the monthly progress meeting.

3.6.3 Progress Meeting Contents

Update information, including Actual Start Dates, Actual Finish Dates, Remaining Durations, and Cost-to-Date shall be subject to the approval of the Contracting Officer. As a minimum, the Contractor shall address the following items on an activity by activity basis during each progress meeting.

3.6.3.1 Start and Finish Dates

The Actual Start and Actual Finish dates for each activity currently in-progress or completed.

3.6.3.2 Time Completion

The estimated Remaining Duration for each activity in-progress. Time-based progress calculations shall be based on Remaining Duration for each activity.

3.6.3.3 Cost Completion

The earnings for each activity started. Payment will be based on earnings for each in-progress or completed activity. Payment for individual activities will not be made for work that contains quality defects. A portion of the overall project amount may be retained based on delays of activities.

3.6.3.4 Logic Changes

All logic changes pertaining to NTP on change orders, change orders to be incorporated into the schedule, Contractor proposed changes in work sequence, corrections to schedule logic for out-of-sequence progress, lag durations, and other changes that have been made pursuant to contract provisions shall be specifically identified and discussed.

3.6.3.5 Other Changes

Other changes required due to delays in completion of any activity or group of activities include: 1) delays beyond the Contractor's control, such as strikes and unusual weather; 2) delays encountered due to submittals, Government Activities, deliveries or work stoppages which make re-planning the work necessary; 3) changes required to correct a schedule which does not represent the actual or planned prosecution and progress of the work.

3.7 REQUESTS FOR TIME EXTENSIONS

In the event the Contractor requests an extension of the contract completion date, or any interim milestone date, the Contractor shall furnish the following for a determination as to whether or not the Contractor is entitled to an extension of time under the provisions of the contract: justification, project schedule data, and supporting evidence as the Contracting Officer may deem necessary. Submission of proof of delay, based on revised activity logic, duration, and costs (updated to the specific date that the delay occurred) is obligatory to any approvals.

3.7.1 Justification of Delay

The project schedule shall clearly display that the Contractor has used, in

full, all the float time available for the work involved with this request. The Contracting Officer's determination as to the number of allowable days of contract extension shall be based upon the project schedule updates in effect for the time period in question, and other factual information. Actual delays that are found to be caused by the Contractor's own actions, which result in the extension of the schedule, will not be a cause for a time extension to the contract completion date.

3.7.2 Submission Requirements

The Contractor shall submit a justification for each request for a change in the contract completion date of under 2 weeks based upon the most recent schedule update at the time of the NTP or constructive direction issued for the change. Such a request shall be in accordance with the requirements of other appropriate Contract Clauses and shall include, as a minimum:

a. A list of affected activities, with their associated project schedule activity number.

b. A brief explanation of the causes of the change.

c. An analysis of the overall impact of the changes proposed.

d. A sub-network of the affected area.

Activities impacted in each justification for change shall be identified by a unique activity code contained in the required data file.

3.7.3 Additional Submission Requirements

For any requested time extension of over 2 weeks, the Contracting Officer may request an interim update with revised activities for a specific change request. The Contractor shall provide this disk within 4 days of the Contracting Officer's request.

3.8 DIRECTED CHANGES

If the NTP is issued for changes prior to settlement of price and/or time, the Contractor shall submit proposed schedule revisions to the Contracting Officer within 2 weeks of the NTP being issued. The proposed revisions to the schedule will need to be approved by the Contracting Officer prior to inclusion of those changes within the project schedule. If the Contractor fails to submit the proposed revisions, the Contracting Officer may furnish the Contractor with suggested revisions to the project schedule. The Contractor shall include these revisions in the project schedule until revisions are submitted, and final changes and impacts have been negotiated. If the Contractor has any objections to the revisions furnished by the Contracting Officer, the Contractor shall advise the Contracting Officer within 2 weeks of receipt of the revisions. Regardless of the objections, the Contractor shall continue to update the schedule with the Contracting Officer's revisions until a mutual agreement in the revisions is reached. If the Contractor fails to submit alternative revisions within 2 weeks of receipt of the Contracting Officer's proposed revisions, the Contractor will be deemed to have concurred with the Contracting Officer's proposed revisions. The proposed revisions will then be the basis for an equitable adjustment for performance of the work.

3.9 OWNERSHIP OF FLOAT

Float available in the schedule, at any time, shall not be considered for the exclusive use of either the Government or the Contractor.

3.10 ATTACHMENT

Standard Data Exchange Format Specification (Appendix A)

STANDARD DATA EXCHANGE FORMAT SPECIFICATION

PART 1- GENERAL

1. Application of This Provision: The Standard Data Exchange Format (SDEF) provides a non-proprietary protocol to exchange project planning and progress data between scheduling systems.

2. File Type and Format: The data file shall consist of a 132 character, freed format, "ASCII" file. Text shall be left-justified and numbers shall be right-justified in each field. Data records must conform, exactly, to the sequence, column position, maximum length, mandatory values, and field definitions described below to comply with the SDEF. Unless specifically stated, all numbers shall be whole numbers. Fields containing numbers shall not be zero filled. All data columns shall be separated by a single blank column. The file shall not contain blank lines.

3. Usage Notes: Where appropriate, notes regarding proper usage of systems to support the SDEF have been included in brackets ([ ]). These notes are included to assist users in creating SDEF-compatible files, given the variety of software systems that support the SDEF.

4. Recommended Systems: Several systems have been tested to determine the accuracy of importing and exporting SDEF files. For information on the current list of recommended systems, please contact Mr. Stan Green at HQUSACE, (202) 761-0206. Although the currently listed system have been tested other systems may also be acceptable provided those systems correctly import and export SDEF files.

5. SDEF Checker Program: A program that checks whether a file meets the SDEF is available free of charge. A copy of this program may be obtained by written request to: U.S. Army Corps of Engineers, ATTN: Mr. Bill East (CECER-FFA), P.O. Box 9005, Champaign, IL 61826-90005. A description of the SDEF Checker is also available on the Internet and CivilNet.

PART 2- SDEF SPECIFICATION

6. SDEF Organization: The SDEF shall consist of the following records provided in the exact sequence shown below:

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Paragraph Reference	Record Description	Remarks
6.a	Volume Record	Mandatory First Line of File
6.b	Project Record	Mandatory Second Line of File
6.c	Calendar Record(s)	Mandatory One Record Minimum
6.d	Holiday Record(s)	Mandatory if Holidays Used
6.e	Activity Record(s)	Mandatory Records
6.f	Precedence Record(s)	Mandatory for Precedence
6.g	Unit Cost Record(s)	Mandatory for Unit Costs
6.h	Progress Record(s)	Mandatory Records
6.i	File End Record	Mandatory Last Line of Disk/File

6.a. Volume Record: The Volume Record shall be used to control the transfer of data that may not fit on a single disk. The first line in every file used to store SDEF data shall be the Volume Record. The Volume Record shall sequentially identify the number of the data transfer disk(s). The Volume Record shall have the following format:

Description	Column Position	Max. Len.	Req. Value	Type	Notes
RECORD IDENTIFIER	1 - 4	4	VOLM	Fixed	Filled
DISK NUMBER	6 - 7	2	√	Number	Right Justified

6.a.(l) The RECORD IDENTIFIER is the first four characters of this record. The required value for this field shall be "VOLM". The VOLM record must appear on the first line of the SDEF data file.

6.a.(2) The DISK NUMBER field shall identify the number of the data disk used to store the data exchange information. If all data may be contained on a single disk, this field shall contain the value of "l". If more disks are required, then the second disk shall contain the value "2", the third disk shall be designated with a "3", and so on. Identifcation of the last data disk is accomplished in the Reject End Record.

6.b. Project Record: The Project Identifier Record shall contain general project information. Because more than one SDEF file may be required for data transfer between large projects, the PROJ record shall be the second line of the first SDEF file transferred. The PROJ record shall contain information in the following format:

Description	Column Position	Max. Len.	Req. Value	Type	Notes
RECORD IDENTIFIER	1- 4	4	PROJ	Fixed	Filled
DATA DATE	6- 12	7	√	ddmmmyy	Filled
PROJECT IDENTIFIER	14-17	4	√	Alpha.	Left Justified
PROJECT NAME	19-66	48	√	Alpha.	Left Justified
CONTRACTOR NAME	68-103	36	√	Alpha.	Left Justified
ARROW OR PRECEDENCE	105-105	1	A,P	Fixed	Filled
CONTRACT NUMBER	107-112	6	√	Alpha.	Left Justified
PROJECT START	114-120	7	√	ddmmmyy	Filled
PROJECT END	122-128	7	√	ddmmmyy	Filled

6.b.(1) The RECORD IDENTIFIER is the first four characters of this record. The required value for this field shall be "PROJ". This record shall contain the general project information and indicates which scheduling method shall be used.

6.b.(2) The DATA DATE is the date of the schedule calculation. The abbreviation "ddmmmyy" refers to a date format that shall translate a date into two numbers for the day, three letters for the month, and two numbers for the year. For example, March 1, 1999 shall be translated into OlMar99. This same convention for date formats shall be used throughout the entire data format. To ensure that dates are translated consistently, the following abbreviations shall be used for the three character month code:

Abbreviation	Month
JAN	January
FEB	February
MAR	March
APR	April
MAY	May
JUN	June
JUL	July
AUG	August
SEP	September
OCT	October
NOV	November
DEC	December

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6.b.(3) The PROJECT IDENTIFIER is a maximum four character abbreviation for the schedule. These four characters shall be used to uniquely identify the project and specific update as agreed upon by Contractor and Contracting Officer. When utilizing scheduling software these four characters shall be used to select the project. Software manufacturers shall provide information to users to ensure that data importing programs do not automatically overwrite other schedules with the same PROJECT IDENTIFIER.

6.b.(4) The PROJECT NAME field shall contain the name and location of the project edited to fit the space provided. The data appearing here shall appear on scheduling software reports. The abbreviation "Alpha." refers to an "Alphanumeric" field value and shall be used throughout the remainder of this specification.

6.b.(5) The CONTRACTOR NAME field shall contain the Construction Contractor's name, edited to fit the space provided.

6.b.(6) The ARROW OR PRECEDENCE field shall indicate which method shall be used for calculation of the schedule. The value "A" shall signify the Arrow Diagramming Method. The value "P" shall signify the Precedence Diagramming Method. The ACTIVITY ID field of the Activity Record shall be interpreted differently depending on the value of this field. The Precedence Record shall be required if the value of this field is "P". [Usage note: software systems may not support both arrow and precedence diagramming. It is recommended that the selection of the type of network be based on the capabilities of the software used by project partners.]

6.b.(7) The CONTRACT NUMBER field shall contain the contract number for the project. For example, the construction contract number DACA85-89-C-0001 shall be entered into this field as "890001".

6.b.(8) The PROJECT START field shall contain the date that the Contractor acknowledges the Notice to Proceed (NTP). [Usage note: Software systems may use a project start date to constrain the first activity of a network. To ensure consistent scheduling calculations across products, it is recommended that the first activity in the schedule contain an EARLY START constraint and a software system's PROJECT START date only be used to report on the project's start date.]

6.b.(9) The PROJECT END field shall contain the date that the Contractor plans to complete the work as approved by the Contracting Officer. [Usage note: software systems may use a project end date to constrain the last activity of a network. To ensure consistent scheduling calculations across products, it is recommended that the last activity in the schedule contain an EARLY START constraint and a software system's PROJECT END date only be used to report on the project's end date.]

6.c. Calendar Record: The Calendar Record(s) shall follow the Project Identifier Record in the first disk of data transferred. A minimum of one Calendar Record shall be required for all data exchange activity files. The format for the Calendar Record shall be as follows:

Description	Column Position	Max. Len.	Req. Value	Type	Notes
RECORD IDENTIFIER	1 - 4	4	CLDR	FixedFilled	
CALENDAR CODE	6 - 6	1	√	Alpha.	Filled
WORKDAYS	8 - 14		SMTWTFS	Fixed	Filled
CALENDAR DESCRIPTION	16-45	30	√	Alpha.	Left Justified

6.c.(1) The RECORD IDENTIFIER shall always begin with "CLDR" to identify it as a Calendar Record. Each Calendar Record used shall have this identification in the first four columns. [Usage note: Systems contain a variety of calendar options. It is recommended that the least common denominator of calendar features between the systems be used as the basis for creating the SDEF file for a given project.]

6.c.(2) The CALENDAR CODE shall be used in the activity records to signify that this calendar is associated with the activity. [Usage note: Some systems do not allow for alphanumeric CALENDAR CODES, but only allow positive integers from 1 to 9. It is recommended that only positive integers be used for the CALENDAR CODE field to support the widest variety of scheduling systems.]

6.c.(3) The WORKDAYS field shall contain the work-week pattern selected with "Y", for Yes, and "N", for No. The first character shall be Sunday and the last character Saturday. An example of a typical five (5) day work-week would be NYYYYYN. A seven (7) day work-week would be YYYYYYY.

6.c.(4) The CALENDAR DESCRIPTION shall be used to briefly describe the calendar used.

6.d. Holiday Record: The Holiday Record(s) shall follow the Calendar Record(s) in the first disk of data transferred. There may be calendars without any holidays designated or several Holiday Records for each Calendar Record(s). The format for the Holiday Record shall be as follows:

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Description	Column Position	Max. Len.	Req. Value	Type	Notes
RECORD IDENTIFIER	1-4	4	HOLI	Fixed	Filled
CALENDAR CODE	6-6	1	√	Alpha.	Filled
HOLIDAY DATE	8-14	7	√	ddmmmyy	Filled
HOLIDAY DATE	16-22		-	ddmmmyy	May be Filled
HOLIDAY DATE	24-30		-	ddmmmyy	May be Filled
HOLIDAY DATE	32-38		-	ddmmmyy	May be Filled
HOLIDAY DATE	40-46		-	ddmmmyy	May be Filled
HOLIDAY DATE	48-54		-	ddmmmyy	May be Filled
HOLIDAY DATE	56-62		-	ddmmmyy	May be Filled
HOLIDAY DATE	64-70		-	ddmmmyy	May be Filled
HOLIDAY DATE	72-78		-	ddmmmyy	May be Filled
HOLIDAY DATE	80-86		-	ddmmmyy	May be Filled
HOLIDAY DATE	88-94		-	ddmmmyy	May be Filled
HOLIDAY DATE	96-102		-	ddmmmyy	May be Filled
HOLIDAY DATE	104-110		-	ddmmmyy	May be Filled
HOLIDAY DATE	112-118		-	ddmmmyy	May be Filled
HOLIDAY DATE	120-126		-	ddmmmyy	May be Filled

6.d.(1) The RECORD IDENTIFIER shall always begin with "HOLI". Each Holiday Record used shall have this identification in the first four columns.

6.d.(2) The CALENDAR CODE indicates which work-week calendar the holidays shall be applied to. More than one HOLI record may be used for a given CALENDAR CODE.

6.d.(3) The HOLIDAY DATE shall contain the date of each individual non-work day.

6.e. Activity Records: Activity Records shall follow any Holiday Record(s). If there are no Holiday Record(s), then the Activity Records shall follow the Calendar Record(s). There shall be one Activity Record for every activity in the network. Each activity shall have one record in the following format:

Description	Column Position	Max. Len.	Req. Value	Type	Notes
RECORD IDENTIFIER	1-4	4	ACTV	Fixed	Filled
ACTIVITY ID	6-15	10	√	Integer	See Comment Below
ACTIVITY DESCR.	17-46	30	√	Alpha.	Left Justified
ACTIVITY DURATION	48-50	3	√	Integer	Right Justified
CONSTRAINT DATE	52-58	7		ddmmmyy	May be Filled
CONSTRAINT TYPE	60-61	2		ES or LF	May be Filled
CALENDAR CODE	63-63	1		Alpha.	Filled
HAMMOCK CODE	65-65	1	Y, blank	Fixed	May be Filled
WORKERS PER DAY	67-69	3		Integer	Right Justified
RESPONSIBILITY CODE	71-74	4		Alpha.	Left Justified
WORK AREA CODE	76-79	4		Alpha.	Left Justified
MOD OR CLAIM NO.	81-86	6		Alpha.	Left Justified
BID ITEM	88-93	6		Alpha.	Left Justified
PHASE OF WORK	95-96	2		Alpha.	Left Justified
CATEGORY OF WORK	98-98	1		Alpha.	May be Filled
FEATURE OF WORK	100-128	30		Alpha.	Left Justified

6.e.(1) The RECORD IDENTIFIER for each activity description record must begin with the four character "ACTV" code. This field shall be used for both the Arrow Diagram Method (ADM) and Precedence Diagram Method (PDM),

6.e.(2) The ACTIVITY ID consists of coding that shall differ, depending on whether the ADM or PDM method was selected in the Project Record. If the ADM method was selected then the field shall be interpreted as two right-justified fields of five (5) integers each. If the PDM method was selected the field shall be interpreted as one (1) right-justified field of ten (10) integers each. The maximum activity number allowed under this arrangement is 99999 for ADM and 9999999999 for the PDM method. [Usage note: Many systems allow alphanumeric ACTIVITY IDs. While the SDEF does not strictly, allow the use of alphanumeric values, users may agree to use the ACTIVITY ID field to exchange alphanumeric data. It is recommended that the ACTIVITY ID be restricted to integers when one or more of the systems being used for scheduling allows only integer ACTIVITY ID values.]

6.e.(3) The ACTIVITY DESCRIPTION shall be a maximum of 30 characters. Descriptions must be limited to the space provided.

6.e.(4) The ACTIVITY DURATION contains the estimated original duration for the activity on the schedule. The duration shall be based upon the work-week designated by the activity's related calendar.

6.e.(5) The CONSTRAINT DATE field shall be used to identify a date that the scheduling system may use to modify float calculations. If there is a date in this field, then there must be a valid entry in the CONSTRAINT TYPE field.

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6.e.(6) The CONSTRAINT TYPE field shall be used to identify the way that the scheduling system shall use the CONSTRAINT DATE to modify schedule float calculations. If there is a value in this field, then there must be a valid entry in the CONSTRAINT DATE field. The valid values for the CONSTRAINT TYPE are as follows:

Definition

The CONSTRAINT DATE shall replace an activity's early start date, if the early start date is prior to the CONSTRAINT DATE.
The CONSTRAINT DATE shall replace an activity's late finish date, if the late finish date is after the CONSTRAINT DATE.

[Usage note: Systems provide a wide variety of constraint types that may not be supported by other systems. It is recommended that constraint types be restricted to the values above regardless of the capabilities of the various systems being used for scheduling.]

6.e.(7) The CALENDAR CODE relates this activity to an appropriate work-week calendar. The ACTIVITY DURATION must be based on the valid work-week referenced by this CALENDAR CODE field.

6.e.(8) The HAMMOCK CODE indicates that a particular activity does not have its own independent duration, but takes its start dates from the start date of the preceding activity (or node) and takes its finish dates from the finish dates of its succeeding activity (or node). If the value of the HAMMOCK CODE field is "Y", then the activity is a hammmock activity.

6.e.(9) The WORKERS PER DAY shall contain the average number of workers expected to work on the activity each day the activity is in progress. If this code is required by project scheduling specifications, values for this data will be right justified. Activities without workers per day shall have a value of "0".

6.e.(10) The RESPONSIBILITY CODE shall identify the subcontractors or major trade involved with completing the work for the activity. If this code is required by project scheduling specifications, value for this data will be left justified.

6.e.(11) The WORK AREA CODE shall identify the location of the activity within the project. If this code is required by project scheduling specifications, value for this data will be left justified.

6.e.(12) The MOD OR CLAIM NUMBER shall uniquely identify activities that are added or changed on a construction contract modification, or activities that justify any claimed time extensions. If this code is required by project scheduling specifications, value for this data will be left justified.

6.e.(13) The BID ITEM shall identify the bid item number associated with each activity. If this code is required by project scheduling specifications, value for this data will be left justified.

6.e.(14) The PHASE OF WORK shall identify the timing of a specific activity within the entire project. If this code is required by project scheduling specifications, value for this data will be left justified.

6.e.(15) The CATEGORY OF WORK shall identify the general type of work performed by every activity. If this code is required by project scheduling specifications, value for this data will be placed in the field.

6.e.(16) The FEATURE OF WORK shalI identify a very broad designation of the general type of work that is being accomplished by the activity. If this code is required by project scheduling specifications, value for this data will be left justified. [Usage note: Many systems require that FEATURE OF WORK values be placed in several activity code fields. It is recommended that users review SDEF documentation to determine the correct way to use a given software system to produce the FEATURE OF WORK code.]

6.f. Precedence Record: The Precedence Record(s) shall follow the Activity Records if a Precedence Diagram Method schedule (PDM) is identified in the ARROW OR PRECEDENCE field of the Project Record. The Precedence Record has the following format:

Description	Column Position	Max. Len.	Req. Value	Type	Notes
RECORD IDENTIFIER	1 - 4	4	PRED	Fixed	Filled
ACTIVITY ID	6-15	10	√	Integer	See Comment Below
PRECEDING ACTIVITY	17 -26	10	√	Integer	See Comment Below
PREDECESSOR TYPE	28-28		√	S, F, C	Filled
LAG DURATION	30-33	4	√	Integer	Right Justified

6.f.(1) The RECORD IDENTIFIER shall begin with the four characters "PRED" in the first four columns of the record.

6.f.(2) The ACTIVITY ID identifies the activity whose predecessor shall be specified in this record.

6.f.(3) The PRECEDING ACTIVITY number is the number of an activity that precedes the activity noted in the ACTIVITY ID field.

6.f.(4) The PREDECESSOR TYPE field indicates the type of relation that exists between the chosen pair of activities. Valid PREDECESSOR TYPE fields areas follows:

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Code	Definition
S	Start-to-Start relation
F	Finish-to-Finish relation
C	Finish-to-Start relation

[Usage note: Some systems provide additional predecessor types that may not be supported by all other systems. It is recommended that predecessor types be restricted to the values above regardless of the capabilities of the various systems being used for scheduling.]

6.f.(5) The LAG DURATION field contains the number of days delay between the preceding and current activity. [Usage note: Some systems allow negative values for the LAG DURATION. Because these values are not supported by all other systems, it is recommended that values be restricted to zero and positive integers.]

6.g. Unit Cost Record: The Unit Cost Record shall follow all Precedence Records. If the schedule utilizes the Arrow Diagram Method, then the Unit Cost Record shall follow any Activity records. There shall be one Unit Cost Record for every activity that is not a lump sum activity. [Usage note: (1) It is recommended that users who wish to exchange unit cost data contact SDEF vendor representatives to determine the ability of the software system to import/export unit cost information. (2) If the software being used by each member of the project team supports unit cost data then users may wish to conduct a trial run of the SDEF data exchange with a two or three-activity network to ensure that unit cost data transfers as expected. If problems are found please consult vendor representatives for resolution prior to exchange of full project schedules. (3) Unit cost record data does not, in most systems, result in the correct values being placed in the ACTIVITY COST and COST TO DATE fields of the Progress (PROG) Record. Users must, at this time, manually transfer the data from the Unit Cost Record to the Progress Record.

The fields for this record shall take the following format:

Description	Column Position	Max. Len.	Req. Value	Type	Notes
RECORD IDENTIFIER	1 - 4	4	UNIT	Fixed	Filled
ACTIVITY ID	6-15	10	√	Integer	See Comment Below
TOTAL QTY	17-29	13	√	Format 8.4	Right Justified
COST PER UNIT	31-43	13	√	Format 8.4	Right Justified
QTY TO DATE	45-57	13	√	Format 8.4	Right Justified
UNIT OF MEASURE	59-61	3	√	Alpha.	Left Justified

6.g.(1) The RECORD IDENTIFIER shall be identified with the four characters 'UNIT" placed in the first four columns of the record.

6.g.(2) The ACTIVITY ID for each activity shall match the format described in the activity record. Each activity may have only one Unit Cost Record.

6.g.(3) The TOTAL QTY is the total amount of material to be used in this activity. This number consists of eight digits, one decimal point and four more digits. An example of a number in this format is "11111111.1111". If decimal places are not needed this field shall still contain a ".0000" in columns 25-29. [Usage note: Many systems support a different format for this value that does not include as many decimal places. It is recommended that users determine their requirements for significant digits based on the lowest common denominator of the software systems being used for a given project.]

6.g.(4) The COST PER UNIT is the cost, in dollars and cents, for each unit to be used in this activity. This number consists of eight digits, one decimal point, and four more digits. An example of a number in this format is "11111111.1111". If decimal places are not needed this field shall still contain a ".0000" in columns 39-43. [Usage note: Many systems support a different format for this value that does not include as many decimal places. It is recommended that users determine their requirements for significant digits based on the lowest common denominator of the software systems being used for a given project.]

6.g.(5) The QTY TO DATE is the quantity of material installed in this activity up to the data date. This number consists of eight digits, one decimal point, and four more digits. An example of a number in this format is "11111111.1111". If decimal places are not needed this field shall still contain a ".0000" in columns 53-57. [Usage note: Many systems support a different format for this value that does not include as many decimal places. It is recommended that users determine their requirements for significant digits based on the lowest common denominator of the software systems being used for a given project.]

6.g.(6) The UNIT OF MEASURE is an abbreviation that may be used to describe the units being measured for this activity. Valid values for this field are any meaningful English or metric unit, except "LS" for Lump Sum. Lump Sum activities are not to have Unit Cost Records.

6.h. Progress Record: Progress Record(s) shall follow all Unit Cost Record(s). If there are no Unit Cost Record(s), then the Progress Record(s) shall follow all Precedence Records. If the schedule utilizes the Arrow Diagram Method, then the Progress Record shall follow any Activity Records. One Progress Record is required for every activity in the Activity Record. The fields for this Record shall be provided in the following format:

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Description	Column Position	Max. Len.	Req. Value	Type	Notes
RECORD IDENTIFIER	1-4	4	PROG	Fixed	Filled
ACTIVITY ID	6-5	10	√	Integer	See Comment Below
ACTUAL START DATE	17-23	7	√	ddmmmyy	Filled if Started
ACTUAL FINISH DATE	25-31	7	√	ddmmmyy	Filled if Finished
REMAINING DURATION	33-35	3	√	Integer	Right Justified
ACTIVITY COST	37-48	12	√	Format 9.2	Right Justified
COST TO DATE	50-61	12	√	Format 9.2	Right Justitied
STORED MATERIAL	63-74	12	√	Format 9.2	Right Justified
EARLY START DATE	76-82	7	√	ddmmmyy	Filled if Not Started
EARLY FINISH DATE	84-90	7	√	ddmmmyy	Filled if Not Finished
LATE START DATE	92-98	7	√	ddmmmyy	Filled if Not Started
LATE FINISH DATE	100-1067		√	ddmmmyy	Filled if Not Finished
FLOAT SIGN	108-1081		+, -	Fixed	Filled if Not Finished
TOTAL FLOAT	110-1123		√	Integer	R. Just. if Not Finished

6.h.(1) The RECORD IDENTIFIER shall begin with the four characters "PROG" in the first four columns of the record.

6.h.(2) The ACTIVITY ID for each activity for which progress has been posted shall match the format described in the Activity Record.

6.h.(3) An ACTUAL START DATE is required for alI in-progress activities. The ACTUAL START DATE shall be the same as, or later than, the PROJECT START date contained in the Project Record. The ACTUAL START DATE shall also be the same as, or prior to, the DATA DATE contained in the Project Record. If there is an ACTUAL START DATE for an activity that there must also be a REMAINING DURATION, and the values for the EARLY START DATE and LATE START DATE are blank. [Usage note: Some systems allow default values for ACTUAL START DATE if the date is not entered by the user. Because the failure to include a start date for activities may result in different schedule calculations, it is recommended that the ACTUAL START DATE be required for all activities in progress.]

6.h.(4) An ACTUAL FINISH DATE is required for all completed activities. If the REMAINING DURATION of an activity is zero, then there must be an ACTUAL FINISH DATE. If there is an ACTUAL FINISH DATE, then values for the EARLY START DATE, LATE START DATE, EARLY FINISH DATE, LATE FINISH DATE, FLOAT SIGN, and TOTAL FLOAT shall be blank. [Usage note: Some systems allow default values for ACTUAL FINISH DATE if the date is not entered by the user. Because the failure to include a finish date for activities may result in different schedule calculations, it is recommended that the ACTUAL FINISH DATE be required for all activities in progress.]

6.h.(5)AREMAININ G DURATION is required for all activities. Activities that have not started shall have a remaining duration equal to their original duration. Activities completed based on time, shall have a zero (0) REMAINING DURATION. [Usage note: Systems have a variety of "short-cut" methods to determine the REMAINING DURATION value. It is recommended that users actually consider the time required to complete the remaining work on a given task, rather than allow a system to calculate the remaining duration based on the amount of work that has already been accomplished.]

6.h.(6) The ACTIVITY COST contains the estimated earned value of the work to be accomplished in the activity. An example of a number in this format is "1111111 11.11". If decimal places are not needed this field shall still contain a ".00" in the last three columns of this field. [Usage note: Users should inquire of software vendors if the user needs to add a zero in the data field to produce the default value "0.00".]

6.h.(7) The COST TO DATE contains the earned value for the activity. If there is an ACTUAL START DATE, then there must also be some value for COST TO DATE. An example of a number in this format is "111111111.11". If decimal places are not needed, this field shall still contain a ".00" in the last three columns of this field. The COST TO DATE is not tied to REMAINING DURATION. For example, if the REMAINING DURATION is "0", the COST TO DATE may only be 95% of the ACTIVITY COST. This difference may be used to reflect 5% retainage for punch list items. [Usage note: Systems implement cost information in different ways. It is recommended that users carefully review SDEF documentation and test results to determine how to ensure that SDEF data is exported correctly.]

6.h.(8) The STORED MATERIAL field contains the value of the material that the Contractor has paid for and is on site or in secure storage areas that is a portion of the COST TO DATE. An example of a number in this format is "111111111.11". If decimal places are not needed, this field shall still contain a ".00" in the last three columns of this field. [Usage note: Systems implement the stored materials field in a variety of ways. Many systems do not enforce STORED MATERIAL + COST TO DATE < ACTIVITY COST. To avoid potential confusion between systems, it is recommended that new activities be added to a schedule to reflect the cost of large equipment procurement rather than use the STORED MATERIALS field.]

6.h.(9) The EARLY START DATE indicates the earliest date possible that an activity can start as calculated by a CPM scheduling system or other Contracting Officer approved planning method. If the progress record for an activity contains an ACTUAL START DATE, then this field shall be blank.

6.h.(10) The EARLY FINISH DATE indicates the earliest date possible that an activity can finish as calculated by a CPM scheduling system or other Contracting Officer approved planning method. If the progress record for an activity contains an ACTUAL FINISH DATE, then this field shall be blank.

6.h.(11) The LATE START DATE indicates the latest date that an activity can begin as calculated by a CPM scheduling system or other Contracting Officer approved planning method. If the progress record for an activity contains an ACTUAL START DATE, then this field shall be blank.

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6.h.(12) The LATE FINISH DATE indicates the latest date that an activity can finish as calculated by a CPM scheduling system or other Contracting Officer approved planning method. If the progress record for an activity contains an ACTUAL FINISH DATE, then this field shall be blank.

6.h.(13) The FLOAT SIGN indicates whether the float time calculated using a CPM scheduling system or other Contracting Officer approved planning method, is positive or negative in nature. If the progress record for an activity contains an ACTUAL FINISH DATE, then this field shall be blank. In the case of zero float this field shall be blank.

6.h.(14) The TOTAL FLOAT indicates the total float time. In the Precedence Diagram Method (PDM), the total float is the difference between the early and late start or finish dates. In the Arrow Diagram Method (ADM), the total float is equal to the late event time at the end of the activity, minus the sum of the early event time at the start of the activity plus the duration of the activity.

6.i. Project End Record: The Project End Record shall be used to identify that the data file is completed. If the ASCII End of File character is encountered, then data import programs shall use that character to infer that the data continues on the next disk. The user shall then be prompted for the next disk number, based on the VOLM record data. The Project End Record shall be the last record of the entire data file, and shall have the following format:

Description	Column Position	Max. Len.	Req. Value	Type	Notes
RECORD IDENTIFIER	1-3	3	END	Fixed	Filled

6.i.(1) The RECORD IDENTIFIER for the Project End Record shall be "END". Data contained in the data exchange file that occurs after this record shall not be used.

-- END OF SECTION --

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SECTION 01330

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SECTION 01330

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 DEFINITIONS

1.1.1 Submittal

Contract Clauses "FAR 52.236-5, Material and Workmanship," paragraph (b) and "FAR 52.236-21, Specifications and Drawings for Construction," paragraphs (d), (e), and (f) apply to all "submittals."

1.1.2 Submittal Descriptions (SD)

Submittals requirements are specified in the technical sections. Submittals are identified by SD numbers and titles as follows.

SD-01 Preconstruction Submittals

Certificates of insurance.
Surety bonds.
List of proposed subcontractors.
List of proposed products.
Construction Progress Schedule.
Submittal register.
Schedule of prices.
Health and safety plan.
Work plan.
Quality control plan.
Environmental protection plan.

SD-02 Shop Drawings

Drawings, diagrams and schedules specifically prepared to illustrate some portion of the work.

Diagrams and instructions from a manufacturer or fabricator for use in producing the product and as aids to the Contractor for integrating the product or system into the project.

Drawings prepared by or for the Contractor to show how multiple systems and interdisciplinary work will be coordinated.

SD-03 Product Data

Catalog cuts, illustrations, schedules, diagrams, performance charts, instructions and brochures illustrating size, physical appearance and other characteristics of materials or equipment for some portion of the work.

Samples of warranty language when the contract requires extended product warranties.

SD-04 Samples

Physical examples of materials, equipment or workmanship that illustrate functional and aesthetic characteristics of a material or product and establish standards by which the work can be judged.

Color samples from the manufacturer's standard line (or custom color samples if specified) to be used in selecting or approving colors for the project.

Field samples and mock-ups constructed on the project site establish standards by which the ensuring work can be judged. Includes assemblies or portions of assemblies which are to be incorporated into the project and those which will be removed at conclusion of the work.

SD-05 Design Data

Calculations, mix designs, analyses or other data pertaining to a part of work.

SD-06 Test Reports

Report signed by authorized official of testing laboratory that a material, product or system identical to the material, product or system to be provided has been tested in accord with specified requirements. (Testing must have been within three years of date of contract award for the project.)

Report which includes findings of a test required to be performed by the Contractor on an actual portion of the work or prototype prepared for the project before shipment to job site.

Report which includes finding of a test made at the job site or on sample taken from the job site, on portion of work during or after installation.

Investigation reports.

Daily checklists.

Final acceptance test and operational test procedure.

SD-07 Certificates

Statements printed on the manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements. Must be dated after award of project contract and clearly name the project.

Document required of Contractor, or of a supplier, installer or subcontractor through Contractor, the purpose of which is to further quality of orderly progression of a portion of the work by documenting procedures, acceptability of methods or personnel qualifications.

Confined space entry permits.

Text of posted operating instructions.

SD-11 Closeout Submittals

Documentation to record compliance with technical or administrative requirements or to establish an administrative mechanism.

1.1.3 Approving Authority

Office authorized to approve submittal.

1.1.4 Work

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

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Submittal register G

1.3 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

1.3.1 Designer of Record Approved

Designer of Record approval is required for extensions of design, critical materials, any deviations from the solicitation, the accepted proposal, or the completed design, equipment whose compatibility with the entire system must be checked, and other items as designated by the Contracting Officer. Within the terms of the Contract Clause entitled " Specifications and Drawings for Construction", they are considered to be "shop drawings". The Contractor shall provide the Government the number of copies designated hereinafter of all Designer of Record approved submittals. The Governmentmay reviewany or all Designer of Record approved submittals for conformance to the solicitation and Accepted Proposal. The Government will review all submittals designated as deviating from the solicitation or Accepted Proposal, as described below. Design Submittals shall be in accordance with Section 01012 DESIGN AND CONSTRUCTION DELIVERABLES/PROCEDURES. Generally, design submittals should be identified as SD-05 DESIGN DATA SUBMITTALS.

1.3.2 Government Approved

Government approval is required for extensions of design, critical materials, deviations, equipment whose compatibility with the entire system must be checked, and other items as designated by the Contracting Officer. Government approval is required for any deviations from the Solicitation or Accepted Proposal and other items as designated by the Contracting Officer. Within the terms of the Contract Clause entitled "Specifications and

Drawings for Construction," they are considered to be "shop drawings."

1.3.3 Government Reviewed Design or Extension of Design

The Government will review all 100% design submittals for conformance with the technical requirements of the solicitation. Section 01012 DESIGN AND CONSTRUCTION DELIVERABLES/PROCEDURES covers the design submittal and review process in detail. Government review is required for extension of design construction submittals, used to define contract conformity, and for deviation from the completed design. Review will be only for conformance with the contract requirements. Included are only those construction submittals for which the Designer of Record design documents do not include enough detail to ascertain contract compliance. The Government may, but is not required, to review extensions of design such as structural steel or reinforcement shop drawings.

1.3.4 Information Only

All submittals not requiring Government approval will be for information only.All submittals not requiring Designer of Record or Government approval will be for information only. They are not considered to be "shop drawings" within the terms of the Contract Clause referred to above.
All submittals not requiring Government approval will be for information only. They are not considered to be "shop drawings" within the terms of the Contract Clause referred to above.

1.4 APPROVED SUBMITTALS

The Contracting Officer's approval of submittals shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory design, general method of construction, materials, detailing and other information appear to meet the Solicitation and Accepted Proposal. Approval will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor under the Contractor Quality Control (CQC) requirements of this contract is responsible for design, dimensions, all design extensions, such as the design of adequate connections and details, etc., and the satisfactory construction of all work. After submittals have been approved by the Contracting Officer, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

1.5 DISAPPROVED SUBMITTALS

The Contractor shall make all corrections required by the Contracting Officer and promptly furnish a corrected submittal in the form and number of copies specified for the initial submittal.The Contractor shall make all corrections required by the Contracting Officer, obtain the Designer of Record's approval when applicable, and promptly furnish a corrected submittal in the form and number of copies specified for the initial submittal. Any "information only" submittal found to contain errors or unapproved deviations from the Solicitation or Accepted Proposal shall be resubmitted as one requiring "approval" action, requiring both Designer of Record and Government approval. If the Contractor considers any correction indicated on the submittals to constitute a change to the contract, a notice in accordance with the Contract Clause "Changes" shall be given promptly to the Contracting Officer.

1.6 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required approvals have not been obtained. No payment for materials incorporated in the work will be made if all required Designer of Record or required Government approvals have not been obtained. No payment will be made for any materials incorporated into the work for any conformance review submittals or information only submittals found to contain errors or deviations from the Solicitation or Accepted Proposal.

1.7 GENERAL

The Contractor shall make submittals as required by the specifications. The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Units of weights and measures used on all submittals shall be the same as those used in the contract drawings. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Prior to submittal, all items shall be checked and approved by the Contractor's Quality Control (CQC) System ManagerQuality Control (CQC) System Manager and the Designer of Record, if applicable, and each item shall be stamped, signed, and dated by the CQC System Manager indicating action taken. Proposed deviations from the contract requirements shall be clearly identified. Submittals shall include items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals. Submittals requiring Government approval shall be scheduled and made prior to the acquisition of the material or equipment covered thereby. Samples remaining upon completion of the work shall be picked up and disposed of in accordance with manufacturer's Material Safety Data Sheets (MSDS) and in compliance with existing laws and regulations.

1.8 SUBMITTAL REGISTER

At the end of this section is a submittal list showing items of equipment and materials for which submittals are required by the specifications; this list may not be all inclusive and additional submittals may be required. The Contractor shall maintain a submittal register for the project in accordance with Section 01312 QUALITY CONTROL SYSTEM (QCS).The Government will provide the initial submittal register in electronic format. Thereafter, the Contractor shall maintain a complete list of all submittals, including completion of all data columns. Dates on which submittals are received and returned by the Government will be included in its export file to the Contractor. The Contractor shall track all submittals.

The Designer of Record shall develop a complete list of submittals during design. The Designer of Record shall identify required submittals in the specifications, and use the list to prepare the Submittal Register. The list may not be all inclusive and additional submittals may be required by other parts of the contract. The Contractor is required to complete the submittal register and submit it to the Contracting Officer for approval within 30 calendar days after Notice to Proceed. The approved submittal register will serve as a scheduling document for submittals and will be used to control submittal actions throughout the contract period. The

submit dates and need dates used in the submittal register shall be coordinated with dates in the Contractor prepared progress schedule. Updates to the submittal register showing the Contractor action codes and actual dates with Government action codes and actual dates shall be submitted monthly or until all submittals have been satisfactorily completed. When the progress schedule is revised, the submittal register shall also be revised and both submitted for approval.

1.9 SCHEDULING

Submittals covering component items forming a system or items that are interrelated shall be scheduled to be coordinated and submitted concurrently. Certifications to be submitted with the pertinent drawings shall be so scheduled. Adequate time (a minimum of 30 calendar days exclusive of mailing time) shall be allowed and shown on the register for review and approval. No delay damages or time extensions will be allowed for time lost in late submittals.

1.10 TRANSMITTAL FORM (ENG FORM 4025)

The sample transmittal form (ENG Form 4025) attached to this section shall be used for submitting both Government approved and information only submittals in accordance with the instructions on the reverse side of the form. These forms are included in the QCS software that the Contractor is required to use for this contract. This form shall be properly completed by filling out all the heading blank spaces and identifying each item submitted. Special care shall be exercised to ensure proper listing of the specification paragraph and/or sheet number of the contract drawings pertinent to the data submitted for each item.

1.11 SUBMITTAL PROCEDURES

Submittals shall be made as follows:

1.11.1 Procedures

The Government will further discuss detailed submittal procedures with the Contractor at the Preconstruction Conference.

1.11.2 Deviations

For submittals which include proposed deviations requested by the Contractor, the column "variation" of ENG Form 4025 shall be checked. The Contractor shall set forth in writing the reason for any deviations and annotate such deviations on the submittal. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted deviations.

1.12 CONTROL OF SUBMITTALS

The Contractor shall carefully control his procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."

1.13 GOVERNMENT APPROVED SUBMITTALS

Upon completion of review of submittals requiring Government approval, the submittals will be identified as having received approval by being so stamped and dated. 4 copies of the submittal will be retained by the

Contracting Officer and 2 copies of the submittal will be returned to the Contractor. If the Government performs a conformance review of other Designer of Record approved submittals, the submittals will be so identified and returned, as described above.

1.14 INFORMATION ONLY SUBMITTALS

Normally submittals for information only will not be returned. Approval of the Contracting Officer is not required on information only submittals. The Government reserves the right to require the Contractor to resubmit any item found not to comply with the contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications; will not prevent the Contracting Officer from requiring removal and replacement of nonconforming material incorporated in the work; and does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or for check testing by the Government in those instances where the technical specifications so prescribe. For design-build construction the Government will retain 2 copies of information only submittals.

1.15 ATTACHMENT

Submittal Register
ENG Form 4025

PART 2 PRODUCTS - NOT USED
PART 3 EXECUTION - NOT USED

SUBMITTAL REGISTER

CONTRACT NO.
W911KB-05-R-0024

TITLE AND LOCATION
PHASE VI UTILIDORS, EIELSON AFB, AK

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH #	CLASSIFICATION	GOVT OR A/E REVWR	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION			APPROVING AUTHORITY					
							SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION	MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS
(a)	(b)	(c)	(d)	(e)	(f)		(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
		01330	SD-01 Preconstruction Submittals															
			Submittal register	1.1.2	G													
		01355	SD-01 Preconstruction Submittals															
			ENVIRONMENTAL	1.8														
			PROTECTION PLAN															
		01356	SD-01 Preconstruction Submittals															
			Storm Water Pollution Prevention	3.4.2	G													
			Plan															
			SD-06 Test Reports															
			Mill Certificate or Affidavit	2.1.3														
		01525	SD-01 Preconstruction Submittals															
			Activity Hazard Analysis (AHA)	1.9	G AO													
			ACCIDENT PREVENTION PLAN	1.8														
			(APP)															
			SD-06 Test Reports															
			Reports	1.13														
			Crane Reports	1.13.5														
			Accident Reports	1.13.1														
			Monthly Exposure Reports	1.13.3														
			Regulatory Citations and	1.13.4														
			Violations															
			SD-07 Certificates															
			Confined Space Entry Permit	1.10														
		01780	SD-02 Shop Drawings															
			As-Built Drawings	1.2.1	G AO													
			SD-03 Product Data															

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		01780	Warranty Management	1.3														
			Warranty Tags	1.3.3														
			Final Cleaning	1.6	G AO													
			SD-11 Closeout Submittals															
			As-Built Record of Equipment and	1.2.2														
			Materials															
			Operation and Maintenance	1.5	G AO													
			Manuals															
			Videotapes	1.5	G AO													
		02280	SD-01 Preconstruction Submittals															
			Sampling and Analysis Plan	1.7														
			Work Plan	1.6														
			Qualifications	1.5.1														
			Correspondence	1.8														
			Disposal of Contaminated Soil	3.4.3	G													
			Certificates of Thermal	3.4.3	G													
			Remediation															
			SD-06 Test Reports															
			Site Assessment Report	3.7														
		02300	SD-06 Test Reports															
			Structural Fill Sieve Analysis	2.1.3														
		02509	SD-02 Shop Drawings															
			Design Drawings	2.2.6														
			SD-04 Samples															
			Waterproofing and Dampproofing	2.2.9														
			Insulation	2.2.8														

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		02509	Chemical Grouting	2.2.10														
			Access Hatch	2.2.11														
			Exterior Paint for Above Grade	2.2.12														
			Structure															
			Concrete Masonry Units (CMU)	2.2.13														
			for Facade and Planter															
			Replacement															
			SD-05 Design Data															
			Manhole Ladders	2.2.5														
			Pipe Support System	2.2.6														
			Design Analysis	2.2.6														
			Specifications	2.2.6														
			Specifications	3.2.6														
			Corrosion Protection	2.2.7														
		02510	SD-02 Shop Drawings															
			Design Drawings	2.1														
			SD-03 Product Data															
			Pipe Material	2.1.1														
			Fittings and Specials	2.1.2														
			Joints and Gaskets	2.1.3														
			Pipe Insulation and Jacket	2.1.4														
			System															
			Water Valve and Equipment	2.1.4.1														
			Insulation Covers															
			Hydrants	2.1.5														
			Gate Valves	2.1.7														

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		02510	Check Valves	2.1.8														
			Expansion Joints	2.1.9														
			Supports	2.1.10														
			Hangers	2.1.10														
			Thrust Restraints	2.1.10														
			Guides	2.1.11														
			SD-05 Design Data															
			Design Analysis	2.1														
			Specifications	2.1														
		02531	SD-02 Shop Drawings															
			Design Drawings	2.1														
			SD-03 Product Data															
			Pipe Material	2.1.1.1														
			Pipe Material	2.1.1.1														
			Pipe Material	2.1.2.1														
			Pipe Material	2.1.2.1														
			Fittings and Specials	2.1.1.2														
			Fittings and Specials	2.1.2.2														
			Joints and Gaskets	2.1.1.3														
			Joints and Gaskets	2.1.1.3														
			Joints and Gaskets	2.1.2.3														
			Joints and Gaskets	2.1.2.3														
			Insulation and Jacketing	2.1.1.4														
			Expansion Joints	2.1.2.4														
			Supports	2.1.2.5														
			Hangers	2.1.2.5														

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		02531	Manhole sump pumps	2.2														
			SD-05 Design Data															
			Design Analysis	2.1														
			Specifications	2.1														
		02559	SD-02 Shop Drawings															
			Design Drawings	2.1.1														
			SD-03 Product Data															
			Piping and fittings	2.2														
			Valves	2.3														
			Steam traps	2.4														
			Pressure gauges	2.5														
			Temperature gauge	2.6														
			Strainers	2.7														
			Steam Venturi Ejector	2.8														
			Alignment guides	2.9														
			Expansion Joints	2.11														
			Insulation	2.12														
			SD-05 Design Data															
			Design Analysis	2.1.1														
			Specifications	2.1.1														
		02741	SD-02 Shop Drawings															
			Design Drawings	2.1														
			SD-05 Design Data															
			Design Analysis	2.1														
			Specifications	2.1														
			SD-06 Test Reports															

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		02741	Subbase Analysis	2.1.3														
			Aggregate Base Course	2.1.4														
		02770	SD-02 Shop Drawings															
			Design Drawings	2.1														
			SD-05 Design Data															
			Design Analysis	2.1														
			Specifications	2.1														
			Concrete mix design	2.7														
		13000	SD-01 Preconstruction Submittals															
			Hazardous Materials Abatement	3.2														
			Plan															
			SD-02 Shop Drawings															
			Design Drawings	3.2														
			SD-05 Design Data															
			Design Analysis	3.2														
			Specifications	3.2														
		16000	SD-02 Shop Drawings															
			Design Drawings	2.1														
			SD-03 Product Data															
			Specifications	2.1														
			SD-05 Design Data															
			Design Analysis	2.1														

TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE

(Read instructions on the reverse side prior to initiating this form)

DATE

TRANSMITTAL NO.

SECTION I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS *(This section will be initiated by the contractor)*

TO:

FROM:

CONTRACT NO.

CHECK ONE:
☐ THIS IS A NEW TRANSMITTAL
☐ THIS IS A RESUBMITTAL OF TRANSMITTAL _____

SPECIFICATION SEC. NO. *(Cover only one section with each transmittal)*

PROJECT TITLE AND LOCATION

CHECK ONE: THIS TRANSMITTAL IS FOR GOV'T. APPROVAL ☐ FIO

ITEM NO. a.	DESCRIPTION OF ITEM SUBMITTED *(Type size, model number/etc.)* b.	MFG OR CONTR. CAT., CURVE DRAWING OR BROCHURE NO. *(See instruction no. 8)* c.	NO. OF COPIES d.	CONTRACT REFERENCE DOCUMENT		FOR CONTRACTOR USE CODE g.	VARIATION *(See instruction No. 6)* h.	FOR CE USE CODE i.
				SPEC. PARA. NO. e.	DRAWING SHEET NO. f.			

REMARKS

I certify that the above submitted items have been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as other wise stated.

_____
NAME AND SIGNATURE OF CONTRACTOR

SECTION II - APPROVAL ACTION

ENCLOSURES RETURNED *(List by Item No.)*

NAME, TITLE AND SIGNATURE OF APPROVING AUTHORITY

DATE

INSTRUCTIONS

1. Section I will be initiated by the Contractor in the required number of copies.

2. Each transmittal shall be numbered consecutively in the space provided for "Transmittal No.". This number, in addition to the contract number, will form a serial number for identifying each submittal. For new submittals or resubmittals mark the appropriate box; on resubmittals, insert transmittal number of last submission as well as the new submittal number.

3. The "Item No." will be the same "Item No." as indicated on ENG FORM 4288-R for each entry on this form.

4. Submittals requiring expeditious handling will be submitted on a separate form.

5. Separate transmittal form will be used for submittals under separate sections of the specifications.

6. A check shall be placed in the "Variation" column when a submittal is not in accordance with the plans and specifications--also, a written statement to that effect shall be included in the space provided for "Remarks".

7. Form is self-transmittal, letter of transmittal is not required.

8. When a sample of material or Manufacturer's Certificate of Compliance is transmitted, indicate "Sample" or "Certificate" in column c, Section I.

9. U.S. Army Corps of Engineers approving authority will assign action codes as indicated below in space provided in Section I, column i to each item submitted. In addition they will ensure enclosures are indicated and attached to the form prior to return to the contractor. The Contractor will assign action codes as indicated below in Section I, column g, to each item submitted.

THE FOLLOWING ACTION CODES ARE GIVEN TO ITEMS SUBMITTED

A	--	Approved as submitted.	E	--	Disapproved (See attached).
B	--	Approved, except as noted on drawings.	F	--	Receipt acknowledged.
C	--	Approved, except as noted on drawings. Refer to attached sheet resubmission required.	FX	--	Receipt acknowledged, does not comply as noted with contract requirements.
D	--	Will be returned by separate correspondence.	G	--	Other *(Specify)*

10. Approval of items does not relieve the contractor from complying with all the requirements of the contract plans and specifications.

(Reverse of ENG Form 4025-R)

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SECTION 01355

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-- End of Section Table of Contents --

SECTION 01355

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 basic designation only.

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

33 CFR 328	Definitions
40 CFR 68	Chemical Accident Prevention Provisions
40 CFR 152 - 186	Pesticide Programs
40 CFR 260	Hazardous Waste Management System: General
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 279	Standards for the Management of Used Oil
40 CFR 302	Designation, Reportable Quantities, and Notification
40 CFR 355	Emergency Planning and Notification
49 CFR 171 - 178	Hazardous Materials Regulations

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(1996) U.S. Army Corps of Engineers Safety and Health Requirements Manual
WETLAND MANUAL	Corps of Engineers Wetlands Delineation Manual Technical Report Y-87-1

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

ENVIRONMENTAL PROTECTION PLAN

1.3 DEFINITIONS

1.3.1 Environmental Pollution and Damage

Environmental pollution and damage is the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade the environment aesthetically, culturally and/or historically.

1.3.2 Environmental Protection

Environmental protection is the prevention/control of pollution and habitat disruption that may occur to the environment during construction. The control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.

1.3.3 Contractor Generated Hazardous Waste

Contractor generated hazardous waste means materials that, if abandoned or disposed of, may meet the definition of a hazardous waste. These waste streams would typically consist of material brought on site by the Contractor to execute work, but are not fully consumed during the course of construction. Examples include, but are not limited to, excess paint thinners (i.e. methyl ethyl ketone, toluene etc.), waste thinners,excess paints, excess solvents, waste solvents, and excess pesticides, and contaminated pesticide equipment rinse water.

1.3.4 Land Application for Discharge Water

The term "Land Application" for discharge water implies that the Contractor shall discharge water at a rate which allows the water to percolate into the soil. No sheeting action, soil erosion, discharge into storm sewers, discharge into defined drainage areas, or discharge into the "waters of the United States" shall occur. Land Application shall be in compliance with all applicable Federal, State, and local laws and regulations.

1.3.5 Pesticide

Pesticide is defined as any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant or desiccant.

1.3.6 Pests

The term "pests" means arthropods, birds, rodents, nematodes, fungi, bacteria, viruses, algae, snails, marine borers, snakes, weeds and other organisms (except for human or animal disease-causing organisms) that adversely affect readiness, military operations, or the well-being of personnel and animals; attack or damage real property, supplies, equipment, or vegetation; or are otherwise undesirable.

1.3.7 Surface Discharge

The term "Surface Discharge" implies that the water is discharged with possible sheeting action and subsequent soil erosion may occur. Waters that are surface discharged may terminate in drainage ditches, storm sewers,creeks, and/or "waters of the United States" and would require a permit to discharge water from the governing agency.

1.3.8 Waters of the United States

All waters which are under the jurisdiction of the Clean Water Act, as defined in 33 CFR 328.

1.3.9 Wetlands

Wetlands means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, and bogs. Official determination of whether or not an area is classified as a wetland must be done in accordance with WETLAND MANUAL.

1.4 GENERAL REQUIREMENTS

The Contractor shall minimize environmental pollution and damage that may occur as the result of construction operations. The environmental resources within the project boundaries and those affected outside the limits of permanent work shall be protected during the entire duration of this contract. The Contractor shall comply with all applicable environmental Federal, State, and local laws and regulations. The Contractor shall be responsible for any delays resulting from failure to comply with environmental laws and regulations.

1.5 SUBCONTRACTORS

The Contractor shall ensure compliance with this section by subcontractors.

1.6 PAYMENT

No separate payment will be made for work covered under this section. The Contractor shall be responsible for payment of fees associated with environmental permits, application, and/or notices obtained by the Contractor. All costs associated with this section shall be included in the contract price. The Contractor shall be responsible for payment of all fines/fees for violation or non-compliance with Federal, State, Regional and local laws and regulations.

1.7 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

Administrative Submittals

Environmental Protection Plan

Submit by Serial Letter the written site-specific Environmental Protection Plan as specified herein.

1.8 ENVIRONMENTAL PROTECTION PLAN

Prior to commencing construction activities or delivery of materials to the site, the Contractor shall submit an Environmental Protection Plan for review and approval by the Contracting Officer. The purpose of the Environmental Protection Plan is to present a comprehensive overview of known or potential environmental issues which the Contractor must address during construction. Issues of concern shall be defined within the Environmental Protection Plan as outlined in this section. The Contractor shall address each topic at a level of detail commensurate with the environmental issue and required construction task(s). Topics or issues which are not identified in this section, but which the Contractor considers necessary, shall be identified and discussed after those items formally identified in this section. Prior to submittal of the Environmental Protection Plan, the Contractor shall meet with the Contracting Officer for the purpose of discussing the implementation of the initial Environmental Protection Plan; possible subsequent additions and revisions to the plan including any reporting requirements; and methods for administration of the Contractor's Environmental Plans. The Environmental Protection Plan shall be current and maintained onsite by the Contractor.

1.8.1 Compliance

No requirement in this Section shall be construed as relieving the Contractor of any applicable Federal, State, and local environmental protection laws and regulations. During Construction, the Contractor shall be responsible for identifying, implementing, and submitting for approval any additional requirements to be included in the Environmental Protection Plan.

1.8.2 Contents

The ENVIRONMENTAL PROTECTION PLAN shall include, but shall not be limited to the following listed items. Respond to all listed items. If an item is not applicable to project work, then give a short explanation of why it is not.

a. Name(s) of person(s) within the Contractor's organization who is(are) responsible for ensuring adherence to the Environmental Protection Plan.

b. Name(s) and qualifications of person(s) responsible for manifesting hazardous waste to be removed from the site, if applicable.

c. Name(s) and qualifications of person(s) responsible for training the Contractor's environmental protection personnel.

d. Description of the Contractor's environmental protection personnel training program.

e. An erosion and sediment control plan which identifies the type and location of the erosion and sediment controls to be provided. The plan shall include monitoring and reporting requirements to assure that the control measures are in compliance with the erosion and sediment control plan, Federal, State, and local laws and regulations. A Storm

Water Pollution Prevention Plan (SWPPP) may be substituted for this plan.

f. Drawings showing locations of proposed temporary excavations or embankments for haul roads, stream crossings, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials including methods to control runoff and to contain materials on the site.

g. Traffic control plans including measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather. Plan shall include measures to minimize the amount of mud transported onto paved public roads by vehicles or runoff.

h. Work area plan showing the proposed activity in each portion of the area and identifying the areas of limited use or nonuse. Plan should include measures for marking the limits of use areas including methods for protection of features to be preserved within authorized work areas.

i. Drawing showing the location of borrow areas.

j. The Spill Control plan shall include the procedures, instructions, and reports to be used in the event of an unforeseen spill of a substance regulated by 40 CFR 68, 40 CFR 302, 40 CFR 355, and/or regulated under State or Local laws and regulations. The Spill Control Plan supplements the requirements of EM 385-1-1. This plan shall include as a minimum:

1. The name of the individual who will report any spills or hazardous substance releases and who will follow up with complete documentation. This individual shall immediately notify the Contracting Officer and Facility Fire Department in addition to the legally required Federal, State, and local reporting channels (including the National Response Center 1-800-424-8802) if a reportable quantity is released to the environment. The plan shall contain a list of the required reporting channels and telephone numbers.

2. The name and qualifications of the individual who will be responsible for implementing and supervising the containment and cleanup.

3. Training requirements for Contractor's personnel and methods of accomplishing the training.

4. A list of materials and equipment to be immediately available at the job site, tailored to cleanup work of the potential hazard(s) identified.

5. The names and locations of suppliers of containment materials and locations of additional fuel oil recovery, cleanup, restoration, and material-placement equipment available in case of an unforeseen spill emergency.

6. The methods and procedures to be used for expeditious contaminant cleanup.

k. A non-hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris. The plan

shall include schedules for disposal. The Contractor shall identify any subcontractors responsible for the transportation and disposal of solid waste. Licenses or permits shall be submitted for solid waste disposal sites that are not a commercial operating facility. Evidence of the disposal facility's acceptance of the solid waste shall be attached to this plan during the construction. The Contractor shall attach a copy of each of the Non-hazardous Solid Waste Diversion Reports to the disposal plan. The report shall be submitted on the first working day after the first quarter that non-hazardous solid waste has been disposed and/or diverted and shall be for the previous quarter (e.g. the first working day of January, April, July, and October). The report shall indicate the total amount of waste generated and total amount of waste diverted in cubic yards or tons along with the percent that was diverted.

l. A recycling and solid waste minimization plan with a list of measures to reduce consumption of energy and natural resources. The plan shall detail the Contractor's actions to comply with and to participate in Federal, State, Regional, and local government sponsored recycling programs to reduce the volume of solid waste at the source.

m. An air pollution control plan detailing provisions to assure that dust, debris, materials, trash, etc., do not become air borne and travel off the project site.

n. A contaminant prevention plan that: identifies potentially hazardous substances to be used on the job site; identifies the intended actions to prevent introduction of such materials into the air, water, or ground; and details provisions for compliance with Federal, State, and local laws and regulations for storage and handling of these materials. In accordance with EM 385-1-1, a copy of the Material Safety Data Sheets (MSDS) and the maximum quantity of each hazardous material to be on site at any given time shall be included in the contaminant prevention plan. As new hazardous materials are brought on site or removed from the site, the plan shall be updated.

o. A waste water management plan that identifies the methods and procedures for management and/or discharge of waste waters which are directly derived from construction activities, such as concrete curing water, clean-up water, dewatering of ground water, disinfection water, hydrostatic test water, and water used in flushing of lines. If a settling/retention pond is required, the plan shall include the design of the pond including drawings, removal plan, and testing requirements for possible pollutants. If land application will be the method of disposal for the waste water, the plan shall include a sketch showing the location for land application along with a description of the pretreatment methods to be implemented. If surface discharge will be the method of disposal, a copy of the permit and associated documents shall be included as an attachment prior to discharging the waste water. If disposal is to a sanitary sewer, the plan shall include documentation that the Waste Water Treatment Plant Operator has approved the flow rate, volume, and type of discharge.

p. A historical, archaeological, cultural resources biological resources and wetlands plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and wetlands known to be on the project site: and/or identifies procedures to be followed if historical archaeological, cultural resources, biological resources and wetlands not previously

known to be onsite or in the area are discovered during construction. The plan shall include methods to assure the protection of known or discovered resources and shall identify lines of communication between Contractor personnel and the Contracting Officer.

q. A pesticide treatment plan shall be included and updated, as information becomes available. The plan shall include: sequence of treatment, dates, times, locations, pesticide trade name, EPA registration numbers, authorized uses, chemical composition, formulation, original and applied concentration, application rates of active ingredient (i.e. pounds of active ingredient applied), equipment used for application and calibration of equipment. The Contractor is responsible for Federal, State, Regional and Local pest management record keeping and reporting requirements as well as any additional specific requirements.

1.8.3 Appendix

Copies of all environmental permits, permit application packages, approvals to construct, notifications, certifications, reports, and termination documents shall be attached,as an appendix, to the Environmental Protection Plan.

1.9 PROTECTION FEATURES

This paragraph supplements the Contract Clause PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS. Prior to start of any onsite construction activities, the Contractor and the Contracting Officer shall make a joint condition survey. Immediately following the survey, the Contractor shall prepare a brief report including a plan describing the features requiring protection under the provisions of the Contract Clauses, which are not specifically identified on the drawings as environmental features requiring protection along with the condition of trees, shrubs and grassed areas immediately adjacent to the site of work and adjacent to the Contractor's assigned storage area and access route(s), as applicable. This survey report shall be signed by both the the Contractor and the Contracting Officer upon mutual agreement as to its accuracy and completeness. The Contractor shall protect those environmental features included in the survey report and any indicated on the drawings, regardless of interference which their preservation may cause to the Contractor's work under the contract.

1.10 ENVIRONMENTAL ASSESSMENT OF CONTRACT DEVIATIONS

Any deviations, requested by the Contractor, from the drawings,plans and specifications which may have an environmental impact will be subject to approval by the Contracting Officer and may require an extended review, processing, and approval time. The Contracting Officer reserves the right to disapprove alternate methods, even if they are more cost effective, if the Contracting Officer determines that the proposed alternate method will have an adverse environmental impact.

1.11 NOTIFICATION

The Contracting Officer will notify the Contractor in writing of any observed noncompliance with Federal, State or local environmental laws or regulations, permits, and other elements of the Contractor's Environmental Protection plan. The Contractor shall, after receipt of such notice, inform the Contracting Officer of the proposed corrective action and take

such action when approved by the Contracting Officer. The Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No time extensions shall be granted or equitable adjustments allowed to the Contractor for any such suspensions. This is in addition to any other actions the Contracting Officer may take under the contract, or in accordance with the Federal Acquisition Regulation or Federal Law.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 ENVIRONMENTAL PERMITS AND COMMITMENTS

The Contractor shall be responsible for obtaining and complying with all environmental permits and commitments required by Federal, State, Regional, and local environmental laws and regulations.

3.2 LAND RESOURCES

The Contractor shall confine all activities to areas defined by the drawings and specifications. Prior to the beginning of any construction, the Contractor shall identify any land resources to be preserved within the work area. Except in areas indicated on the drawings or specified to be cleared, the Contractor shall not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, topsoil, and land forms without approval. No ropes, cables, or guys shall be fastened to or attached to any trees for anchorage unless specifically authorized. The Contractor shall provide effective protection for land and vegetation resources at all times as defined in the following subparagraphs. Stone, soil, or other materials displaced into uncleared areas shall be removed by the Contractor.

3.2.1 Work Area Limits

Prior to commencing construction activities, the Contractor shall mark the areas that need not be disturbed under this contract. Isolated areas within the general work area which are not to be disturbed shall be marked or fenced. Monuments and markers shall be protected before construction operations commence. Where construction operations are to be conducted during darkness, any markers shall be visible in the dark. The Contractor's personnel shall be knowledgeable of the purpose for marking and/or protecting particular objects.

3.2.2 Landscape

Trees, shrubs, vines, grasses, land forms and other landscape features indicated and defined on the drawings to be preserved shall be clearly identified by marking, fencing, or wrapping with boards, or any other approved techniques. The Contractor shall restore landscape features damaged or destroyed during construction operations outside the limits of the approved work area.

3.2.3 Erosion and Sediment Controls

The Contractor shall be responsible for providing erosion and sediment control measures in accordance with Federal, State, and local laws and regulations. The erosion and sediment controls selected and maintained by the Contractor shall be such that water quality standards are not violated

as a result of the Contractor's construction activities. The area of bare soil exposed at any one time by construction operations should be kept to a minimum. The Contractor shall construct or install temporary and permanent erosion and sediment control best management practices (BMPs) and edit UFGS Section 01356 STORM WATER POLLUTION PREVENTION MEASURES to specify Contractor's methods. BMPs may include, but not be limited to, vegetation cover, stream bank stabilization, slope stabilization, silt fences, construction of terraces, interceptor channels, sediment traps, inlet and outfall protection, diversion channels, and sedimentation basins. The Contractor's best management practices shall also be in accordance with the National Pollutant Discharge Elimination System (NPDES) Storm Water Pollution Prevention Plan (SWPPP). Any temporary measures shall be removed after the area has been stabilized.

3.2.4 Contractor Facilities and Work Areas

The Contractor's field offices, staging areas, stockpile storage, and temporary buildings shall be placed in areas designated on the drawings or as directed by the Contracting Officer. Temporary movement or relocation of Contractor facilities shall be made only when approved. Erosion and sediment controls shall be provided for on-site borrow and spoil areas to prevent sediment from entering nearby waters. Temporary excavation and embankments for plant and/or work areas shall be controlled to protect adjacent areas.

3.3 WATER RESOURCES

The Contractor shall monitor construction activities to prevent pollution of surface and ground waters. Toxic or hazardous chemicals shall not be applied to soil or vegetation unless otherwise indicated. All water areas affected by construction activities shall be monitored by the Contractor. For construction activities immediately adjacent to impaired surface waters, the Contractor shall be capable of quantifying sediment or pollutant loading to that surface water when required by State or Federally issued Clean Water Act permits.

3.3.1 Dewatering Operations

Construction operations for dewatering shall be controlled at all times to maintain compliance with existing State water quality standards and designated uses of the surface water body. The Contractor shall comply with the State of Alaska water quality standards and anti-degradation provisions and the Clean Water Act Section 404, Nation Wide Permit. See RFP criteria Section 02300 EARTHWORK for dewatering requirements.

3.3.2 Stream Crossings

Stream crossings shall allow movement of materials or equipment without violating water pollution control standards of the Federal, State, and local governments.

3.3.3 Wetlands

The Contractor shall not enter, disturb, destroy, or allow discharge of contaminants into any wetlands.

3.4 AIR RESOURCES

Equipment operation, activities, or processes performed by the Contractor

shall be in accordance with all Federal and State air emission and performance laws and standards.

3.4.1 Particulates

Dust particles; aerosols and gaseous by-products from construction activities; and processing and preparation of materials shall be controlled at all times, including weekends, holidays and hours when work is not in progress. The Contractor shall maintain excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, spoil areas, borrow areas, and other work areas within or outside the project boundaries free from particulates which would cause the Federal, State, and local air pollution standards to be exceeded or which would cause a hazard or a nuisance. Sprinkling, chemical treatment of an approved type, baghouse, scrubbers, electrostatic precipitators or other methods will be permitted to control particulates in the work area. Sprinkling, to be efficient, must be repeated to keep the disturbed area damp at all times. The Contractor must have sufficient, competent equipment available to accomplish these tasks. Particulate control shall be performed as the work proceeds and whenever a particulate nuisance or hazard occurs. The Contractor shall comply with all State and local visibility regulations.

3.4.2 Odors

Odors from construction activities shall be controlled at all times. The odors shall not cause a health hazard and shall be in compliance with State regulations and/or local ordinances.

3.4.3 Sound Intrusions

The Contractor shall keep construction activities under surveillance and control to minimize environment damage by noise.

3.4.4 Burning

Burning will not be allowed.

3.5 CHEMICAL MATERIALS MANAGEMENT AND WASTE DISPOSAL

Disposal of wastes shall be as directed below, unless otherwise specified in other sections and/or shown on the drawings.

3.5.1 Solid Wastes

Solid wastes (excluding clearing debris) shall be placed in containers which are emptied on a regular schedule. Handling, storage, and disposal shall be conducted to prevent contamination. Segregation measures shall be employed so that no hazardous or toxic waste will become co-mingled with solid waste. The Contractor shall transport solid waste off Government property and dispose of it in compliance with Federal, State, and local requirements for solid waste disposal. A Subtitle D RCRA permitted landfill shall be the minimum acceptable off-site solid waste disposal option. The Contractor shall verify that the selected transporters and disposal facilities have the necessary permits and licenses to operate.

3.5.2 Chemicals and Chemical Wastes

Chemicals shall be dispensed ensuring no spillage to the ground or water. Periodic inspections of dispensing areas to identify leakage and initiate

corrective action shall be performed and documented. This documentation will be periodically reviewed by the Government. Chemical waste shall be collected in corrosion resistant, compatible containers. Collection drums shall be monitored and removed to a staging or storage area when contents are within 6 inches of the top. Wastes shall be classified, managed, stored, and disposed of in accordance with Federal, State, and local laws and regulations.

3.5.3 Contractor Generated Hazardous Wastes/Excess Hazardous Materials

Hazardous wastes are defined in 40 CFR 261, or are as defined by applicable State and local regulations. Hazardous materials are defined in 49 CFR 171 - 178. The Contractor shall, at a minimum, manage and store hazardous waste in compliance with 40 CFR 262 and shall manage and store hazardous waste in accordance with the Installation hazardous waste management plan. The Contractor shall take sufficient measures to prevent spillage of hazardous and toxic materials during dispensing. The Contractor shall segregate hazardous waste from other materials and wastes, shall protect it from the weather by placing it in a safe covered location, and shall take precautionary measures such as berming or other appropriate measures against accidental spillage. The Contractor shall be responsible for storage, describing, packaging, labeling, marking, and placarding of hazardous waste and hazardous material in accordance with 49 CFR 171 - 178, State, and local laws and regulations. The Contractor shall transport Contractor generated hazardous waste off Government property within 30 days in accordance with the Environmental Protection Agency and the Department of Transportation laws and regulations. The Contractor shall dispose of hazardous waste in compliance with Federal, State and local laws and regulations. Spills of hazardous or toxic materials shall be immediately reported to the Contracting Officer and the Facility Environmental Office. Cleanup and cleanup costs due to spills shall be the Contractor's responsibility. The disposition of Contractor generated hazardous waste and excess hazardous materials are the Contractor's responsibility. The Contractor shall coordinate the disposition of hazardous waste with the Facility's Hazardous Waste Manager and the Contracting Officer.

3.5.4 Fuel and Lubricants

Storage, fueling and lubrication of equipment and motor vehicles shall be conducted in a manner that affords the maximum protection against spill and evaporation. Fuel, lubricants and oil shall be managed and stored in accordance with all Federal, State, Regional, and local laws and regulations. Used lubricants and used oil to be discarded shall be stored in marked corrosion-resistant containers and recycled or disposed in accordance with 40 CFR 279, State, and local laws and regulations. There shall be no storage of fuel on the project site. Fuel must be brought to the project site each day that work is performed.

3.5.5 Waste Water

Disposal of waste water shall be as specified below.

a. Waste water from construction activities, such as onsite material processing, concrete curing, foundation and concrete clean-up, water used in concrete trucks, forms, etc. shall not be allowed to enter water ways or to be discharged prior to being treated to remove pollutants. The Contractor shall dispose of the construction related waste water by collecting and placing it in a retention pond where suspended material can be settled out and/or

the water can evaporate to separate pollutants from the water. The site for the retention pond shall be coordinated and approved with the Contracting Officer. The residue left in the pond prior to completion of the project shall be removed, tested, and disposed off-Government property in accordance with Federal, State, and local laws and regulations. The area shall be backfilled to the original grade, top-soiled and seeded/sodded.

b. For discharge of ground water, the Contractor shall obtain a State or Federal permit specific for pumping and discharging ground water prior to discharging. Surface discharge shall be in accordance with the requirements of the NPDES or State STORM WATER DISCHARGES FROM CONSTRUCTION SITES permit.

c. Water generated from the flushing of lines after disinfection or disinfection in conjunction with hydrostatic testing shall be discharged into the sanitary sewer with prior approval and notification to the Waste Water Treatment Plant's Operator.

3.6 RECYCLING AND WASTE MINIMIZATION

The Contractor shall participate in State and local government sponsored recycling programs. The Contractor is further encouraged to minimize solid waste generation throughout the duration of the project.

3.7 NON-HAZARDOUS SOLID WASTE DIVERSION REPORT

The Contractor shall maintain an inventory of non-hazardous solid waste diversion and disposal of construction and demolition debris. The Contractor shall submit a report through the Contracting Officer on the first working day after each fiscal year quarter, starting the first quarter that non-hazardous solid waste has been generated. The following shall be included in the report:

a. Construction and Demolition (C&D) Debris Disposed = in cubic yards or tons, as appropriate.

b. Construction and Demolition (C&D) Debris Recycled = in cubic yards or tons, as appropriate.

c. Total C&D Debris Generated = in cubic yards or tons, as appropriate.

d. Waste Sent to Waste-To-Energy Incineration Plant (This amount should not be included in the recycled amount) = in cubic yards or tons, as appropriate.

3.8 HISTORICAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES (NOT USED)

3.9 BIOLOGICAL RESOURCES

The Contractor shall minimize interference with, disturbance to, and damage to fish, wildlife, and plants including their habitat. The Contractor shall be responsible for the protection of threatened and endangered animal and plant species including their habitat in accordance with Federal, State, Regional, and local laws and regulations.

3.9.1 Bird Protection

Federal and State law protects the Cliff Swallows that build mud nests on Base/Post facilities. Once the Cliff Swallow establishes nest and lays eggs, then the nest cannot be removed or annoyed until the nests are no longer occupied. Forcing or annoying the birds to abandon an occupied nest is a violation of State and Federal law. Any work including demolition of know Cliff Swallows nesting areas (i.e., eaves, porches, entrance ways, tanks, etc.) shall be done prior to 10 May or after 1 August to avoid project delays.

The Contractor shall initiate a program to remove the partially completed nests daily from 10 May to 21 July to avoid work stoppage. The Contractor is responsible for all or any delays and charges filed by U.S. Fish and Wildlife Service and the State of Alaska Department of Public Safety due to his/her negligence in removing and/or annoying such established nests.

3.10 INTEGRATED PEST MANAGEMENT

In order to minimize impacts to existing fauna and flora, the Contractor, through the Contracting Officer, shall coordinate with the at the earliest possible time prior to pesticide application. The Contractor shall discuss integrated pest management strategies with the IPMC and receive concurrence from the IPMC through the COR prior to the application of any pesticide associated with these specifications. Pest Management personnel shall be given the opportunity to be present at all meetings concerning treatment measures for pest or disease control and during application of the pesticide. The use and management of pesticides are regulated under 40 CFR 152 - 186.

3.10.1 Pesticide Delivery and Storage

Pesticides shall be delivered to the site in the original, unopened containers bearing legible labels indicating the EPA registration number and the manufacturer's registered uses. Pesticides shall be stored according to manufacturer's instructions and under lock and key when unattended.

3.10.2 Qualifications

For the application of pesticides, the Contractor shall use the services of a subcontractor whose principal business is pest control. The subcontractor shall be licensed and certified in the state where the work is to be performed.

3.10.3 Pesticide Handling Requirements

The Contractor shall formulate, treat with, and dispose of pesticides and associated containers in accordance with label directions and shall use the clothing and personal protective equipment specified on the labeling for use during all phases of the application. Material Safety Data Sheets (MSDS)shall be available for all pesticide products.

3.10.4 Application

Pesticides shall be applied by a State Certified Pesticide Applicator in accordance with EPA label restrictions and recommendation. The Certified Applicator shall wear clothing and personal protective equipment as specified on the pesticide label. Water used for formulating shall only

come from locations designated by the Contracting Officer. The Contractor shall not allow the equipment to overflow. Prior to application of pesticide, all equipment shall be inspected for leaks, clogging, wear, or damage and shall be repaired prior to being used.

3.11 PREVIOUSLY USED EQUIPMENT

The Contractor shall clean all previously used construction equipment prior to bringing it onto the project site. The Contractor shall ensure that the equipment is free from soil residuals, egg deposits from plant pests, noxious weeds, and plant seeds. The Contractor shall consult with the USDA jurisdictional office for additional cleaning requirements.

3.12 MAINTENANCE OF POLLUTION FACILITIES

The Contractor shall maintain permanent and temporary pollution control facilities and devices for the duration of the contract or for that length of time construction activities create the particular pollutant.

3.13 MILITARY MUNITIONS

In the event the Contractor discovers or uncovers military munitions as defined in 40 CFR 260, the Contractor shall immediately stop work in that area and immediately inform the Contracting Officer.

3.14 TRAINING OF CONTRACTOR PERSONNEL

The Contractor's personnel shall be trained in all phases of environmental protection and pollution control. The Contractor shall conduct environmental protection/pollution control meetings for all Contractor personnel prior to commencing construction activities. Additional meetings shall be conducted for new personnel and when site conditions change. The training and meeting agenda shall include: methods of detecting and avoiding pollution; familiarization with statutory and contractual pollution standards; installation and care of devices, vegetative covers, and instruments required for monitoring purposes to ensure adequate and continuous environmental protection/pollution control; anticipated hazardous or toxic chemicals or wastes, and other regulated contaminants; recognition and protection of archaeological sites, artifacts, wetlands, and endangered species and their habitat that are known to be in the area.

3.15 CONTAMINATED MEDIA MANAGEMENT

Contaminated environmental media consisting of, but not limited to, ground water, soils, and sediments shall be managed in accordance with RFP criteria Section 02280 CONTAMINATED SOILS REMOVAL, HAULING, AND STOCKPILING.

3.16 POST CONSTRUCTION CLEANUP

The Contractor shall clean up all areas used for construction in accordance with Contract Clause: "Cleaning Up". The Contractor shall, unless otherwise instructed in writing by the Contracting Officer, obliterate all signs of temporary construction facilities such as haul roads, work area, structures, foundations of temporary structures, stockpiles of excess or waste materials, and other vestiges of construction prior to final acceptance of the work. The disturbed area shall be graded, filled and the entire area seeded unless otherwise indicated.

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SECTION 01356

STORM WATER POLLUTION PREVENTION MEASURES

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 basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM D 4439	(2002) Geosynthetics
ASTM D 4491	(1999a) Water Permeability of Geotextiles by Permittivity
ASTM D 4533	(1991; R 1996) Trapezoid Tearing Strength of Geotextiles
ASTM D 4632	(1991; R 1996) Grab Breaking Load and Elongation of Geotextiles
ASTM D 4751	(1999a) Determining Apparent Opening Size of a Geotextile
ASTM D 4873	(2002) Identification, Storage, and Handling of Geosynthetic Rolls and Samples

1.2 GENERAL

The Contractor shall implement the storm water pollution prevention measures specified in this section in a manner which will meet the requirements of Section 01355 ENVIRONMENTAL PROTECTION, and the requirements of the National Pollution Discharge Elimination System (NPDES) permit attached to that Section.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Storm Water Pollution Prevention Plan; G

Contractor shall submit a Storm Water Pollution Prevention Plan SWPP prior to commencing site work.

SD-06 Test Reports

Mill Certificate or Affidavit

A mill certificate or affidavit shall be provided attesting that the fabric and factory seams meet chemical, physical, and manufacturing requirements specified.

1.4 EROSION AND SEDIMENT CONTROLS

The controls and measures required by the Contractor are described below.

1.4.1 Stabilization Practices

The stabilization practices to be implemented shall include temporary seeding, mulching, geotextiles, sod stabilization, vegetative buffer strips, erosion control matts, protection of trees, preservation of mature vegetation, etc. On his daily CQC Report, the Contractor shall record the dates when the major grading activities occur, (e.g., excavation and grading); when construction activities temporarily or permanently cease on a portion of the site; and when stabilization practices are initiated. Except as provided in paragraphs UNSUITABLE CONDITIONS and NO ACTIVITY FOR LESS THAN 21 DAYS, stabilization practices shall be initiated as soon as practicable, but no more than 14 days, in any portion of the site where construction activities have temporarily or permanently ceased.

1.4.1.1 Unsuitable Conditions

Where the initiation of stabilization measures by the fourteenth day after construction activity temporarily or permanently ceases is precluded by unsuitable conditions caused by the weather, stabilization practices shall be initiated as soon as practicable after conditions become suitable.

1.4.1.2 No Activity for Less Than 21 Days

Where construction activity will resume on a portion of the site within 21 days from when activities ceased (e.g., the total time period that construction activity is temporarily ceased is less than 21 days), then stabilization practices do not have to be initiated on that portion of the site by the fourteenth day after construction activity temporarily ceased.

1.4.2 Structural Practices

Structural practices shall be implemented to divert flows from exposed soils, temporarily store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Structural practices shall be implemented in a timely manner during the construction process to minimize erosion and sediment runoff. Structural practices shall include the following devices.

1.4.2.1 Silt Fences

The Contractor shall provide silt fences as a temporary structural practice to minimize erosion and sediment runoff. Silt fences shall have Mill Certificate or Affidavit and shall be properly installed to effectively retain sediment immediately after completing each phase of work where erosion would occur in the form of sheet and rill erosion (e.g. clearing and grubbing, excavation, embankment, and grading). Silt fences shall be installed in the locations indicated on the drawings. Final removal of silt fence barriers shall be upon approval by the Contracting Officer.

1.4.2.2 Straw Bales

The Contractor shall provide bales of straw as a temporary structural practice to minimize erosion and sediment runoff. Bales shall be properly placed to effectively retain sediment immediately after completing each phase of work (e.g., clearing and grubbing, excavation, embankment, and grading) in each independent runoff area (e.g., after clearing and grubbing in a area between a ridge and drain, bales shall be placed as work progresses, bales shall be removed/replaced/relocated as needed for work to progress in the drainage area). Areas where straw bales are to be used are shown on the drawings. Final removal of straw bale barriers shall be upon approval by the Contracting Officer. Rows of bales of straw shall be provided as follows:

a. Along the downhill perimeter edge of all areas disturbed.

b. Along the top of the slope or top bank of drainage ditches, channels, swales, etc. that traverse disturbed areas.

c. Along the toe of all cut slopes and fill slopes of the construction areas.

d. Perpendicular to the flow in the bottom of existing drainage ditches, channels, swales, etc. that traverse disturbed areas or carry runoff from disturbed areas. Rows shall be spaced a maximum of 230 feet apart.

e. Perpendicular to the flow in the bottom of new drainage ditches, channels, and swales. Rows shall be spaced a maximum of 230 feet apart.

f. At the entrance to culverts that receive runoff from disturbed areas.

1.4.2.3 Diversion Dikes

Diversion dikes shall have a maximum channel slope of 2 percent and shall be adequately compacted to prevent failure. The minimum height measured from the top of the dike to the bottom of the channel shall be 18 inches. The minimum base width shall be 6 feet and the minimum top width shall be 2 feet. The Contractor shall ensure that the diversion dikes are not damaged by construction operations or traffic. Diversion dikes shall be located as shown on the drawings.

PART 2 PRODUCTS

2.1 COMPONENTS FOR SILT FENCES

2.1.1 Filter Fabric

The geotextile shall comply with the requirements of ASTM D 4439, and shall consist of polymeric filaments which are formed into a stable network such that filaments retain their relative positions. The filament shall consist of a long-chain synthetic polymer composed of at least 85 percent by weight of ester, propylene, or amide, and shall contain stabilizers and/or inhibitors added to the base plastic to make the filaments resistance to deterioration due to ultraviolet and heat exposure. Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six months of expected usable

construction life at a temperature range of -18 to 49 degrees F. The filter fabric shall meet the following requirements:

FILTER FABRIC FOR SILT SCREEN FENCE

PHYSICAL PROPERTY	TEST PROCEDURE	STRENGTH REQUIREMENT
Grab Tensile	ASTM D 4632	100 lbs. min.
Elongation (%)		30 % max.
Trapezoid Tear	ASTM D 4533	55 lbs. min.
Permittivity	ASTM D 4491	0.2 sec-1
AOS (U.S. Std Sieve)	ASTM D 4751	20-100

2.1.2 Silt Fence Stakes and Posts

The Contractor may use either wooden stakes or steel posts for fence construction. Wooden stakes utilized for silt fence construction, shall have a minimum cross section of 2 inches by 2 inches when oak is used and 4 inches by 4 inches when pine is used, and shall have a minimum length of 5 feet. Steel posts (standard "U" or "T" section) utilized for silt fence construction, shall have a minimum weight of 1.33 pounds per linear foot and a minimum length of 5 feet.

2.1.3 Mill Certificate or Affidavit

A mill certificate or affidavit shall be provided attesting that the fabric and factory seams meet chemical, physical, and manufacturing requirements specified above. The mill certificate or affidavit shall specify the actual Minimum Average Roll Values and shall identify the fabric supplied by roll identification numbers. The Contractor shall submit a mill certificate or affidavit signed by a legally authorized official from the company manufacturing the filter fabric.

2.1.4 Identification Storage and Handling

Filter fabric shall be identified, stored and handled in accordance with ASTM D 4873.

2.2 COMPONENTS FOR STRAW BALES

The straw in the bales shall be stalks from oats, wheat, rye, barley, rice, or from grasses such as byhalia, bermuda, etc., furnished in air dry condition. The bales shall have a standard cross section of 14 inches by 18 inches. All bales shall be either wire-bound or string-tied. The Contractor may use either wooden stakes or steel posts to secure the straw bales to the ground. Wooden stakes utilized for this purpose, shall have a minimum dimensions of 2 inches x 2 inches in cross section and shall have a minimum length of 3 feet. Steel posts (standard "U" or "T" section) utilized for securing straw bales, shall have a minimum weight of 1.33 pounds per linear foot and a minimum length of 3 feet.

PART 3 EXECUTION

3.1 INSTALLATION OF SILT FENCES

Silt fences shall extend a minimum of 16 inches above the ground surface

and shall not exceed 34 inches above the ground surface. Filter fabric shall be from a continuous roll cut to the length of the barrier to avoid the use of joints. When joints are unavoidable, filter fabric shall be spliced together at a support post, with a minimum 6 inch overlap, and securely sealed. A trench shall be excavated approximately 4 inches wide and 4 inches deep on the upslope side of the location of the silt fence. The 4-inch by 4-inch trench shall be backfilled and the soil compacted over the filter fabric. Silt fences shall be removed upon approval by the Contracting Officer.

3.2 INSTALLATION OF STRAW BALES

Straw bales shall be placed in a single row, lengthwise on the contour, with ends of adjacent bales tightly abutting one another. Straw bales shall be installed so that bindings are oriented around the sides rather than along the tops and bottoms of the bales in order to prevent deterioration of the bindings. The barrier shall be entrenched and backfilled. A trench shall be excavated the width of a bale and the length of the proposed barrier to a minimum depth of 4 inches. After the bales are staked and chinked (gaps filled by wedging with straw), the excavated soil shall be backfilled against the barrier. Backfill soil shall conform to the ground level on the downhill side and shall be built up to 4 inches against the uphill side of the barrier. Loose straw shall be scattered over the area immediately uphill from a straw bale barrier to increase barrier efficiency. Each bale shall be securely anchored by at least two stakes driven through the bale. The first stake or steel post in each bale shall be driven toward the previously laid bale to force the bales together. Stakes or steel pickets shall be driven a minimum 18 inches deep into the ground to securely anchor the bales.

3.3 MAINTENANCE

The Contractor shall maintain the temporary and permanent vegetation, erosion and sediment control measures, and other protective measures in good and effective operating condition by performing routine inspections to determine condition and effectiveness, by restoration of destroyed vegetative cover, and by repair of erosion and sediment control measures and other protective measures. The following procedures shall be followed to maintain the protective measures.

3.3.1 Silt Fence Maintenance

Silt fences shall be inspected in accordance with paragraph INSPECTIONS. Any required repairs shall be made promptly. Close attention shall be paid to the repair of damaged silt fence resulting from end runs and undercutting. Should the fabric on a silt fence decompose or become ineffective, and the barrier is still necessary, the fabric shall be replaced promptly. Sediment deposits shall be removed when deposits reach one-third of the height of the barrier. When a silt fence is no longer required, it shall be removed. The immediate area occupied by the fence and any sediment deposits shall be shaped to an acceptable grade. The areas disturbed by this shaping shall be seeded in accordance with Section 01010 DESIGN CRITERIA REQUIREMENTS.

3.3.2 Straw Bale Maintenance

Straw bale barriers shall be inspected in accordance with paragraph INSPECTIONS. Close attention shall be paid to the repair of damaged bales, end runs and undercutting beneath bales. Necessary repairs to barriers or

replacement of bales shall be accomplished promptly. Sediment deposits shall be removed when deposits reach one-half of the height of the barrier. Bale rows used to retain sediment shall be turned uphill at each end of each row. When a straw bale barrier is no longer required, it shall be removed. The immediate area occupied by the bales and any sediment deposits shall be shaped to an acceptable grade. The areas disturbed by this shaping shall be seeded in accordance with Section 01010 DESIGN CRITERIA REQUIREMENTS.

3.3.3 Diversion Dike Maintenance

Diversion dikes shall be inspected in accordance with paragraph INSPECTIONS. Close attention shall be paid to the repair of damaged diversion dikes and necessary repairs shall be accomplished promptly. When diversion dikes are no longer required, they shall be shaped to an acceptable grade. The areas disturbed by this shaping shall be seeded in accordance with 01010.

3.4 INSPECTIONS

3.4.1 General

The Contractor shall inspect disturbed areas of the construction site, areas used for storage of materials that are exposed to precipitation that have not been finally stabilized, stabilization practices, structural practices, other controls, and area where vehicles exit the site at least once every seven (7) calendar days and within 24 hours of the end of any storm that produces 0.5 inches or more rainfall at the site. Where sites have been finally stabilized, such inspection shall be conducted at least once every month.

3.4.2 Inspections Details

Disturbed areas and areas used for material storage that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the Storm Water Pollution Prevention Plan shall be observed to ensure that they are operating correctly. Discharge locations or points shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles exit the site shall be inspected for evidence of offsite sediment tracking.

3.4.3 Inspection Reports

For each inspection conducted, the Contractor shall prepare a report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the Storm Water Pollution Prevention Plan, maintenance performed, and actions taken. The report shall be furnished to the Contracting Officer within 24 hours of the inspection as a part of the Contractor's daily CQC REPORT. A copy of the inspection report shall be maintained on the job site.

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SECTION 01420

SOURCES FOR REFERENCE PUBLICATIONS

PART 1 GENERAL

1.1 REFERENCES

Various publications are referenced in other sections of the specifications to establish requirements for the work. These references are identified in each section by document number, date and title. The document number used in the citation is the number assigned by the standards producing organization, (e.g. ASTM B 564 Nickel Alloy Forgings). However, when the standards producing organization has not assigned a number to a document, an identifying number has been assigned for reference purposes.

1.2 ORDERING INFORMATION

The addresses of the standards publishing organizations whose documents are referenced in other sections of these specifications are listed below, and if the source of the publications is different from the address of the sponsoring organization, that information is also provided. Documents listed in the specifications with numbers which were not assigned by the standards producing organization should be ordered from the source by title rather than by number.

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)
444 North Capital Street, NW, Suite 249
Washington, DC 20001
Ph: 202-624-5800
Fax: 202-624-5806
E-Mail: info@aashto.org
Internet: http://www.aashto.org

AMERICAN CONCRETE INSTITUTE (ACI)
38800 Country Club Drive
Farmington Hills, MI 48333-9094
Phone: (248) 848-3700
Fax: (248) 848-3701

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES (ADOT & PF)
3132 Channel Dr.
Juneau, AK 99801-7898
Ph:(907) 465-3901

U.S. AIR FORCE MANUALS (AFM)

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
1819 L Street, NW, 6th Floor
Washington, DC 20036
Ph: 202-293-8020
Fax: 202-293-9287

E-mail: info@ansi.org
Internet: http://www.ansi.org/

Note --- ANSI documents beginning with the letter "S" can be ordered from:

Acoustical Society of America (ASA)
2 Huntington Quadrangle, Suite 1NO1
Melville, NY 11747-4502
Ph: 516-576-2360
Fax: 516-576-2377
E-mail: asa@aip.org
Internet: http://asa.aip.org

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)
Information Central
Orders/Inquiries
P.O. Box 2300
Fairfield, NJ 07007-2300
800-843-2763
Fax: 973-882-1717
Email: infocentral@asme.org

ALASKA TEST METHOD (ATM))
3132 Channel Dr.
Juneau, AK 99801-7898
Ph:(907) 465-3901

AMERICAN WATER WORKS ASSOCIATION(AWWA)
6666 West Quincy Avenue
Denver, CO 80235
Ph: 303-794-7711
Fax: 303-347-0804
Internet: http://www.awwa.org

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Alaska District (CEPOA)
Barbara Harris, Library Technician
Phone: 907-753-2527
E-mail: barbara.p.harris@pao01.usace.army.mil

ASME INTERNATIONAL (ASME)
Three Park Avenue
New York, NY 10016-5990
Ph: 212-591-7722
Fax: 212-591-7674
E-mail: infocentral@asme.org
Internet: http://www.asme.org

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959
Ph: 610-832-9500
Fax: 610-832-9555
E-mail: service@astm.org
Internet: http://www.astm.org

ASTM INTERNATIONAL (ASTM)
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959
Ph: 610-832-9500
Fax: 610-832-9555
E-mail: service@astm.org
Internet: http://www.astm.org

COMPRESSED GAS ASSOCIATION (CGA)
4221 Walney Road, 5th Floor
Chantilly, VA 20151-2923
Ph: 703-788-2700
Fax: 703-961-1831
E-mail: cga@cganet.com
Internet: http://www.cganet.com

CODE OF FEDERAL REGULATIONS (CFR)
0016A Alaska Court System
Alaska State Court Law Library
303 K Street
Anchorage, AK 99501-2099
Phone: (907)264-0585:
Fax: (907)264-0733:
http://www.state.ak.us/courts/library.htm

ELECTRONIC INDUSTRIES ALLIANCE (EIA)
2500 Wilson Boulevard
Arlington, VA 22201
Phone: 703-907-7500
Fax: 703-907-7501
E-mail: dmcurdy@eia.org
Internet:

FEDERAL SPECIFICATIONS (FS)
General Services Administration
Federal Supply Service
Spec Section 4
470 E L'Enfant Plaza, SW, Suite 8100
Washington, DC 20407
(202) 619-8925 FAX (202) 619-8978

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127 Park Street, NE
Vienna, VA 22180-4602
Ph: 703-281-6613
Fax: 703-281-6671
E-mail: info@mss-hq.com
Internet: http://www.mss-hq.com

MANUFACTURERS STANDARDIZATION SOCIETY (MSS)
MSS 127 Park St. NE
Vienna, VA 22180
Ph: 703-281-6613
Fax: 703-281-6671
E-mail: info@mss-hq.org

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)
1300 North 17th Street, Suite 1847

Rosslyn, VA 22209
Ph: 703-841-3200
Fax: 703-841-5900
E-mail: webmaster@nema.org
Internet: http://www.nema.org/

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
1 Batterymarch Park
Quincy, MA 02169-7471
Ph: 617-770-3000
Fax: 617-770-0700
E-mail: webmaster@nfpa.org
Internet: http://www.nfpa.org

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)
Mail Stop C-13
4676 Columbia Parkway
Cincinnati, OH 45226-1998
Ph: 800-356-4674
Fax: 513-533-8573
E-mail: pubstaff@cdc.gov
Internet: http://www.cdc.gov/niosh/homepage.html

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)
Department of Labor
Occupational Safety and Health Administration
City Center Square
1100 Main, Suite 800
Kansas City, MO 64106
(816) 426-5861 FAX: (816) 426-2750
http://www.osha.gov

PRECAST/PRESTRESSED CONCRETE INSTITUTE (PCI)
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Chicago, IL 60606-6938
Ph: 312-786-0300
Fax: 312-786-0353
E-mail: info@pci.org
Internet: http://www.pci.org

STATE OF ALASKA ADMINISTRATIVE CODE (AAC)
PO Box 110208
Juneau, AK 99811-0200
10th Flr State Office Bldg
Phone: 465-2277
Fax: 465-2194

STATE OF ALASKA ADMINISTRATIVE CODES (AAC) AND STATUTES (AS)
PO Box 110208
Juneau, AK 99811-0200
10th Flr State Office Bldg
Phone: 465-2277
Fax: 465-2194

STATE OF ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION (ADEC)
410 Willoughby Avenue, Suite 303
Juneau, AK 99801-1795
Telephone:(907) 465-5066
Fax Number:(907) 465-5070

Email: commissioner@dec.state.ak.us

THE SOCIETY FOR PROTECTIVE COATINGS (SSPC)
40 24th Street, 6th Floor
Pittsburgh, PA 15222-4656
Ph: 412-281-2331
Fax: 412-281-9992
E-mail: info@sspc.org
Internet: http://www.sspc.org

UNIFIED FACILITIES GUIDE SPECIFICATION (UFGS)
National Institute of Building Sciences (NIBS)
1090 Vermont Avenue NW, Suite 700
Washington, DC 20005
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202-289-7800 o Fax 202-289-1092
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ALASKA

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Internet: http://www.usace.army.mil/publications
or http://www.hnd.usace.army.mil/techinfo/engpubs.htm

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460
Ph: 202-272-0167
Internet: http://www.epa.gov

NOTE --- Some documents are available only from:
National Technical Information Service (NTIS)
5285 Port Royal Road
Springfield, VA 22161
Ph: 703-605-6585
Fax: 703-605-6900
E-mail: info@ntis.gov
Internet: http://www.ntis.gov

U.S. GENERAL SERVICES ADMINISTRATION (GSA)
General Services Administration
1800 F Street, NW
Washington, DC 20405
Ph: 202-501-1021

Order from:
General Services Administration
Federal Supply Service Bureau
1941 Jefferson Davis Highway
Arlington, VA 22202
Ph: 703-605-5400
Internet: http://apps.fss.gsa.gov/pub/fedspecs/indexcfm

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)
8601 Adelphi Road
College Park, MD 20740-6001
Ph: 866-272-6272
Fax: 301-837-0483
Internet: http://www.archives.gov

Order documents from:
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E-mail: gpoaccess.gov
Internet: http://www.gpoaccess.gov

WESTERN ALLIANCE FOR QUALITY IN TRANSPORTATION CONSTRUCTION (WAQTC)
ALASKA DEPARTMENT OF TRANSPORTATION
ATTN: Robert Lewis
Ph: (907) 269-6214
E-mail: robert lewis@dot.state.ak.us

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SECTION 01451

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SECTION 01451

CONTRACTOR 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 basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 3740	(2001) Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
ASTM E 329	(2000b) Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction

1.2 PAYMENT

Separate payment will not be made for providing and maintaining an effective Quality Control program, and all costs associated therewith shall be included in the applicable unit prices or lump-sum prices contained in the Bid Schedule.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330SUBMITTAL PROCEDURES:

Administrative Submittals

Contractor Quality Control Plan;

Submit by Serial Letter the written site-specific Contractor Quality Control Plan as specified herein.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

The Contractor is responsible for quality control and shall establish and maintain an effective quality control system in compliance with the Contract Clause titled "Inspection of Construction." The quality control

system shall consist of plans, procedures, and organization necessary to produce an end product which complies with the contract requirements. The system shall cover all design-construction and construction operations, both onsite and offsite, and shall be keyed to the proposed construction sequence.

The site project superintendent will be held responsible for the quality of work on the job. The site project superintendent is subject to removal by the Contracting Officer for non-compliance with either the established quality control system or quality requirements specified in this contract. The site project superintendent in this context shall be the highest-level manager responsible for the overall construction activities at the site, including quality and production. The site project superintendent shall maintain a physical presence at the site at all times, except as otherwise acceptable to the Contracting Officer.

3.2 QUALITY CONTROL PLAN

The Contractor shall furnish for review by the Government, not later than 10 days after receipt of notice to proceed, the Contractor Quality Control (CQC) Plan proposed to implement the requirements of the Contract Clause titled "Inspection of Construction." The plan shall identify personnel, procedures, control, instructions, tests, records, and forms to be used. The Government will consider an interim plan for the first 30 days of operation. will be permitted to begin only after acceptance of the CQC Plan or acceptance of an interim plan applicable to the particular feature of work to be started. Work outside of the features of work included in an accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional features of work to be started.

3.2.1 Content of the CQC Plan

The CQC Plan shall include, as a minimum, the following to cover all operations, both onsite and offsite, including work by :

a. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC staff shall implement the three phase control system for all aspects of the work specified. The staff shall include a CQC System Manager who shall report to the Project Manager or someone higher in the Contractor's organization. Project Manager in this context shall mean the individual with responsibility for the overall management of the project, including quality and production.

b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.

c. A copy of the letter to the CQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work which is not in compliance with the contract. The CQC System Manager shall issue letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities. Copies of

these letters shall also be furnished to the Government.

d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of . These procedures shall be in accordance with Section 01330 SUBMITTAL PROCEDURES.

e. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and person responsible for each test. (Laboratory facilities approved by the Contracting Officer shall be used.)

f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.

g. Procedures for tracking deficiencies from identification through acceptable corrective action. These procedures shall establish verification that identified deficiencies have been corrected.

h. Reporting procedures, including proposed reporting formats.

i. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks, has separate control requirements, and may be identified by different trades or disciplines, or it may be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a definable feature of work, there are frequently more than one definable features under a particular section. This list will be agreed upon during the coordination meeting.

3.2.2 Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of . Acceptance is conditional and will be predicated on satisfactory performance during the . The Government reserves the right to require the Contractor to make changes in his CQC Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

3.2.3 Notification of Changes

After acceptance of the CQC Plan, the Contractor shall notify the Contracting Officer in writing of any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

3.3 COORDINATION MEETING

After the and prior to acceptance by the Government of the CQC Plan, the Contractor shall meet with the Contracting Officer or Authorized Representative and discuss the Contractor's quality control system. The CQC Plan shall be submitted for review a minimum of 10 calendar days prior to the Coordination Meeting. During the meeting, a mutual understanding of the system details shall be developed, including the forms for recording the CQC , control activities, testing, administration of the system for both onsite and offsite work, and the interrelationship of Contractor's Management and control with the Government's Quality Assurance. Minutes of the meeting shall be prepared by the and signed by both the Contractor and

the Contracting Officer. The minutes shall become a part of the contract file. There may be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings and/or address deficiencies in the CQC system or procedures which may require corrective action by the Contractor.

3.4 QUALITY CONTROL ORGANIZATION

3.4.1 Personnel Requirements

The requirements for the CQC organization are a and sufficient number of additional qualified personnel to ensure safety and contract compliance. Personnel identified in the technical provisions as requiring specialized skills to assure the required work is being performed properly will also be included as part of the CQC organization. The Contractor's CQC staff shall maintain a presence at the site at all times during progress of the work and have complete authority and responsibility to take any action necessary to ensure contract compliance. The CQC staff shall be subject to acceptance by the Contracting Officer. The Contractor shall provide adequate office space, filing systems and other resources as necessary to maintain an effective and fully functional CQC organization. Complete records of all letters, material submittals, shop drawing submittals, schedules and all other project documentation shall be promptly furnished to the CQC organization by the Contractor. The CQC organization shall be responsible to maintain these documents and records at the site at all times, except as otherwise acceptable to the Contracting Officer.

3.4.2 CQC System Manager

The Contractor shall identify as CQC System Manager an individual within the onsite work organization who shall be responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor. The CQC System Manager shall be a graduate engineer or a graduate of construction management, with a minimum of 2 years construction experience on construction similar to this contract or a construction person with a minimum of 5 years in related work. This CQC System Manager shall be on the site at all times during construction and shall be employed by the prime Contractor. The CQC System Manager shall be assigned no other duties. An alternate for the CQC System Manager shall be identified in the plan to serve in the event of the System Manager's absence. The requirements for the alternate shall be the same as for the designated CQC System Manager.

3.4.3 CQC Personnel

In addition to CQC personnel specified elsewhere in the contract, the Contractor shall provide as part of the CQC organization specialized personnel to assist the CQC System Manager for the following areas: mechanical. This individual shall be directly employed by the prime Contractor and may not be employed by a supplier or sub-contractor on this project; be responsible to the CQC System Manager; be physically present at the construction site during work on their areas of responsibility; have the necessary education and/or experience in accordance with the experience matrix listed herein. These individuals shall have no other duties other than quality control.

Experience Matrix

Area	Qualifications
a. Mechanical	Graduate Mechanical Engineer with 2 yrs experience or person with 5 yrs related experience

3.4.4 Additional Requirement

In addition to the above experience and/or education requirements the CQC System Manager shall have completed the course entitled "Construction Quality Management For Contractors". This course is periodically offered at the Associated General Contractors of Alaska offices in Anchorage and Fairbanks.

3.4.5 Organizational Changes

The Contractor shall maintain the CQC staff at full strength at all times. When it is necessary to make changes to the CQC staff, the Contractor shall revise the CQC Plan to reflect the changes and submit the changes to the Contracting Officer for acceptance.

3.5 SUBMITTALS AND DELIVERABLES

Submittals, if needed, shall be made as specified in Section 01330 SUBMITTAL PROCEDURES. The CQC organization shall be responsible for certifying that all submittals and deliverables are in compliance with the contract requirements.

3.6 CONTROL

Contractor Quality Control is the means by which the Contractor ensures that the construction, to include that of subcontractors and suppliers, complies with the requirements of the contract. At least three phases of control shall be conducted by the CQC System Manager for each definable feature of the construction work as follows:

3.6.1 Preparatory Phase

This phase shall be performed prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved/accepted, and after copies are at the work site. This phase shall include:

a. A review of each paragraph of applicable specifications, reference codes, and standards. Prior to the preparatory meeting for each definable feature of work, the Contractor shall provide all technical references (i.e. building codes, life safety codes,

etc.) referenced in the project specifications for feature(s) of work being addressed at the preparatory meeting. These technical references shall be onsite and available for use by Contractor and Government personnel before the preparatory meeting is held and maintained until the feature(s) of work is/are accepted by the Government.

b. A review of the contract drawings.

c. A check to assure that all materials and/or equipment have been tested, submitted, and approved.

d. Review of provisions that have been made to provide required control inspection and testing.

e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.

f. A physical examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.

g. A review of the appropriate activity hazard analysis to assure safety requirements are met.

h. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.

i. A check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.

j. Discussion of the initial control phase.

k. The Government shall be notified at least 48 hours in advance of beginning the preparatory control phase. This phase shall include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. The results of the preparatory phase actions shall be documented by separate minutes prepared by the CQC System Manager and attached to the daily CQC report. The Contractor shall instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

3.6.2 Initial Phase

This phase shall be accomplished at the beginning of a definable feature of work. The following shall be accomplished:

a. A check of work to ensure that it is in full compliance with contract requirements. Review minutes of the preparatory meeting.

b. Verify adequacy of controls to ensure full contract compliance. Verify required control inspection and testing.

c. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with required sample

panels as appropriate.

d. Resolve all differences.

e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.

f. The Government shall be notified at least 48 hours in advance of beginning the initial phase. Separate minutes of this phase shall be prepared by the CQC System Manager and attached to the daily CQC report. Exact location of initial phase shall be indicated for future reference and comparison with follow-up phases.

g. The initial phase should be repeated for each new crew to work onsite, or any time acceptable specified quality standards are not being met.

3.6.3 Follow-up Phase

Daily checks shall be performed to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the particular feature of work. The checks shall be made a matter of record in the CQC documentation. Final follow-up checks shall be conducted and all deficiencies corrected prior to the start of additional features of work which may be affected by the deficient work. The Contractor shall not build upon nor conceal non-conforming work.

3.6.4 Additional Preparatory and Initial Phases

Additional preparatory and initial phases shall be conducted on the same definable features of work if: the quality of on-going work is unacceptable; if there are changes in the applicable CQC staff, onsite production supervision or work crew; if work on a definable feature is resumed after a substantial period of inactivity; or if other problems develop.

3.7 TESTS

3.7.1 Testing Procedure

The Contractor shall perform specified or required tests to verify that control measures are adequate to provide a product which conforms to contract requirements. Upon request, the Contractor shall furnish to the Government duplicate samples of test specimens for possible testing by the Government. Testing includes operation and/or acceptance tests when specified. The Contractor shall procure the services of a Corps of Engineers approved testing laboratory or establish an approved testing laboratory at the project site. A list of all tests required by contract shall be furnished as part of the QC Plan. This list shall give the test name, specification section and paragraph reference requiring the test, frequency, the personnel and/or laboratories responsible for each type of test, with an estimated number of tests required. The Contractor shall perform the following activities and record and provide the following data:

a. Verify that testing procedures comply with contract requirements.

b. Verify that facilities and testing equipment are available and comply with testing standards.

c. Check test instrument calibration data against certified standards.

d. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.

e. Results of all tests taken, both passing and failing tests, shall be recorded on the CQC report for the date taken. Specification paragraph reference, location where tests were taken, and the sequential control number identifying the test shall be given. If approved by the Contracting Officer, actual test reports may be submitted later with a reference to the test number and date taken. An information copy of tests performed by an offsite or commercial test facility shall be provided directly to the Contracting Officer. Failure to submit timely test reports as stated may result in nonpayment for related work performed and disapproval of the test facility for this contract.

3.7.2 Testing Laboratories

3.7.2.1 Capability Check

The Government reserves the right to check laboratory equipment in the proposed laboratory for compliance with the standards set forth in the contract specifications and to check the laboratory technician's testing procedures and techniques. Laboratories utilized for testing soils, concrete, asphalt, and steel shall meet criteria detailed in ASTM D 3740 and ASTM E 329.

3.7.2.2 Capability Recheck

If the selected laboratory fails the capability check, the Contractor will be assessed the actual cost for the recheck to reimburse the Government for each succeeding recheck of the laboratory or the checking of a subsequently selected laboratory. Such costs will be deducted from the contract amount due the Contractor.

3.7.3 Onsite Laboratory

The Government reserves the right to utilize the Contractor's control testing laboratory and equipment to make assurance tests, and to check the Contractor's testing procedures, techniques, and test results at no additional cost to the Government.

3.7.4 Furnishing or Transportation of Samples for Testing

Costs incidental to the transportation of samples or materials shall be borne by the Contractor. Samples of materials for test verification and acceptance testing by the Government shall be delivered to the Area Office.

Coordination for each specific test, exact delivery location, and dates will be made through the Area Office

3.8 COMPLETION INSPECTION

3.8.1 Punch-Out Inspection

Near the end of the work, or any increment of the work established by a time stated in the SPECIAL CONTRACT REQUIREMENTS Clause, "Commencement, Prosecution, and Completion of Work", or by the specifications, the CQC Manager shall conduct an inspection of the work. A punch list of items which do not conform to the approved drawings and specifications shall be prepared and included in the CQC documentation, as required by paragraph DOCUMENTATION. The list of deficiencies shall include the estimated date by which the deficiencies will be corrected. The CQC System Manager or staff shall make a second inspection to ascertain that all deficiencies have been corrected. Once this is accomplished, the Contractor shall notify the Government that the facility is ready for the Government Pre-Final inspection.

3.8.2 Pre-Final Inspection

The Government will perform the pre-final inspection to verify that the facility is complete and ready to be occupied. A Government Pre-Final Punch List may be developed as a result of this inspection. The Contractor's CQC System Manager shall ensure that all items on this list have been corrected before notifying the Government, so that a Final inspection with the customer can be scheduled. Any items noted on the Pre-Final inspection shall be corrected in a timely manner. These inspections and any deficiency corrections required by this paragraph shall be accomplished within the time slated for completion of the entire work or any particular increment of the work if the project is divided into increments by separate completion dates.

3.8.3 Final Acceptance Inspection

The Contractor's Quality Control Inspection personnel, plus the superintendent or other primary management person, and the Contracting Officer's Representative shall be in attendance at the final acceptance inspection. Additional Government personnel including, but not limited to, those from Base/Post Civil Facility Engineer user groups, and major commands may also be in attendance. The final acceptance inspection will be formally scheduled by the Contracting Officer based upon results of the Pre-Final inspection. Notice shall be given to the Contracting Officer at least 14 days prior to the final acceptance inspection and shall include the Contractor's assurance that all specific items previously identified to the Contractor as being unacceptable, along with all remaining work performed under the contract, will be complete and acceptable by the date scheduled for the final acceptance inspection. Failure of the Contractor to have all contract work acceptably complete for this inspection will be cause for the Contracting Officer to bill the Contractor for the Government's additional inspection cost in accordance with the contract clause titled "Inspection of Construction".

3.9 DOCUMENTATION

The Contractor shall maintain current records providing factual evidence that required quality control activities and/or tests have been performed. These records shall include the work of subcontractors and suppliers and shall be on an acceptable form that includes, as a minimum, the following information:

a. Contractor/subcontractor and their area of responsibility.

b. Operating plant/equipment with hours worked, idle, or down for repair.

c. Work performed each day, giving location, description, and by whom. When Network Analysis (NAS) is used, identify each phase of work performed each day by NAS activity number.

d. Test and/or control activities performed with results and references to specifications/drawings requirements. The control phase shall be identified (Preparatory, Initial, Follow-up). List of deficiencies noted, along with corrective action.

e. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements.

f. Submittals and deliverables reviewed, with contract reference, by whom, and action taken.

g. Offsite surveillance activities, including actions taken.

h. Job safety evaluations stating what was checked, results, and instructions or corrective actions. Include information identified by the "Site Safety and Health Officer (SSHO)" for Safety as outlined in SECTION 01525, SAFETY AND OCCUPATIONAL HEALTH REQUIREMENTS

i. Instructions given/received and conflicts in plans and/or specifications.

j. Contractor's verification statement.

These records shall indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. These records shall cover both conforming and deficient features and shall include a statement that equipment and materials incorporated in the work and workmanship comply with the contract. The original and one copy of these records in report form shall be furnished to the Contracting Officer's Representative on the first day following the date(s) covered by the report, except that reports need not be submitted for days on which no work is performed. As a minimum, one report shall be prepared and submitted for every 7 days of no work and on the last day of a no work period. All calendar days shall be accounted for throughout the life of the contract. The first report following a day of no work shall be for that day only. Reports shall be signed and dated by the CQC System Manager. The report from the CQC System Manager shall include copies of test reports and copies of reports prepared by all subordinate quality control personnel.

3.10 SAMPLE FORMS

Sample forms enclosed at the end of this section.

3.11 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. The Contractor shall take

immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

3.12 ATTACHMENT

CQC Report

_____
(FIRM NAME)

DAILY QUALITY CONTROL REPORT

Daily Report No.: _____ DATE: _____
Contract No. _____
Project Title & Location:
_____
Weather: ____ Precipitation: _____ in. _____ Temp:____ Min. ____ Max. ____

1. Contract/Subcontractors and Area of Responsibility:

NUMBER:	TRADE	HOURS	EMPLOYER	LOCATION/DESCRIPTION WORK

2. Operating Plant or Equipment. (Not hand tools)

Plant/Equipment	Date of Arrival/Departure	Date of Safety Check	Hours Used	Hours Idle	Hours Repair

3. Work Performed Today: (Indicate location and description of work performed by prime and/or subcontractors. When network analysis is used, identify work by NAS activity number).

4. Control Activities Performed:
   Preparatory Inspections: (Identify feature of work and attach minutes).
   Initial Inspections: (Identify feature of work and attach minutes).
   Follow-Up Inspections: (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted).

5. Tests Performed and Test Results: (Identify test requirement by paragraph number in specifications and/or sheet number in plans).

6. Material Received: (Note inspection results and storage provided).

7. Submittals Reviewed:

(a) Submittal No.	(b) Spec/Plan Reference	(c) By Whom	(d) Action

8. Offsite Surveillance Activities, Including Action Taken:

_____
_____
_____
_____
_____
_____
_____
_____

9. Job Safety: (List items checked, results, instructions and corrective actions taken).

_____
_____
_____
_____
_____
_____
_____
_____
_____

10. Remarks: (Instructions received or given. Conflict(s) in Plans and/or specifications. Delays encountered.).

_____
_____
_____
_____
_____
_____
_____

Contractor's Verification: On behalf of the Contractor, I certify this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

_____
CQC System Manager Date

CONTRACTOR'S QUALITY CONTROL REPORT (CQC) (ER 1180-1-6)	DATE	REPORT NO.
CONTRACT NO. AND NAME OF CONTRACTOR:	DESCRIPTION AND LOCATION OF THE WORK:	

WEATHER CLASSIFICATION:

CLASS A No interruption of any kind from weather conditions occurring on this or previous shifts.
CLASS B Weather occurred during this shift that caused a complete stoppage of all work.
CLASS C Weather occurred during this shift that caused a partial stoppage of work.
CLASS D Weather overhead excellent or suitable during shift. Work completely stopped due to results of previous adverse weather.
CLASS E Weather overhead excellent or suitable during shift but work partially stopped due to previous adverse manner.
OTHER Explain.

CLASSIFICATION:

CLASS _____

TEMPERATURE:

MAX ____ MIN ____

PRECIPITATION:

INCHES _____

CONTRACTOR/SUBCONTRACTORS AND AREA OF RESPONSIBILITY FOR WORK PERFORMED TODAY: (Attach list of items of equipment either idle or working as appropriate.)

a. _____
b. _____
c. _____
d. _____
e. _____
f. _____

1. WORK PERFORMED TODAY: (Indicate location and description of work performed. Refer to work performed by prime and/or subcontractors by letter in Table above.)

2. TYPE AND RESULTS OF INSPECTION: (Indicate whether P-Prepatory, I-Initial, or F-Followup and include satisfactory work completed or deficiencies with action to be taken.)

3. TESTS REQUIRED BY PLANS AND/OR SPECIFICATIONS PERFORMED AND RESULTS OF TESTS:

4. VERBAL INSTRUCTIONS RECEIVED: (List any instructions given by Government personnel on construction deficiencies, retesting required, etc., with action to be taken.)

5. REMARKS: (Cover any conflicts in plans, specifications or instructions: acceptability of incoming materials; offsite surveillance activities; progress of work, delays, causes and extent thereof; days of no work with reasons for same.)

6. SAFETY: (Include any infractions of approved safety plan, safety manual, or instructions from Government personnel. Specify correctve action taken).

CONTRACTOR: _____

CONTRACTOR'S CERTIFICATION: I certify that the above report is complete and correct and that all material and equipment used, work performed and tests conducted during this reporting period were in strict compliance with the contract plans and specifications except as noted above.

_____
CONTRACTOR'S APPROVED AUTHORIZED REPRESENTATIVE

--END OF SECTION--

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-- End of Section Table of Contents --

SECTION 01500

TEMPORARY CONSTRUCTION FACILITIES

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

1.1.1 Site Plan

The Contractor shall prepare a site plan indicating the proposed location and dimensions of any area to be fenced and used by the Contractor, the number of trailers to be used, avenues of ingress/egress to the fenced area and details of the fence installation. Any areas which may have to be graveled to prevent the tracking of mud shall also be identified. The Contractor shall also indicate if the use of a supplemental or other staging area is desired.

1.1.2 Identification of Employees

The Contractor shall be responsible for furnishing to each employee, and for requiring each employee engaged on the work to display, identification as approved and directed by the Contracting Officer. Prescribed identification shall immediately be delivered to the Contracting Officer for cancellation upon release of any employee. When required, the Contractor shall obtain and provide fingerprints of persons employed on the project. Contractor and subcontractor personnel shall wear identifying markings on hard hats clearly identifying the company for whom the employee works.

1.1.3 Employee Parking

Contractor employees shall park privately owned vehicles in an area designated by the Contracting Officer. This area will be within reasonable walking distance of the construction site. Contractor employee parking shall not interfere with existing and established parking requirements of the military installation.

1.2 AVAILABILITY AND USE OF UTILITY SERVICES

1.2.1 Payment for Utility Services

The Government will make all reasonably required utilities available to the Contractor from existing outlets and supplies, as specified in the contract. Unless otherwise provided in the contract, the amount of each utility service consumed shall be charged to or paid for by the Contractor at prevailing rates charged to the Government or, where the utility is produced by the Government, at reasonable rates determined by the Contracting Officer. The Contractor shall carefully conserve any utilities furnished without charge.

Utility	Maximum Amount	Cost

Electric	Reasonable	$0.144/KWH
Water	Reasonable	$6.653/Kgal
Sewer	Reasonable	$8.1305/KgaL
Steam	Reasonable	$10.214/MBTu

1.2.2 Meters and Temporary Connections

The Contractor, at its expense and in a manner satisfactory to the Contracting Officer, shall provide and maintain necessary temporary connections, distribution lines, and meters required to measure the amount of each utility used for the purpose of determining charges. The Contractor shall notify the Contracting Officer, in writing, 5 working days before final electrical connection is desired so that a utilities contract can be established.

1.2.3 Final Meter Reading

Before completion of the work and final acceptance of the work by the Government, the Contractor shall notify the Contracting Officer, in writing, 5 working days before termination is desired. The Government will take a final meter reading. The Contractor shall then remove all the temporary distribution lines, meter(s), and associated paraphernalia. The Contractor shall pay all outstanding utility bills before final acceptance of the work by the Government.

1.2.4 Sanitation

The Contractor shall provide and maintain within the construction area minimum field-type sanitary facilities approved by the Contracting Officer. Government toilet facilities will not be available to Contractor's personnel.

1.2.5 Telephone

The Contractor shall make arrangements and pay all costs for telephone facilities desired.

1.3 BULLETIN BOARD

Immediately upon beginning of work, the Contractor shall provide a weatherproof glass-covered bulletin board not less than 36 by 48 inches in size for displaying the Equal Employment Opportunity poster, a copy of the wage decision contained in the contract, Wage Rate Information poster, and other information approved by the Contracting Officer. The bulletin board shall be located at the project site in a conspicuous place easily accessible to all employees, as approved by the Contracting Officer. Legible copies of the aforementioned data shall be displayed until work is completed. Upon completion of work the bulletin board shall be removed by and remain the property of the Contractor.

1.4 PROTECTION AND MAINTENANCE OF TRAFFIC

During construction the Contractor shall provide access and temporary relocated roads as necessary to maintain traffic. The Contractor shall maintain and protect traffic on all affected roads during the construction period except as otherwise specifically directed by the Contracting Officer. Measures for the protection and diversion of traffic, including the provision of watchmen and flagmen, erection of barricades, placing of lights around and in front of equipment and the work, and the erection and

maintenance of adequate warning, danger, and direction signs, shall be as required by the State and local authorities having jurisdiction. The traveling public shall be protected from damage to person and property. The Contractor's traffic on roads selected for hauling material to and from the site shall interfere as little as possible with public traffic. The Contractor shall investigate the adequacy of existing roads and the allowable load limit on these roads. The Contractor shall be responsible for the repair of any damage to roads caused by construction operations.

1.4.1 Barricades

The Contractor shall erect and maintain temporary barricades to limit public access to hazardous areas. Such barricades shall be required whenever safe public access to paved areas such as roads, parking areas or sidewalks is prevented by construction activities or as otherwise necessary to ensure the safety of both pedestrian and vehicular traffic. Barricades shall be securely placed, and clearly visible with adequate illumination to provide sufficient visual warning of the hazard during both day and night.

1.5 CONTRACTOR'S TEMPORARY FACILITIES

1.5.1 Administrative Field Offices

The Contractor shall provide and maintain administrative field office facilities within the construction area at the designated site. Government office and warehouse facilities will not be available to the Contractor's personnel.

1.5.2 Storage Area

The Contractor shall construct a temporary 6 foot high chain link fence around trailers and materials. Fence posts may be driven, in lieu of concrete bases, where soil conditions permit. Trailers, materials, or equipment shall not be placed or stored outside the fenced area unless such trailers, materials, or equipment are assigned a separate and distinct storage area by the Contracting Officer away from the vicinity of the construction site but within the military boundaries. Trailers, equipment, or materials shall not be open to public view with the exception of those items which are in support of ongoing work on any given day. Materials shall not be stockpiled outside the fence in preparation for the next day's work. Mobile equipment, such as tractors, wheeled lifting equipment, cranes, trucks, and like equipment, shall be parked within the fenced area at the end of each work day.

1.5.3 Supplemental Storage Area

Upon Contractor's request, the Contracting Officer will designate another or supplemental area for the Contractor's use and storage of trailers, equipment, and materials. This area may not be in close proximity of the construction site but shall be within the military boundaries. Fencing of materials or equipment will not be required at this site; however, the Contractor shall be responsible for cleanliness and orderliness of the area used and for the security of any material or equipment stored in this area. Utilities will not be provided to this area by the Government.

1.5.4 Appearance of Trailers

Trailers utilized by the Contractor for administrative or material storage purposes shall present a clean and neat exterior appearance and shall be in

a state of good repair. Trailers which, in the opinion of the Contracting Officer, require exterior painting or maintenance will not be allowed on the military property.

1.5.5 Maintenance of Storage Area

Fencing shall be kept in a state of good repair and proper alignment. Should the Contractor elect to traverse, with construction equipment or other vehicles, grassed or unpaved areas which are not established roadways, such areas shall be covered with a layer of gravel as necessary to prevent rutting and the tracking of mud onto paved or established roadways; gravel gradation shall be at the Contractor's discretion. Grass located within the boundaries of the construction site shall be mowed for the duration of the project. Grass and vegetation along fences, buildings, under trailers, and in areas not accessible to mowers shall be edged or trimmed neatly.

1.5.6 Security Provisions

Adequate outside security lighting shall be provided at the Contractor's temporary facilities. The Contractor shall be responsible for the security of its own equipment; in addition, the Contractor shall notify the appropriate law enforcement agency requesting periodic security checks of the temporary project field office.

1.6 TEMPORARY PROJECT SAFETY FENCING

As soon as practicable, but not later than 15 days after the date established for commencement of work, the Contractor shall furnish and erect temporary project safety fencing at the work site. The safety fencing shall be a high visibility orange colored, high density polyethylene grid or approved equal, a minimum of 42 inches high, supported and tightly secured to steel posts located on maximum 10 foot centers, constructed at the approved location. The safety fencing shall be maintained by the Contractor during the life of the contract and, upon completion and acceptance of the work, shall become the property of the Contractor and shall be removed from the work site.

1.7 CLEANUP

Construction debris, waste materials, packaging material and the like shall be removed from the work site daily. Any dirt or mud which is tracked onto paved or surfaced roadways shall be cleaned away. Materials resulting from demolition activities which are salvageable shall be stored within the fenced area described above or at the supplemental storage area. Stored material not in trailers, whether new or salvaged, shall be neatly stacked when stored.

1.8 RESTORATION OF STORAGE AREA

Upon completion of the project and after removal of trailers, materials, and equipment from within the fenced area, the fence shall be removed and will become the property of the Contractor. Areas used by the Contractor for the storage of equipment or material, or other use, shall be restored to the original or better condition. Gravel used to traverse grassed areas shall be removed and the area restored to its original condition, including top soil and seeding as necessary.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

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SECTION 01525

SAFETY AND OCCUPATIONAL HEALTH REQUIREMENTS

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SECTION 01525

SAFETY AND OCCUPATIONAL HEALTH REQUIREMENTS

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 within the text by the basic designation only.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Z359.1	(1999) Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components

ASME INTERNATIONAL (ASME)

ASME B30.5	(2000) Mobile and Locomotive Cranes
ASME B30.8	(2000) Floating Cranes and Floating Derricks
ASME B30.22	(2000) Articulating Boom Cranes

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1910.94	Ventilation
29 CFR 1910.120	Hazardous Waste Operations and Emergency Response
29 CFR 1910.146	Permit-required Confined Spaces
29 CFR 1915	Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment
29 CFR 1926	Safety and Health Regulations for Construction
29 CFR 1926.65	Hazardous Waste Operations and Emergency Response
29 CFR 1926.500	Fall Protection

U. S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(1996) U.S. Army Corps of Engineers Safety and Health Requirements Manual

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 10	(1998) Portable Fire Extinguishers
NFPA 70	(2002) National Electrical Code
NFPA 241	(2000) Safeguarding Construction, Alteration, and Demolition Operations

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

Administrative Submittal

ACCIDENT PREVENTION PLAN (APP)

Submit by Serial Letter the written site-specific Accident Prevention Plan as specified herein.

SD-01 Preconstruction Submittals

Activity Hazard Analysis (AHA); G-AO

ACCIDENT PREVENTION PLAN (APP)

SD-06 Test Reports

Reports

Crane Reports

Submit reports as their incidence occurs, in accordance with the requirements of the paragraph entitled, "Reports."

Accident Reports

Monthly Exposure Reports

Regulatory Citations and Violations

SD-07 Certificates

Confined Space Entry Permit

Submit one copy of each permit attached to each Daily Quality Control Report.

1.3 DEFINITIONS

a. Associate Safety Professional (ASP). An individual who is currently certified by the Board of Certified Safety Professionals.

b. Certified Industrial Hygienist (CIH). An individual who is currently

certified by the American Board of Industrial Hygiene.

c. High Visibility Accident. Any mishap which may generate publicity and/or high visibility.

d. Medical Treatment. Treatment administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first aid treatment even through provided by a physician or registered personnel.

e. Recordable Injuries or Illnesses. Any work-related injury or illness that results in:

(1) Death, regardless of the time between the injury and death, or the length of the illness;

(2) Days away from work;

(3) Restricted work;

(4) Transfer to another job;

(5) Medical treatment beyond first aid;

(6) Loss of consciousness; or

(7) A significant injury or illness diagnosed by a physician or other licensed health care professional, even if it did not result in (1) through (6) above.

f. Site Safety and Health Officer (SSHO). The superintendent or other qualified or competent person who is responsible for the on-site safety and health required for the project. The Contractor quality control (QC) person cannot be the SSHO, even though the QC has safety inspection responsibilities as part of the QC duties.

g. "USACE" property and equipment specified in USACE EM 385-1-1 should be interpreted as Government property and equipment.

1.4 REGULATORY REQUIREMENTS

In addition to the detailed requirements included in the provisions of this contract, work performed shall comply with USACE EM 385-1-1, and the following federal, state, and local, laws, ordinances, criteria, rules and regulations. Submit matters of interpretation of standards to the appropriate administrative agency for resolution before starting work. Where the requirements of this specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements shall apply.

1.5 DRUG PREVENTION PROGRAM

Conduct a proactive drug and alcohol use prevention program for all workers, prime and subcontractor, on the site. Ensure that no employee uses illegal drugs or consumes alcohol during work hours. Ensure there are no employees under the influence of drugs or alcohol during work hours. After accidents, collect blood, urine, or saliva specimens and test the injured and involved employees for the influence of drugs and alcohol. A copy of the test shall be made available to the Contracting Officer upon

request.

1.6 SITE QUALIFICATIONS, DUTIES AND MEETINGS

1.6.1 Personnel Qualifications

1.6.1.1 Site Safety and Health Officer (SSHO)

Site Safety and Health Officer (SSHO) shall be provided at the work site at all times to perform safety and occupational health management, surveillance, inspections, and safety enforcement for the Contractor.SSHO may be a collateral duty unless prohibited elsewhere in Specifications. The SSHO shall meet the following requirements:

Level 2:
A minimum of 3 years safety work on similar project.
30-hour OSHA construction safety class or equivalent within last 3 years.
Competent person training as needed.

1.6.1.2 Certified Industrial Hygienist (CIH)

The Contractor shall select an independent Industrial Hygienist to prepare the Contractor's Hazardous Materials Abatement Plan in accordance with RFP criteria Section 13000 HAZARDOUS MATERIALS ABATEMENT.

1.6.1.3 Competent Person for Confined Space Entry

Provide a competent person meeting the requirements of EM 385-1-1 who is assigned in writing by the Designated Authority to assess confined spaces and who possesses demonstrated knowledge, skill and ability to:

a. Identify the structure, location, and designation of confined and permit-required confined spaces where work is done;

b. Calibrate and use testing equipment including but not limited to, oxygen indicators, combustible gas indicators, carbon monoxide indicators, and carbon dioxide indicators, and to interpret accurately the test results of that equipment;

c. Perform all required tests and inspections specified in 29 CFR 1910.146 and 29 CFR 1915 Subpart B;

d. Assess hazardous conditions including atmospheric hazards in confined space and adjacent spaces and specify the necessary protection and precautions to be taken;

e. Determine ventilation requirements for confined space entries and operations;

f. Assess hazards associated with hot work in confined and adjacent space and determine fire watch requirements; and,

g. Maintain records required.

1.6.1.4 Competent Person for the Health Hazard Control and Respiratory Protection Program

Provide a competent person meeting the requirements of EM 385-1-1 who is:

a. Capable by education, specialized training and/or experience of anticipating, recognizing, and evaluating employee exposure to hazardous chemical, physical and biological agents in accordance with USACE EM 385-1-1, Section 6.

b. Capable of specifying necessary controls and protective actions to ensure worker health.

1.6.1.5 Crane Operators

Crane operators shall meet the requirements in USACE EM 385-1-1, Appendix G.

1.6.2 Personnel Duties

1.6.2.1 Site Safety and Health Officer (SSHO)/Superintendent

a. Conduct daily safety and health inspections and maintain a written log which includes area/operation inspected, date of inspection, identified hazards, recommended corrective actions, estimated and actual dates of corrections. Safety inspection logs shall be attached to the Contractors' daily quality control report.

b. Conduct mishap investigations and complete required reports. Maintain the OSHA Form 300 and Daily Production reports for prime and sub-contractors.

c. Maintain applicable safety reference material on the job site.

d. Attend the pre-construction conference, pre-work meetings including preparatory inspection meeting, and periodic in-progress meetings.

e. Implement and enforce accepted APPS and AHAs.

f. Maintain a safety and health deficiency tracking system that monitors outstanding deficiencies until resolution. A list of unresolved safety and health deficiencies shall be posted on the safety bulletin board.

g. Ensure sub-contractor compliance with safety and health requirements.

Failure to perform the above duties will result in dismissal of the superintendent and/or SSHO, and a project work stoppage. The project work stoppage will remain in effect pending approval of a suitable replacement.

1.6.3 Meetings

1.6.3.1 Preconstruction Conference

a. The Contractor will be informed, in writing, of the date of the preconstruction conference. The purpose of the preconstruction conference is for the Contractor and the Contracting Officer's representatives to become acquainted and explain the functions and operating procedures of their respective organizations and to reach mutual understanding relative to the administration of the overall project's APP before the initiation of work.

b. Contractor representatives who have a responsibility or significant

role in accident prevention on the project shall attend the preconstruction conference. This includes the project superintendent, site safety and health officer, quality control supervisor, or any other assigned safety and health professionals who participated in the development of the APP (including the AHAs and special plans, program and procedures associated with it).

c. The Contractor shall discuss the details of the submitted APP to include incorporated plans, programs, procedures and a listing of anticipated activity hazard analyses (AHAs) that will be developed and implemented during the performance of the contract. This list of proposed AHAs will be reviewed at the conference and an agreement will be reached between the Contractor and the Contracting Officer's representative as to which phases will require an analysis. In addition, a schedule for the preparation, submittal, review, and acceptance of AHAs shall be established to preclude project delays.

d. Deficiencies in the submitted APP will be brought to the attention of the Contractor at the preconstruction conference, and the Contractor shall revise the plan to correct deficiencies and re-submit it for acceptance. Work shall not begin until there is an accepted APP.

1.6.3.2 Weekly Safety Meetings

Conduct weekly safety meetings at the project site for all employees. The Contracting Officer will be informed of the meeting in advance and be allowed attendance. Minutes showing contract title, signatures of attendees and a list of topics discussed shall be attached to the Contractors' daily quality control report.

1.6.3.3 Work Phase Meetings

The appropriate AHA shall be reviewed and attendance documented by the Contractor at the preparatory, initial, and follow-up phases of quality control inspection. The analysis should be used during daily inspections to ensure the implementation and effectiveness of safety and health controls.

1.7 TRAINING

1.7.1 New Employee Indoctrination

New employees (prime and sub-contractor) will be informed of specific site hazards before they begin work. Documentation of this orientation shall be kept on file at the project site.

1.7.2 Periodic Training

Provide Safety and Health Training in accordance with USACE EM 385-1-1 and the accepted APP. Ensure all required training has been accomplished for all onsite employees.

1.7.3 Training on Activity Hazard Analysis (AHA)

Prior to beginning a new phase, training will be provided to all affected employees to include a review of the AHA to be implemented.

1.8 ACCIDENT PREVENTION PLAN (APP)

The Contractor shall use a qualified person to prepare the written

site-specific APP. Prepare the APP in accordance with the format and requirements of USACE EM 385-1-1 and as supplemented herein. Cover all paragraph and subparagraph elements in USACE EM 385-1-1, Appendix A, "Minimum Basic Outline for Preparation of Accident Prevention Plan". Where a paragraph or subparagraph element is not applicable to the work to be performed indicate "Not Applicable" next to the heading. Specific requirements for some of the APP elements are described below at paragraph 1.8.1. The APP shall be job-specific and shall address any unusual or unique aspects of the project or activity for which it is written. The APP shall interface with the Contractor's overall safety and health program. Any portions of the Contractor's overall safety and health program referenced in the APP shall be included in the applicable APP element and made site-specific. The Government considers the Prime Contractor to be the "controlling authority" for all work site safety and health of the subcontractors. Contractors are responsible for informing their subcontractors of the safety provisions under the terms of the contract and the penalties for noncompliance, coordinating the work to prevent one craft from interfering with or creating hazardous working conditions for other crafts, and inspecting subcontractor operations to ensure that accident prevention responsibilities are being carried out. The APP shall be signed by the person and firm (senior person) preparing the APP, the Contractor, the on-site superintendent, the designated site safety and health officer and any designated CSP and/or CIH.

Submit the APP to the Contracting Officer 15 calendar days prior to the date of the preconstruction conference for acceptance. Work cannot proceed without an accepted APP. The Contracting Officer reviews and comments on the Contractor's submitted APP and accepts it when it meets the requirements of the contract provisions.

Once accepted by the Contracting Officer, the APP and attachments will be enforced as part of the contract. Disregarding the provisions of this contract or the accepted APP will be cause for stopping of work, at the discretion of the Contracting Officer, until the matter has been rectified.

Once work begins, changes to the accepted APP shall be made with the knowledge and concurrence of the Contracting Officer, project superintendent, SSHO and quality control manager. Should any unforeseen hazard become evident during the performance of work, the project superintendent shall inform the Contracting Officer, both verbally and in writing, for resolution as soon as possible. In the interim, all necessary action shall be taken by the Contractor to restore and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public, and the environment.

Copies of the accepted plan will be maintained at the Area Engineer's office and at the job site. The APP shall be continuously reviewed and amended, as necessary, throughout the life of the contract. Unusual or high-hazard activities not identified in the original APP shall be incorporated in the plan as they are discovered.

1.8.1 EM 385-1-1 Contents

In addition to the requirements outlines in Appendix A of USACE EM 385-1-1, the following is required:

a. Names and qualifications (resumes including education, training, experience and certifications) of all site safety and health personnel designated to perform work on this project to include the designated

site safety and health officer and other competent and qualified personnel to be used such as CSPs, CIHs, STSs, CHSTs. The duties of each position shall be specified.

b. Qualifications of competent and of qualified persons. As a minimum, competent persons shall be designated and qualifications submitted for each of the following major areas: excavation; scaffolding; fall protection; hazardous energy; confined space; health hazard recognition, evaluation and control of chemical, physical and biological agents; personal protective equipment and clothing to include selection, use and maintenance.

c. Confined Space Entry Plan. Develop a confined space entry plan in accordance with USACE EM 385-1-1, applicable OSHA standards 29 CFR 1910, 29 CFR 1915, and 29 CFR 1926, and any other federal, state and local regulatory requirements identified in this contract. Identify the qualified person's name and qualifications, training, and experience. Delineate the qualified person's authority to direct work stoppage in the event of hazardous conditions. Include procedure for rescue by contractor personnel and the coordination with emergency responders. (If there is no confined space work, include a statement that no confined space work exists and none will be created.)

d. Health Hazard Control Program. The Contractor shall designate a competent and qualified person to establish and oversee a Health Hazard Control Program in accordance with USACE EM 385-1-1, Section 6. The program shall ensure that employees, on-site Government representatives, and others, are not adversely exposed to chemical, physical and biological agents and that necessary controls and protective actions are instituted to ensure health.

e. Alcohol and Drug Abuse Plan

(1) Describe plan for random checks and testing with pre-employment screening in accordance with the DFAR Clause subpart 252.223-7004, "Drug Free Work Force."

(2) Description of the on-site prevention program

f. Fall Protection and Prevention (FP&P) Plan. The plan shall be site specific and address all fall hazards in the work place and during different phases of construction. It shall address how to protect and prevent workers from falling to lower levels when they are exposed to fall hazards above 1.8 m (6 feet). A qualified person shall prepare and sign the plan. The plan shall include fall protection and prevention systems, equipment and methods employed for every phase of work, responsibilities, rescue and escape equipment and operations, training requirements, and monitoring methods. Fall Protection and Prevention Plan shall be revised every six months for lengthy projects, reflecting any changes during the course of construction due to changes in personnel, equipment, systems or work habits. The accepted Fall Protection and Prevention Plan shall be kept and maintained at the job site for the duration of the project.

g. Hazardous Materials Abatement Plan: The safety and health aspects of asbestos and lead work, prepared in accordance with RFP criteria Section 13000 HAZARDOUS MATERIALS ABATEMENT.

h. Training Records and Requirements. List of mandatory training and

certifications which are applicable to this project (e.g. explosive actuated tools, confined space entry, fall protection, crane operation, vehicle operator, forklift operators, personal protective equipment); list of requirements for periodic retraining/certification; outline requirements for supervisory and employee safety meetings.

1.9 ACTIVITY HAZARD ANALYSIS (AHA)

The Activity Hazard Analysis (AHA) format shall be in accordance with USACE EM 385-1-1. Submit the AHA for review at least 15 calendar days prior to the start of each phase. Format subsequent AHA as amendments to the APP. An AHA will be developed by the Contractor for every operation involving a type of work presenting hazards not experienced in previous project operations or where a new work crew or subcontractor is to perform work. The analysis must identify and evaluate hazards and outline the proposed methods and techniques for the safe completion of each phase of work. At a minimum, define activity being performed, sequence of work, specific safety and health hazards anticipated, control measures (to include personal protective equipment) to eliminate or reduce each hazard to acceptable levels, equipment to be used, inspection requirements, training requirements for all involved, and the competent person in charge of that phase of work. For work with fall hazards, including fall hazards associated with scaffold erection and removal, identify the appropriate fall arrest systems. For work with materials handling equipment, address safeguarding measures related to materials handling equipment. For work requiring excavations, include requirements for safeguarding excavations. An activity requiring an AHA shall not proceed until the AHA has been accepted by the Contracting Officer's representative and a meeting has been conducted by the Contractor to discuss its contents with everyone engaged in the activity, including on-site Government representatives. The Contractor shall document meeting attendance at the preparatory, initial, and follow-up phases of quality control inspection. The AHA shall be continuously reviewed and, when appropriate, modified to address changing site conditions or operations. The analysis should be used during daily inspections to ensure the implementation and effectiveness of the activity's safety and health controls.

The AHA list will be reviewed periodically (at least monthly) at the Contractor supervisory safety meeting and updated as necessary when procedures, scheduling, or hazards change.

Activity hazard analyses shall be updated as necessary to provide an effective response to changing work conditions and activities. The on-site superintendent, site safety and health officer and competent persons used to develop the AHAs, including updates, shall sign and date the AHAs before they are implemented.

1.10 DISPLAY OF SAFETY INFORMATION

Within 14 calendar days after commencement of work, erect a safety bulletin board at the job site. The following information shall be displayed on the safety bulletin board in clear view of the on-site construction personnel, maintained current, and protected against the elements and unauthorized removal:

a. Map denoting the route to the nearest emergency care facility.

b. Emergency phone numbers.

c. Copy of the most up-to-date APP.

d. AHA(s).

e. OSHA 300A Form.

f. Confined space entry permit.

g. A sign indicating the number of hours worked since last lost workday accident.

h. OSHA Safety and Health Protection-On-The-Job Poster.

i. Safety and Health Warning Posters.

1.11 SITE SAFETY REFERENCE MATERIALS

Maintain safety-related references applicable to the project, including those listed in the article "References." Maintain applicable equipment manufacturer's manuals.

1.12 EMERGENCY MEDICAL TREATMENT

Contractors will arrange for their own emergency medical treatment. Government has no responsibility to provide emergency medical treatment.

1.13 REPORTS

1.13.1 Accident Reports

a. For recordable injuries and illnesses, and property damage accidents resulting in at least $2,000 in damages, the Prime Contractor shall conduct an accident investigation to establish the root cause(s) of the accident, complete the USACE Accident Report Form 3394 and provide the report to the Contracting Officer within 1 calendar day(s) of the accident. The Contracting Officer will provide copies of any required or special forms.

1.13.2 Accident Notification

Notify the Contracting Officer as soon as practical, but not later than four hours, after any accident meeting the definition of Recordable Injuries or Illnesses or High Visibility Accidents, property damage equal to or greater than $2,000, or any weight handling equipment accident involving a overturned crane, collapsed boom, or any other major damage to the crane or adjacent property. Information shall include contractor name; contract title; type of contract; name of activity, installation or location where accident occurred; date and time of accident; names of personnel injured; extent of property damage, if any; extent of injury, if known, and brief description of accident (to include type of construction equipment used, PPE used, etc.). Preserve the conditions and evidence on the accident site until the Government investigation team arrives on site and Government investigation is conducted.

1.13.3 Monthly Exposure Reports

Monthly exposure reporting to the Contracting Officer is required to be attached to the monthly billing request. This report is a compilation of

employee-hours worked each month for all site workers, both prime and subcontractor. The Contracting Officer will provide copies of any special forms.

1.13.4 Regulatory Citations and Violations

Contact the Contracting Officer immediately of any OSHA or other regulatory agency inspection or visit, and provide the Contracting Officer with a copy of each citation, report, and contractor response. Correct violations and citations promptly and provide written corrective actions to the Contracting Officer.

1.13.5 Crane Reports

Submit crane inspection reports required in accordance with USACE EM 385-1-1, Appendix H and as specified herein with Daily Reports of Inspections.

1.14 HOT WORK

Prior to performing "Hot Work" (welding, etc.) or operating other flame-producing devices, a written permit shall be requested from the Base Fire Chief/Marshall. CONTRACTORS ARE REQUIRED TO MEET ALL CRITERIA BEFORE A PERMIT IS ISSUED. The Contractor will provide at least two (2) twenty (20) pound 4A:20 BC rated extinguishers for normal "Hot Work". All extinguishers shall be current inspection tagged, approved safety pin and tamper resistant seal. It is also mandatory to have a designated FIRE WATCH for any "Hot Work" done at this activity.

a. Oil painting materials (paint, brushes, empty paint cans, etc.), and all flammable liquids shall be removed from the facility at quitting time. All painting materials and flammable liquids shall be stored outside in a suitable metal locker or box and will require re-submittal with non-hazardous materials.

b. Accumulation of trays, paper, shavings, sawdust, boxes and other packing materials shall be removed from the facility at the close of each workday and such material disposed of in the proper containers located away from the facility.

c. The storage of combustible supplies shall be a safe distance from structures.

d. Area outside the facility undergoing work shall be cleaned of trash, paper, or other discarded combustibles at the close of each workday.

e. All portable electric devices (saws, sanders, compressors, extension chord, lights, etc.) shall be disconnected at the close of each workday. When possible, the main electric switch in the facility shall be deactivated.

f. When starting work in the facility, Contractors shall require their personnel to familiarize themselves with the location of the nearest fire alarm boxes and place in memory the emergency Base Facility Fire Department phone number. ANY FIRE, NO MATTER HOW SMALL, SHALL BE REPORTED TO THE RESPONSIBLE FIRE CHIEF/MARSHALL IMMEDIATELY.

PART 2 PRODUCTS

2.1 CONFINED SPACE SIGNAGE

The Contractor shall provide permanent signs integral to or securely attached to access covers for new permit-required confined spaces. Signs wording: "DANGER--PERMIT-REQUIRED CONFINED SPACE - DO NOT ENTER -" in bold letters a minimum of 25 mm(one inch) in height and constructed to be clearly legible with all paint removed. The signal word "DANGER" shall be red and readable from 1.52 m(5 feet).

PART 3 EXECUTION

3.1 CONSTRUCTION AND/OR OTHER WORK

The Contractor shall comply with USACE EM 385-1-1, NFPA 241, the APP, the AHA, and other related submittals and activity fire and safety regulations.

3.1.1 Hazardous Material Use

Any work or storage involving hazardous chemicals or materials must be done in a manner that will not expose Government or Contractor employees to any unsafe or unhealthful conditions. Adequate protective measures must be taken to prevent Government or Contractor employees from being exposed to any hazardous condition that could result from the work or storage. The Prime Contractor shall keep a complete inventory of hazardous materials brought onto the work-site. Approval by the Contracting Officer of protective measures and storage area is required prior to the start of the work.

3.1.2 Hazardous Material Exclusions

Notwithstanding any other hazardous material used in this contract, radioactive materials or instruments capable of producing ionizing/non-ionizing radiation (with the exception of radioactive material and devices used in accordance with EM 385-1-1 such as nuclear density meters for compaction testing and laboratory equipment with radioactive sources) as well as materials which contain asbestos, mercury or polychlorinated biphenyls, di-isocynates, lead-based paint are prohibited. The Contracting Officer, upon written request by the Contractor, may consider exceptions to the use of any of the above excluded materials.

3.1.3 Unforeseen Hazardous Material

The design should have identified materials such as PCB, lead paint, and friable and non-friable asbestos. If additional material, not indicated, that may be hazardous to human health upon disturbance during construction operations is encountered, stop that portion of work and notify the Contracting Officer immediately. Within 14 calendar days the Government will determine if the material is hazardous. If material is not hazardous or poses no danger, the Government will direct the Contractor to proceed without change. If material is hazardous and handling of the material is necessary to accomplish the work, the Government will issue a modification pursuant to "FAR 52.243-4, Changes" and "FAR 52.236-2, Differing Site Conditions."

3.2 PRE-OUTAGE COORDINATION MEETING

Contractors are required to apply for utility outages at least 15 days in

advance. As a minimum, the request should include the location of the outage, utilities being affected, duration of outage and any necessary sketches. Special requirements for electrical outage requests are contained elsewhere in this specification section. Once approved, and prior to beginning work on the utility system requiring shut down, the Contractor shall attend a pre-outage coordination meeting with the Contracting Officer to review the scope of work and the lock-out/tag-out procedures for worker protection. No work will be performed on energized electrical circuits unless proof is provided that no other means exist.

3.3 FALL HAZARD PROTECTION AND PREVENTION

The Contractor shall establish a fall protection and prevention program, for the protection of all employees exposed to fall hazards. The program shall include company policy, identify responsibilities, education and training requirements, fall hazard identification, prevention and control measures, inspection, storage, care and maintenance of fall protection equipment and rescue and escape procedures.

3.3.1 Training

The Contractor shall institute a fall protection training program. As part of the Fall Hazard Protection and Prevention Program, the Contractor shall provide training for each employee who might be exposed to fall hazards. Training requirements shall be in accordance with USACE EM 385-1-1, section 21.A.16.

3.3.2 Fall Protection Equipment

The Contractor shall enforce use of the fall protection equipment designated for each specific work activity in the Fall Protection and Prevention Plan and/or AHA at all times when an employee is on a surface 1.8 m(6 feet) or more above lower levels. Fall protection systems such as guardrails, personnel fall arrest system, safety nets, etc., are required when working within 1.8m (6 feet) of any leading edge. In addition to the required fall protection systems, safety skiff, personal floatation devices, life rings etc., are required when working above or next to water in accordance with USACE EM 385-1-1, paragraphs 05.I. and 05.J. Personal fall arrest systems are required when working from an articulating or extendible boom, swing stages, or suspended platform. In addition, personal fall arrest systems may be required when operating other equipment such as scissor lifts if the work platform is capable of being positioned outside the wheelbase. Fall protection must comply with 29 CFR 1926.500, Subpart M and USACE EM 385-1-1.

3.3.2.1 Personal Fall Arrest Equipment

Personal fall arrest equipment, systems, subsystems, and components shall meet ANSI Z359.1. Only a full-body harness with a shock-absorbing lanyard or self-retracting lanyard is an acceptable personal fall arrest device. Body belts may only be used as a positioning device system (for uses such as steel reinforcing assembly and in addition to an approved fall arrest system). Harnesses shall have a fall arrest attachment affixed to the body support (usually a Dorsal D-ring) and specifically designated for attachment to the rest of the system. Only locking snap hooks and carabiners shall be used. Webbing, straps, and ropes shall be made of synthetic fiber. The maximum free fall distance when using fall arrest equipment shall not exceed 1.8 m (6 feet). The total fall distance shall always be taken into consideration when attaching a person to a fall arrest

system.

3.3.3 Safety Nets

If safety nets are used as the selected fall protection system on the project, they shall be provided at unguarded workplaces, over water, machinery, dangerous operations and leading edge work. Safety nets shall be tested immediately after installation with a drop test of 181.4 kg (400 pounds) and every six months thereafter.

3.3.4 Existing Anchorage

Existing anchorages, to be used for attachment of personal fall arrest equipment, shall be certified (or re-certified) by a qualified person in accordance with ANSI Z359.1.

3.3.5 Horizontal Lifelines

Horizontal lifelines shall be designed, installed, certified and used under the supervision of a qualified person as part of a complete fall arrest system (29 CFR 1926.500).

3.4 SCAFFOLDING

Employees shall be provided with a safe means of access to the work area on the scaffold. Climbing of any scaffold braces or supports not specifically designed for access is prohibited. Access to scaffold platforms greater than 6 m (20 feet) in height shall be accessed by use of a scaffold stair system. Vertical ladders commonly provided by scaffold system manufacturers shall not be used for accessing scaffold platforms greater than 6 m (20 feet) in height. The use of an adequate gate is required. Contractor shall ensure that employees are qualified to perform scaffold erection and dismantling. Do not use scaffold without the capability of supporting at least four times the maximum intended load or without appropriate fall protection as delineated in the accepted fall protection and prevention plan. Stationary scaffolds must be attached to structural building components to safeguard against tipping forward or backward. Special care shall be given to ensure scaffold systems are not overloaded. Side brackets used to extend scaffold platforms on self-supported scaffold systems for the storage of material is prohibited. The first tie-in shall be at the height equal to 4 times the width of the smallest dimension of the scaffold base. Work platforms shall be placed on mud sills. Scaffold or work platform erectors shall have fall protection during the erection and dismantling of scaffolding or work platforms that are more than six feet. Delineate fall protection requirements when working above six feet or above dangerous operations in the Fall Protection and Prevention (FP&P) Plan and Activity Hazard Analysis (AHA) for the phase of work.

3.5 EQUIPMENT

3.5.1 Material Handling Equipment

a. Material handling equipment such as forklifts shall not be modified with work platform attachments for supporting employees unless specifically delineated in the manufacturer's printed operating instructions.

b. The use of hooks on equipment for lifting of material must be in accordance with manufacturer's printed instructions.

c. Operators of forklifts or power industrial trucks shall be licensed in accordance with OSHA.

3.5.2 Weight Handling Equipment

a. The Contractor shall notify the Contracting Officer 15 days in advance of any cranes entering the activity so that necessary quality assurance spot checks can be coordinated. Contractor's operator shall remain with the crane during the spot check.

b. The Contractor shall comply with the crane manufacturer's specifications and limitations for erection and operation of cranes and hoists used in support of the work. Erection shall be performed under the supervision of a designated person (as defined in ASME B30.5). All testing shall be performed in accordance with the manufacturer's recommended procedures.

c. The Contractor shall comply with ASME B30.5 for mobile and locomotive cranes, ASME B30.22 for articulating boom cranes and ASME B30.8 for floating cranes and floating derricks.

d. The presence of Government personnel does not relieve the Contractor of an obligation to comply with all applicable safety regulations. The Government will investigate all complaints of unsafe or unhealthful working conditions received in writing from contractor employees, federal civilian employees, or military personnel.

e. Each load shall be rigged/attached independently to the hook/master-link in such a fashion that the load cannot slide or otherwise become detached. Christmas-tree lifting (multiple rigged materials) is not allowed.

f. When operating in the vicinity of overhead transmission lines, operators and riggers shall be alert to this special hazard and shall follow the requirements of USACE EM 385-1-1 section 11 and ASME B30.5 or ASME B30.22 as applicable.

g. Crane suspended personnel work platforms (baskets) shall not be used unless the Contractor proves that using any other access to the work location would provide a greater hazard to the workers or is impossible. Personnel shall not be lifted with a line hoist or friction crane.

h. A fire extinguisher having a minimum rating of 10BC and a minimum nominal capacity of 5lb of extinguishing agent shall be available at all operator stations or crane cabs. Portable fire extinguishers shall be inspected, maintained, and recharged as specified in NFPA 10, Standard for Portable Fire Extinguishers.

i. All employees shall be kept clear of loads about to be lifted and of suspended loads.

j. A weight handling equipment operator shall not leave his position at the controls while a load is suspended.

k. Only Contractor crane operators who have met the requirements of 29 CFR 1910.94, 29 CFR 1910.120, 29 CFR 1926.65, 29 CFR 1926.500, USACE EM

385-1-1, ASME B30.5, and ASME B30.22 and other local and state requirements shall be authorized to operate the crane.

l. The Contractor shall use cribbing when performing lifts on outriggers.

m. The crane hook/block must be positioned directly over the load. Side loading of the crane is prohibited.

n. A physical barricade must be positioned to prevent personnel from entering the counterweight swing (tail swing) area of the crane.

o. A substantial and durable rating chart containing legible letters and figures shall be provided with each crane and securely mounted onto the crane cab in a location allowing easy reading by the operator while seated in the control station.

p. Certification records which include the date of inspection, signature of the person performing the inspection, and the serial number or other identifier of the crane that was inspected shall always be available for review by Contracting Officer personnel.

q. Written reports listing the load test procedures used along with any repairs or alterations performed on the crane shall be available for review by Contracting Officer personnel.

r. The Contractor shall certify that all crane operators have been trained in proper use of all safety devices (e.g. anti-two block devices).

3.5.3 Equipment and Mechanized Equipment

a. Equipment shall be operated by designated qualified operators. Proof of qualifications shall be kept on the project site for review.

b. Manufacture specifications or owner's manual for the equipment shall be on site and reviewed for additional safety precautions or requirements that are sometimes not identified by OSHA or USACE EM 385-1-1. Such additional safety precautions or requirements shall be incorporated into the AHAs.

c. Equipment and mechanized equipment shall be inspected in accordance with manufacturer's recommendations for safe operation by a competent person prior to being placed into use.

d. Daily checks or tests shall be conducted and documented on equipment and mechanized equipment by designated competent persons.

3.6 EXCAVATIONS

The competent person for excavations performed as a result of contract work shall be on-site when excavation work is being performed, and shall inspect, and document the excavations daily prior to entry by workers. The competent person must evaluate all hazards, including atmospheric, that may be associated with the work, and shall have the resources necessary to correct hazards promptly.

3.6.1 Utility Locations

Prior to digging, the appropriate digging permit must be obtained. All underground utilities in the work area must be positively identified by a private utility locating service in addition to any station locating service and coordinated with the station utility department. Any markings made during the utility investigation must be maintained throughout the contract.

3.6.2 Utility Location Verification

The Contractor must physically verify underground utility locations by hand digging using wood or fiberglass handled tools when any adjacent construction work is expected to come within three feet of the underground system. Digging within .061 m (2 feet) of a known utility must not be performed by means of mechanical equipment; hand digging shall be used. If construction is parallel to an existing utility the utility shall be exposed by hand digging every 30.5 m (100 feet) if parallel within 1.5 m (5 feet) of the excavation.

3.6.3 Utilities with Concrete Slabs

Utilities located within concrete slabs or pier decks, bridges, and the like are extremely difficult to identify. The location must be coordinated with station utility departments in addition to a private locating service. Outages on system utilities shall be used in circumstances where concrete chipping, saw cutting, or core drilling is required and utilities are unable to be completely identified.

3.6.4 Shoring Systems

Trench and shoring systems must be identified in the accepted safety plan and AHA. Manufacture tabulated data and specifications or registered engineer tabulated data for shoring or benching systems shall be readily available on site for review. Job-made shoring or shielding shall have the registered professional engineer stamp, specifications, and tabulated data. Extreme care must be used when excavating near direct burial electric underground cables.

3.6.5 Trenching Machinery

Trenching machines with digging chain drives shall be operated only when the spotters/laborers are in plain view of the operator. Operator and spotters/laborers shall be provided training on the hazards of the digging chain drives with emphasis on the distance that needs to be maintained when the digging chain is operating. Documentation of the training shall be kept on file at the project site.

3.7 ELECTRICAL

3.7.1 Conduct of Electrical Work

Underground electrical spaces must be certified safe for entry before entering to conduct work. Cables that will be cut must be positively identified and de-energized prior to performing each cut. Positive cable identification must be made prior to submitting any outage request for electrical systems. Arrangements are to be coordinated with the Contracting Officer and Station Utilities for identification. The Contracting Officer will not accept an outage request until the Contractor

satisfactorily documents that the circuits have been clearly identified. Perform all high voltage cable cutting remotely using hydraulic cutting tool. When racking in or live switching of circuit breakers, no additional person other than the switch operator will be allowed in the space during the actual operation. Plan so that work near energized parts is minimized to the fullest extent possible. Use of electrical outages clear of any energized electrical sources is the preferred method. When working in energized substations, only qualified electrical workers shall be permitted to enter. When work requires Contractor to work near energized circuits as defined by the NFPA 70, high voltage personnel must use personal protective equipment that includes, as a minimum, electrical hard hat, safety shoes, insulating gloves with leather protective sleeves, fire retarding shirts, coveralls, face shields, and safety glasses. Insulating blankets, hearing protection, and switching suits may be required, depending on the specific job and as delineated in the Contractor's AHA.

3.7.2 Portable Extension Cords

Portable extension cords shall be sized in accordance with manufacturer ratings for the tool to be powered and protected from damage. All damaged extension cords shall be immediately removed from service. Portable extension cords shall meet the requirements of NFPA 70.

3.8 WORK IN CONFINED SPACES

The Contractor shall comply with the requirements in Section 06.I of USACE EM 385-1-1 and OSHA 29 CFR 1910.146. Any potential for a hazard in the confined space requires a permit system to be used.

a. Entry Procedures. Prohibit entry into a confined space by personnel for any purpose, including hot work, until the qualified person has conducted appropriate tests to ensure the confined or enclosed space is safe for the work intended and that all potential hazards are controlled or eliminated and documented. (See Section 06.I.05 of USACE EM 385-1-1 for entry procedures.) All hazards pertaining to the space shall be reviewed with each employee during review of the AHA.

b. Forced air ventilation is required for all confined space entry operations and the minimum air exchange requirements must be maintained to ensure exposure to any hazardous atmosphere is kept below its' action level.

c. Ensure the use of rescue and retrieval devices in confined spaces greater than 1.5 m (5 feet) in depth. Conform to Sections 06.I.09, 06.I.10 and 06.I.11 of USACE EM 385-1-1.

d. Sewer wet wells require continuous atmosphere monitoring with audible alarm for toxic gas detection.

e. Include training information for employees who will be involved as entrants and attendants for the work. Conform to Section 06.I.06 of USACE EM 385-1-1.

f. Daily Entry Permit. Post the permit in a conspicuous place close to the confined space entrance.

3.9 CRYSTALLINE SILICA

Grinding, abrasive blasting, and foundry operations of construction materials containing crystalline silica, shall comply with OSHA regulations, such as 29 CFR 1910.94, and USACE EM 385-1-1, Appendix C. The Contractor shall develop and implement effective exposure control and elimination procedures to include dust control systems, engineering controls, and establishment of work area boundaries, as well as medical surveillance, training, air monitoring, and personal protective equipment.

3.10 HOUSEKEEPING

3.10.1 Clean-Up

All debris in work areas shall be cleaned up daily or more frequently if necessary. Construction debris may be temporarily located in an approved location, however garbage accumulation must be removed each day.

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SECTION 01582

AIR FORCE PROJECT SIGN

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1.3 PAYMENT
1.4 ATTACHMENT

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PART 3 EXECUTION - NOT USED

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SECTION 01582

AIR FORCE PROJECT SIGN

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 basic designation only.

U.S. GENERAL SERVICES ADMINISTRATION (GSA)

FED-STD-595 (1989 Rev B, Notice 1) Color

1.2 PROJECT SIGN

Immediately upon beginning work at project site, the Contractor shall furnish and erect a project sign in a location determined by the Contracting Officer. Details of construction shall be as shown on the attached drawings. The sign shall be constructed of 1/2-inch thick, Grade A-C, exterior-type plywood. The sign shall receive one coat of primer paint, FED-STD-595 color number 20109, semi-gloss, exterior-type enamel. The Air Force Engineering and services emblem decal will be furnished to the Contractor by the Government, for applying where indicated. Upon completion of work on the project, the sign shall be removed from the job site and shall remain the property of the Contractor.

1.3 PAYMENT

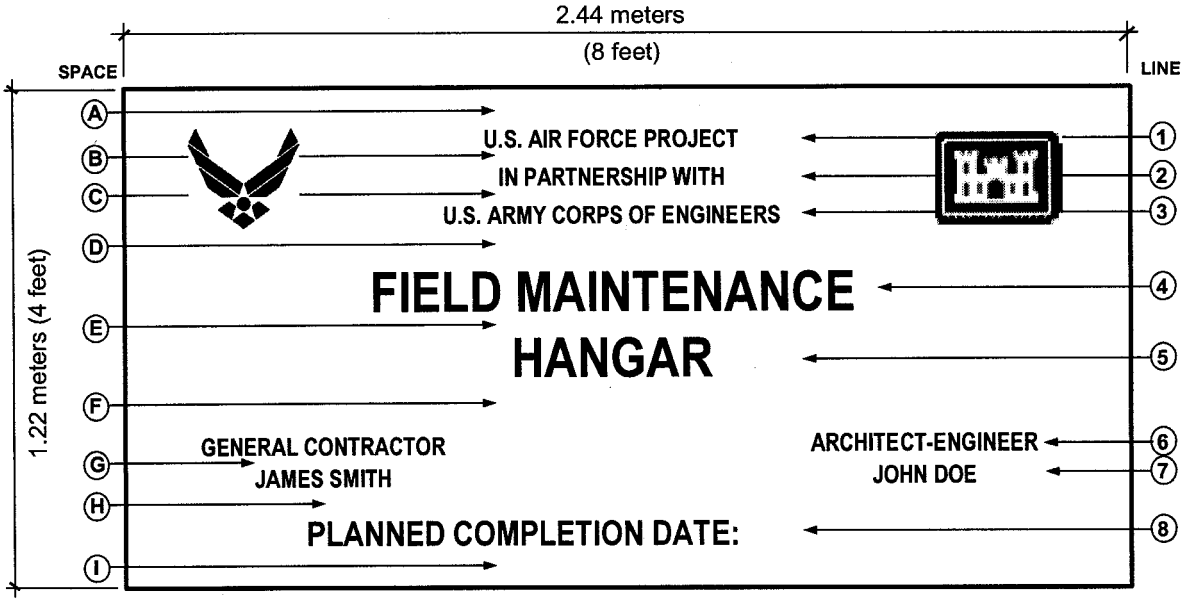
No separate payment will be made for the project sign. Costs shall be considered incidental to and included in the contract price.

1.4 ATTACHMENT

Sample Construction Sign for MILCON Projects

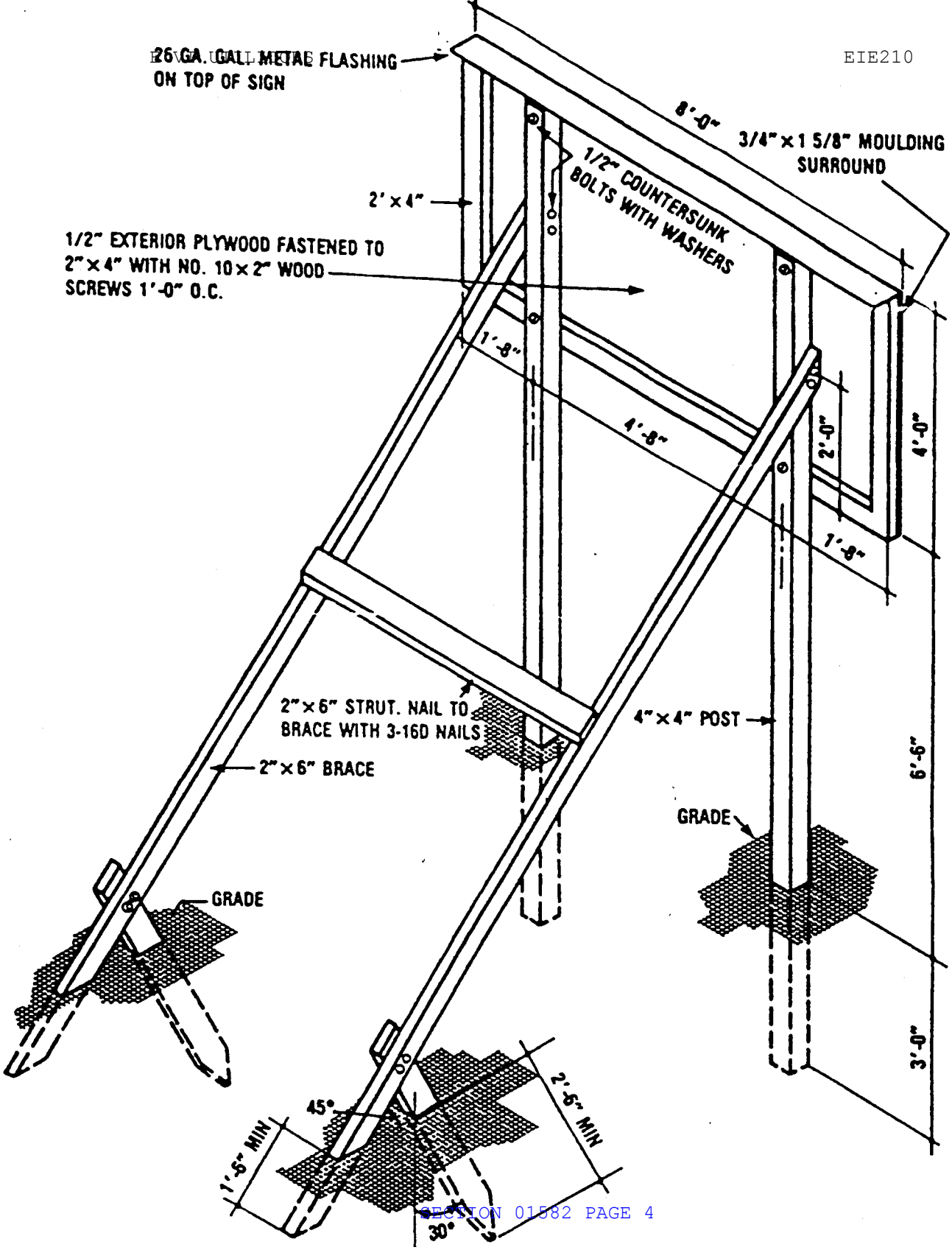
PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED



SAMPLE CONSTRUCTION SIGN FOR MILCON PROJECTS

Space	Height	Line	Description	Letter Height	Stroke
A	102 mm (4 in)	1	U.S. AIR FORCE PROJECT	38 mm (1.5 in)	5 mm (0.1875 in)
B	51 mm (2 in)	2	IN PARTNERSHIP WITH	38 mm (1.5 in)	5 mm (0.1875 in)
C	51 mm (2 in)	3	U.S. ARMY CORPS OF ENGINEERS	38 mm (1.5 in)	5 mm (0.1875 in)
D	127 mm (5 in)	4	PROJECT NAME	102 mm (4 in)	13 mm (0.5 in)
E	76 mm (3 in)	5	PROJECT NAME CONT'D (IF REQUIRED)	102 mm (4 in)	13 mm (0.5 in)
F	127 mm (5 in)	6	GENERAL CONTRACTOR/A-E	38 mm (1.5 in)	5 mm (0.1875 in)
G	25 mm (1 in)	7	GENERAL CONTRACTOR/A-E	38 mm (1.5 in)	5 mm (0.1875 in)
H	102 mm (4 in)	8	PLANNED COMPLETION DATE	63 mm (2.5 in)	6 mm (0.25 in)



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SECTION 01670

RECYCLED / RECOVERED MATERIALS

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SECTION 01670

RECYCLED / RECOVERED MATERIALS

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 basic designation only.

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

40 CFR 247	Comprehensive Procurement Guideline for Products Containing Recovered Materials

1.2 OBJECTIVES

Government procurement policy is to acquire, in a cost effective manner, items containing the highest percentage of recycled and recovered materials practicable consistent with maintaining a satisfactory level of competition without adversely affecting performance requirements or exposing suppliers' employees to undue hazards from the recovered materials. The Environmental Protection Agency (EPA) has designated certain items which must contain a specified percent range of recovered or recycled materials. EPA designated products specified in this contract comply with the stated policy and with the EPA guidelines. The Contractor shall make all reasonable efforts to use recycled and recovered materials in providing the EPA designated products and in otherwise utilizing recycled and recovered materials in the execution of the work.

1.3 EPA DESIGNATED ITEMS INCORPORATED IN THE WORK

Various sections of the specifications contain requirements for materials that have been designated by EPA as being products which are or can be made with recovered or recycled materials. These items, when incorporated into the work under this contract, shall contain at least the specified percentage of recycled or recovered materials unless adequate justification (non-availability) for non-use is provided. When a designated item is specified as an option to a non-designated item, the designated item requirements apply only if the designated item is used in the work.

1.4 EPA PROPOSED ITEMS INCORPORATED IN THE WORK

Products other than those designated by EPA are still being researched and are being considered for future Comprehensive Procurement Guideline (CPG) designation. It is recommended that these items, when incorporated in the work under this contract, contain the highest practicable percentage of recycled or recovered materials, provided specified requirements are also met.

1.5 EPA LISTED ITEMS USED IN CONDUCT OF THE WORK BUT NOT INCORPORATED IN THE WORK

There are many products listed in 40 CFR 247 which have been designated or proposed by EPA to include recycled or recovered materials that may be used by the Contractor in performing the work but will not be incorporated into the work. These products include office products, temporary traffic control products, and pallets. It is recommended that these non-construction products, when used in the conduct of the work, contain the highest practicable percentage of recycled or recovered materials and that these products be recycled when no longer needed.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

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SECTION 01780

CLOSEOUT SUBMITTALS

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-- End of Section Table of Contents --

SECTION 01780

CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.1 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

As-Built Drawings; G-AO

Drawings showing final as-built conditions of the project. The final CADD as-built drawings shall consist of one set of electronic CADD drawing files in the specified format, one set of mylar drawings, 2 sets of blue-line prints of the mylars, and one set of the approved working as-built drawings, and one fully populated, fully functional SDS and A/E/C CADD Standard compliant database connected to CADD drawing features.

SD-03 Product Data

Warranty Management Plan

One set of the warranty management plan containing information relevant to the warranty of materials and equipment incorporated into the construction project, including the starting date of warranty of construction. The Contractor shall furnish with each warranty the name, address, and telephone number of each of the guarantor's representatives nearest to the project location.

Warranty Tags

Two record copies of the warranty tags showing the layout and design.

Final Cleaning; G-AO

Two copies of the listing of completed final clean-up items.

SD-11 Closeout Submittals

As-Built Record of Equipment and Materials

Operation and Maintenance Manuals; G-AO

Videotapes; G-AO

1.2 PROJECT RECORD DOCUMENTS

1.2.1 As-Built Drawings

This paragraph covers as-built drawings complete, as a requirement of the contract. The terms "drawings," "contract drawings," "drawing files," "working as-built drawings" and "final as-built drawings" refer to contract drawings which are revised to be used for final as-built drawings.

1.2.1.1 Government Furnished Materials

One set of electronic CADD files in .dwg format revised to reflect all bid amendments will be provided by the Government at the preconstruction conference for projects requiring CADD file as-built drawings. An SDS and A/E/C/ CADD Standard compliant database will also be provided by the Government for population of feature attributes and metadata.

1.2.1.2 Working As-Built and Final As-Built Drawings

The Contractor shall revise 2 sets of paper drawings by red-line process to show the as-built conditions during the prosecution of the project. These working as-built marked drawings shall be kept current on a weekly basis and at least one set shall be available on the jobsite at all times. Changes from the contract plans which are made in the work or additional information which might be uncovered in the course of construction shall be accurately and neatly recorded as they occur by means of details and notes. Final as-built drawings shall be prepared after the completion of each definable feature of work as listed in the Contractor Quality Control Plan (Foundations, Utilities, Structural Steel, etc., as appropriate for the project). The working as-built marked prints and final as-built drawings will be jointly reviewed for accuracy and completeness by the Contracting Officer and the Contractor prior to submission of each monthly pay estimate. If the Contractor fails to maintain the working and final as-built drawings as specified herein, the Contracting Officer will deduct from the monthly progress payment an amount representing the estimated cost of maintaining the as-built drawings. This monthly deduction will continue until an agreement can be reached between the Contracting Officer and the Contractor regarding the accuracy and completeness of updated drawings. The working and final as-built drawings shall show, but shall not be limited to, the following information:

a. The actual location, kinds and sizes of all sub-surface utility lines. In order that the location of these lines and appurtenances may be determined in the event the surface openings or indicators become covered over or obscured, the as-built drawings shall show, by offset dimensions to two permanently fixed surface features, the end of each run including each change in direction. Valves, splice boxes and similar appurtenances shall be located by dimensioning along the utility run from a reference point. The average depth below the surface of each run shall also be recorded.

b. The location and dimensions of any changes within the building structure.

c. Correct grade, elevations, cross section, or alignment of roads, earthwork, structures or utilities if any changes were made from contract plans.

d. Changes in details of design or additional information obtained

from working drawings specified to be prepared and/or furnished by the Contractor; including but not limited to fabrication, erection, installation plans and placing details, pipe sizes, insulation material, dimensions of equipment foundations, etc.

e. The topography, invert elevations and grades of drainage installed or affected as part of the project construction.

f. Changes or modifications which result from the final inspection.

g. Where contract drawings or specifications present options, only the option selected for construction shall be shown on the final as-built prints.

h. If borrow material for this project is from sources on Government property, or if Government property is used as a spoil area, the Contractor shall furnish a contour map of the final borrow pit/spoil area elevations.

i. Systems designed or enhanced by the Contractor, such as HVAC controls, fire alarm, fire sprinkler, and irrigation systems.

j. Modifications (change order price shall include the Contractor's cost to change working and final as-built drawings to reflect modifications) and compliance with the following procedures.

1. Directions in the modification for posting descriptive changes shall be followed.

2. A Modification Triangle shall be placed at the location of each deletion.

3. For new details or sections which are added to a drawing, a Modification Triangle shall be placed by the detail or section title.

4. For minor changes, a Modification Triangle shall be placed by the area changed on the drawing (each location).

5. For major changes to a drawing, a Modification Triangle shall be placed by the title of the affected plan, section, or detail at each location.

6. For changes to schedules or drawings, a Modification Triangle shall be placed either by the schedule heading or by the change in the schedule.

7. The Modification Triangle size shall be 1/2 inch dimension unless the area where the Triangle is to be placed is crowded. Smaller size Triangle shall be used for crowded areas.

1.2.1.3 Drawing Preparation

The as-built drawings shall be modified as may be necessary to correctly show the features of the project as it has been constructed by bringing the contract set into agreement with approved working as-built prints, and adding such additional drawings as may be necessary. These working as-built marked prints shall be neat, legible and accurate. These drawings are part of the permanent records of this project and shall be returned to

the Contracting Officer after approval by the Government. Any drawings damaged or lost by the Contractor shall be satisfactorily replaced by the Contractor at no expense to the Government.

1.2.1.4 Computer Aided Design and Drafting (CADD) Drawings

Only personnel proficient in the preparation of CADD drawings shall be employed to modify the contract drawings or prepare additional new drawings. Additions and corrections to the contract drawings shall be equal in quality and detail to that of the originals. Line colors, line weights, lettering, layering conventions, and symbols shall be the same as the original line colors, line weights, lettering, layering conventions, and symbols. If additional drawings are required, they shall be prepared using the specified electronic file format applying the same graphic standards specified for original drawings. The title block and drawing border to be used for any new final as-built drawings shall be identical to that used on the contract drawings. Additions and corrections to the contract drawings shall be accomplished using CADD files. The Contractor will be furnished "as-designed" drawings in AutoCad Release 2000 As-Designed Drawings. The electronic files will be supplied on compact disc, read-only memory (CD-ROM). The Contractor shall be responsible for providing all program files and hardware necessary to prepare final as-built drawings. The Contractor shall ensure that all digital files and data (e.g. model files, reference files, cell libraries) are compatible with the Government's target CADD system (i.e. basic and advanced CADD software, platform, database software), and adhere to the standard requirements specified herein. The term "compatible" means that the data can be accessed directly by the target CADD system without translation, pre-processing, or post-processing of electronic digital data files. It is the responsibility of the Contractor to ensure this level of compatibility. The Contractor shall also produce drawings and models, which are compatible with AutoDesk's Land Desktop Version 2000 Software. This includes full functionality of Land Desktop's associated database. The Contracting Officer will review final as-built drawings for accuracy and the Contractor shall make required corrections, changes, additions, and deletions.

a. CADD Standards:

1. CADD drawings shall be prepared in accordance with CADD/GIS Technology Center SDSFIE/FMSFIE Release 2.2 adn the A/E/C CADD Standard Release 2.0. These standards can be found at the CADD/GIS Technology Center website:

http://tsc.wes.army.mil/

2. CADD colors shall be the "base" colors of red, green, and blue. Color code for changes shall be as follows:

a. Deletions (red) - Deleted graphic items (lines) shall be colored red with red lettering in notes and leaders.

b. Additions (Green) - Added items shall be drawn in green with green lettering in notes and leaders.

c. Special (Blue) - Items requiring special information, coordination, or special detailing or detailing notes shall be in blue.

3. The Contract Drawing files shall be renamed in a manner related to the contract number (i.e., 98-C-10.DGN) as instructed in the Pre-Construction conference. Marked-up changes shall be made only to those renamed files. All changes shall be made on the layer/level as the original item. There shall be no deletions of existing lines; existing lines shall be over struck in red. Additions shall be in green with line weights the same as the drawing. Special notes shall be in blue on layer #63.

b. Datums and Coordinate Systems

The Contractor shall provide all digital CADD drawings georeferenced to the Eielson GeoBase System. Government provided digital survey information is referenced to Eielson Local Grid Coordinate System and United States Army Corps of Engineers elevation monuments. The Contractor shall be responsible for converting Government provided coordinate system and elevation datum to the Eielson GeoBase System.

1.2.1.5 Payment

No separate payment will be made for as-built drawings required under this contract, and all costs accrued in connection with such drawings shall be considered a subsidiary obligation of the Contractor.

1.2.2 As-Built Record of Equipment and Materials

The Contractor shall furnish one copy of preliminary record of equipment and materials used on the project 15 days prior to final inspection. This preliminary submittal will be reviewed and returned 2 days after final inspection with Government comments. Two sets of final record of equipment and materials shall be submitted 10 days after final inspection. The designations shall be keyed to the related area depicted on the contract drawings. The record shall list the following data:

RECORD OF DESIGNATED EQUIPMENT AND MATERIALS DATA

Description	Specification Section	Manufacturer and Catalog, Model, and Serial Number	Composition and Size	Where Used

1.2.3 Final Approved Shop Drawings

The Contractor shall furnish final approved project shop drawings 30 days after transfer of the completed facility.

1.2.4 Construction Contract Specifications

The Contractor shall furnish final as-built construction contract specifications, including modifications thereto, 30 days after transfer of the completed facility.

1.2.5 Real Property Equipment

The Contractor shall furnish a list of installed equipment furnished under this contract. The list shall include all information usually listed on manufacturer's name plate. The "EQUIPMENT-IN-PLACE LIST" shall include, as applicable, the following for each piece of equipment installed: description of item, location (by room number), model number, serial

number, capacity, name and address of manufacturer, name and address of equipment supplier, condition, spare parts list, manufacturer's catalog, and warranty. A draft list shall be furnished at time of transfer. The final list shall be furnished 30 days after transfer of the completed facility.

1.3 WARRANTY MANAGEMENT

1.3.1 Pre-Warranty Conference

Prior to contract completion, and at a time designated by the Contracting Officer, the Contractor shall meet with the Contracting Officer to develop a mutual understanding with respect to the requirements of this section. Communication procedures for Contractor notification of construction warranty defects, priorities with respect to the type of defect, reasonable time required for Contractor response, and other details deemed necessary by the Contracting Officer for the execution of the construction warranty shall be established/reviewed at this meeting. In connection with these requirements and at the time of the Contractor's quality control completion inspection, the Contractor shall furnish the name, telephone number and address of a licensed and bonded company which is authorized to initiate and pursue construction warranty work action on behalf of the Contractor. This point of contact will be located within the local service area of the warranted construction, shall be continuously available, and shall be responsive to Government inquiry on warranty work action and status. This requirement does not relieve the Contractor of any of its responsibilities in connection with other portions of this provision.

1.3.2 Contractor's Response to Construction Warranty Service Requirements

Following oral or written notification by the Contracting Officer, the Contractor shall respond to construction warranty service requirements in accordance with the "Construction Warranty Service Priority List" and the three categories of priorities listed below. The Contractor shall submit a report on any warranty item that has been repaired during the warranty period. The report shall include the cause of the problem, date reported, corrective action taken, and when the repair was completed. If the Contractor does not perform the construction warranty within the timeframes specified, the Government will perform the work and backcharge the construction warranty payment item established.

a. First Priority Code 1. Perform onsite inspection to evaluate situation, and determine course of action within 4 hours, initiate work within 6 hours and work continuously to completion or relief.

b. Second Priority Code 2. Perform onsite inspection to evaluate situation, and determine course of action within 8 hours, initiate work within 24 hours and work continuously to completion or relief.

c. Third Priority Code 3. All other work to be initiated within 3 work days and work continuously to completion or relief.

d. The "Construction Warranty Service Priority List" is as follows:

Code 1-Air Conditioning Systems
(1) Recreational support.
(2) Air conditioning leak in part of building, if causing damage.
(3) Air conditioning system not cooling properly.

Code 1-Doors
(1) Overhead doors not operational, causing a security, fire, or safety problem.
(2) Interior, exterior personnel doors or hardware, not functioning properly, causing a security, fire, or safety problem.

Code 3-Doors
(1) Overhead doors not operational.
(2) Interior/exterior personnel doors or hardware not functioning properly.

Code 1-Electrical
(1) Power failure (entire area or any building operational after 1600 hours).
(2) Security lights
(3) Smoke detectors

Code 2-Electrical
(1) Power failure (no power to a room or part of building).
(2) Receptacle and lights (in a room or part of building).

Code 3-Electrical
Street lights.

Code 1-Gas
(1) Leaks and breaks.

Code 1-Heat
(1). Area power failure affecting heat.
(2). Heater in unit not working.

Code 2-Kitchen Equipment
(1) Dishwasher not operating properly.
(2) All other equipment hampering preparation of a meal.

Code 1-Plumbing
(1) Hot water heater failure.
(2) Leaking water supply pipes.

Code 2-Plumbing
(1) Flush valves not operating properly.
(2) Fixture drain, supply line to commode, or any water pipe leaking.
(3) Commode leaking at base.

Code 3 -Plumbing
Leaky faucets.

Code 3-Interior
(1) Floors damaged.
(2) Paint chipping or peeling.
(3) Casework.

Code 1-Roof Leaks
Temporary repairs will be made where major damage to property is occurring.

Code 2-Roof Leaks
Where major damage to property is not occurring, check for

location of leak during rain and complete repairs on a Code 2 basis.

Code 2-Water (Exterior)
No water to facility.

Code 2-Water (Hot)
No hot water in portion of building listed.

Code 3-All other work not listed above.

1.3.3 Warranty Tags

At the time of installation, each warranted item shall be tagged with a durable, oil and water resistant tag approved by the Contracting Officer. Each tag shall be attached with a copper wire and shall be sprayed with a silicone waterproof coating. The date of acceptance and the QC signature shall remain blank until project is accepted for beneficial occupancy. The tag shall show the following information.

a. Type of product/material_____.

b. Model number_____.

c. Serial number_____.

d. Contract number_____.

e. Warranty period_____from_____to_____.

f. Inspector's signature_____.

g. Construction Contractor_____.

Address_____.

Telephone number_____.

h. Warranty contact_____.

Address_____.

Telephone number_____.

i. Warranty response time priority code_____.

j. WARNING - PROJECT PERSONNEL TO PERFORM ONLY OPERATIONAL MAINTENANCE DURING THE WARRANTY PERIOD.

1.4 MECHANICAL TESTING, ADJUSTING, BALANCING, AND COMMISSIONING

Prior to final inspection and transfer of the completed facility; all reports, statements, certificates, and completed checklists for testing, adjusting, balancing, and commissioning of mechanical systems shall be submitted to and approved by the Contracting Officer as specified in applicable technical specification sections.

1.5 OPERATION AND MAINTENANCE MANUALS

Operation manuals and maintenance manuals and Videotapes shall be submitted as specified. Operation manuals and maintenance manuals provided in a common volume shall be clearly differentiated and shall be separately indexed.

Six copies shall be submitted to the Contracting Officer not later than 30 days prior to scheduled contract completion. Failure to submit manuals by this date will be considered cause to withhold any payments due the Contractor. All equipment manual materials shall be durable, clearly printed or reproduced copies, not more than 8-1/2 x 11 inches in size, or neatly folded to that size without overlapping into the binding. Materials shall be indexed and bound in stiff covers with tab separators. Approval of manuals shall be obtained prior to scheduling operating tests and field training courses.

1.6 FINAL CLEANING

The premises shall be left broom clean. Stains, foreign substances, and temporary labels shall be removed from surfaces. Equipment and fixtures shall be cleaned to a sanitary condition. Filters of operating equipment shall be cleaned. Debris shall be removed from drainage systems. Paved areas shall be swept and landscaped areas shall be raked clean. The site shall have waste, surplus materials, and rubbish removed. The project area shall have temporary structures, barricades, project signs, and construction facilities removed. A list of completed clean-up items shall be submitted on the day of final inspection.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

-- End of Section --

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SECTION 02280

CONTAMINATED SOILS REMOVAL, HAULING, AND STOCKPILING

PART 1 GENERAL

1.1 REFERENCES

The current edition of publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 2488	Description and Identification of Soils (Visual-Manual Procedure)

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(1996) U.S. Army Corps of Engineers Safety and Health Requirements Manual
ER 1110-1-263	Chemical Data Quality Management for Hazardous Waste Remedial Activities, w/ Appendices

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA SW-846	Test Methods for Evaluating Solid Waste (Vol. IA, IB, IC, and II)
EPA 540/G-89/004	Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA (Interim Final)

STATE OF ALASKA ADMINISTRATIVE CODES (AAC) AND STATUTES (AS)

18 AAC 75	Oil and Hazardous Substances Pollution Control
18 AAC 78	Underground Storage Tanks

STATE OF ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION (ADEC)

ADEC-01	Guidance on Cleanup Standards Equations & Input Parameters
ADEC-02	Technical Guidance Document on Determination of Background Concentrations
ADEC-03	Risk Assessment Procedures Manual
ADEC-04	Guidance on Decision Documentation Under the site cleanup Rules (18 AAC 75.325 --18

	AAC 75.390)
ADEC-05	Underground Storage Tank Procedures Manual
AK 101	Method AK 101 for Determination of Gasoline Range Organics
AK 102	Method AK 102 for Determination of Diesel Range Organics

1.2 DEFINITIONS

1.2.1 ADEC Clean Closure

Clean closure has been obtained when observations or investigations for the excavation site, as required by 18 AAC 75, indicate that a release has not occurred or that further removal or investigation is not required.

1.3 DESCRIPTION OF WORK

Contaminated soils shall be removed as necessary to perform the utility installation work under this contract and disposed of as specified. The risk of encountering contaminated soil typically increases when excavating soil near the water table. Excavation approaching and below the water table is anticipated at new manhole construction sites. Immediately notify the Contracting Officer followed by the 354th Environmental Flight when contaminated soil is discovered.

The objective is facility installation and not obtaining an ADEC clean closure. The Contractor shall not excavate beyond what is necessary for the utility work and MH foundation construction. No payment will be made for over-excavation or work related thereto, unless specifically directed in writing by the Contracting Officer. This section applies to all site excavations for new work.

Contaminated soil shall be stockpiled, sampled, treated, and disposed of according to source. Contaminated soil from different sources/locations shall not be mixed.

Known contamination within the project area is described in Appendix A, GEOTECHNICAL SUMMARY of the RFP.

If contaminated soils are from a newly discovered contaminated site, approval must be obtained from the ADEC before it can be placed back in the excavation. Approval from the ADEC shall be obtained by the Contractor. Contaminated soils from sites previously identified under the base IRP program may be placed back in the excavation without ADEC notification. Contaminated soil used as backfill material shall be covered with at least 24 inches of uncontaminated soil. Excess contaminated soil shall be treated offsite as described in this specification, CONTAMINATED SOILS REMOVAL, HAULING, AND STOCKPILING.

The estimated volume of contaminated soil is 100 cubic yards measured in place. The estimated volume is 112 cubic yards excavated. The minimum number of laboratory samples from stockpiled soil is 2 grab samples from each stockpile 50 cubic yards or less and, at least 1 sample for each additional 50 cubic yards at each stockpile. This does not include QA/QC samples. Laboratory testing includes GRO, DRO, RRO, and BTEX for all samples. Additionally, two samples and tests will be required for both

TCLP metals and TCLP volatile organic chemicals for stockpiled contaminated soil.

The Contractor shall provide all stockpile cover and liner materials. The Eielson AFB long-term contaminated soil stockpile area shall not be available for temporary soil stockpiling.

The Contractor shall transport the soil to an offsite thermal desorption facility capable of processing the soil contamination. The facility shall meet the requirements of 18 AAC 75.365, and have the required Federal, State, and local permits to operate and process the petroleum contaminated soil.

1.3.1 Worker Protection

The Contractor shall provide personal protective equipment and other tools required for worker protection as appropriate for work conditions and as required by the latest edition of EM 385-1-1

1.3.2 Inspection

Federal, State, or local agencies may require their representative(s) to be present to inspect operations. The Contractor shall comply with all such inspection requirements.

1.3.3 Compliance

Work shall meet or exceed the minimum requirements established by the State of Alaska in applicable statutes and administrative codes. These documents are under constant revision. The Contractor shall be responsible for compliance with the most recent revisions to the regulations throughout the duration of work on the project. The Contractor shall also be responsible for compliance with all applicable Federal and local regulations. Any instances where compliance would exceed the scope of work or specific requirements of the contract, and any conflicts between various regulations or between any regulation and the contract specifications, shall be brought to the immediate attention of the Contracting Officer for resolution.

1.4 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS.

SD-01 Preconstruction Submittals

Sampling and Analysis Plan

Work Plan

Qualifications

Correspondence

Disposal of Contaminated Soil; G

Certificates of Thermal Remediation; G

SD-06 Test Reports

Site Assessment Report

1.5 QUALIFICATIONS

1.5.1 Contractor Consultant

The Contractor shall provide an experienced and qualified consultant. The Consultant may be employed by either the Contractor or the commercial testing laboratory. The Consultant shall meet the requirements specified in 18 AAC 75 and ADEC-05. The consultant's qualifications shall be submitted. Acceptability will be determined on the basis of education, training, experience, and past performance. The Consultant shall be experienced in all phases of the required work and be on-site for all work with contaminated soils. The Consultant shall have experience in and knowledge of EPA methods for collecting environmental and hazardous waste samples; experience in operation of field screening equipment; and meet the definition of "qualified person" in 18 AAC 75.990.

1.5.2 Contractor Laboratory

Except as otherwise specified, all testing shall be performed at no additional cost to the Government by a Contractor-retained, commercial testing laboratory which is currently validated by the U.S. Army Corps of Engineers. Point of contact for Corps of Engineers validation is the Alaska District, Geotechnical Branch, (907) 753-2695 or -2681. Copies of the laboratory's validation letters shall be included in the work plan. The laboratory must also be approved by ADEC under 18 AAC 78.800 - 18 AAC 78.815.

1.5.3 Support Staff

The Contractor shall identify all staff involved for the various components, including personnel collecting and shipping samples. The qualifications of these staff members shall be detailed by the Contractor.

1.6 WORK PLAN

The Work Plan (WP) shall incorporate the elements specified in EPA 540/G-89/004. The WP shall include the Contaminated Soil Stockpile Design and Operation Plan.

Include the Work Plan (WP), composed of the Contaminated Soil Stockpile Design and Operation Plan; and the Sampling and Analysis Plan (SAP), composed of the Field Sampling Plan (FSP) and the Quality Assurance Program Plan (QAPP). See Paragraph 1.7, Sampling and Analysis Plan (SAP).

Submittals will be screened by the Contracting Officer prior to review or transmittal to ADEC for comment. The Contractor shall correct and resubmit items, which are unacceptable for detailed review.

1.7 SAMPLING AND ANALYSIS PLAN (SAP)

The plan shall include an executive summary. The SAP shall reflect the degree of complexity of the project. The SAP shall be composed of a Field Sampling Plan (FSP) and a Quality Assurance Program Plan (QAPP). The SAP shall be in accordance with EPA 540/G-89/004; EPA SW-846, Volume II; ER 1110-1-263; 18 AAC 75; ADEC-01; and ADEC-02. In the event of conflicts, the

more stringent requirements shall be followed. The plans shall include methods to be used for field screening, frequency of sampling, required number of samples for project work, quality control, and Government quality assurance purposes; and incorporate the Government Quality Assurance (QA) procedures identified in ER 1110-1-263 as a confirmation of the Quality Control (QC) activity, including a discussion of limits of data acceptability, resolution of inconsistencies of data, and procedures for initiating corrective action.

Seven (7) copies of the SAP shall be submitted for approval at least 30 days prior to start of work at the site. The Contractor shall make corrections indicated by comments and identify any items considered to be in conflict with, or a change to, the contract. Excavation shall not begin prior to approval of the SAP by the Contracting Officer.

The Contractor shall correct and resubmit items, which are unacceptable for detailed review. The 30-day period specified above will not begin until the Contracting Officer receives all corrected items.

1.8 Correspondence

Copies of all correspondence with other Government agencies shall be furnished immediately upon issue or receipt. All Contractor correspondence with ADEC shall be through the Contracting Officer. Cover letters shall be appropriately addressed with "TO:" and "THROUGH:" headings.

The Contractor shall provide the Contracting Officer with copies of all truck weight station tickets and certificates of soil treatment results.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 GENERAL

3.1.1 Consultant Responsibilities

The Contractor Consultant shall be on site during all excavation, stockpiling, and all other operations involving contaminated soil. The Consultant shall perform all field screening and collect all on-site samples. The Consultant shall review and update the SAP, review test results, and provide recommendations for the Contractor's testing program.

3.1.2 Work Plan Implementation

The Contractor shall continuously maintain, update, and implement the Work Plan. The Work Plan shall be continuously updated to reflect the conditions and work at the site. A copy of the Work Plan shall be kept at the Work Site at all times and be available to all workers.

3.1.3 Protection of Existing Structures and Utilities

The Contractor shall take all necessary precautions to avoid damage to existing structures, their appurtenances, or utilities that may be affected by work activities. Any damage resulting from the Contractor's operations shall be repaired at no expense to the Government. The Contractor shall coordinate with the installation to locate underground utilities prior to beginning construction. Utilities encountered which were not previously shown or otherwise located shall not be disturbed without approval from the

Contracting Officer.

3.1.4 Leaks, Spills, and Releases

Whenever the Contractor suspects or has knowledge of a leak, spill, or release of oil, hazardous substances, or regulated substance not previously identified in the contract documents, the Contractor shall immediately notify the Installation Environmental Office at (907)377-SPIL (7745). The Contractor shall also prepare an ADEC Oil and Hazardous Materials Incident Report Form in accordance with ADEC regulations. The Contractor shall hand-deliver or FAX the completed form to the Contracting Officer and the Installation Environmental Office. The Installation Environmental Office will be responsible for providing notification to ADEC. The Contractor shall reevaluate the SHP as appropriate and await direction from the Contracting Officer before proceeding. In accordance with 18 AAC 75.310, the Contractor shall be responsible for cleanup of all leaks, spills, and releases of oil, hazardous substances, or regulated substances caused by the Contractor during this project.

3.2 CONTAMINATED SOIL IDENTIFICATION

Contaminated soils shall be identified by commercial laboratory testing, with confirmation by Contractor quality control. Visual inspection and field screening shall be used as appropriate in the FSP. The Contractor shall perform a general site inspection as outlined below. Paragraph 3.3.3.1, Number of Samples, summarizes purposes and types of testing required.

3.2.1 General Site Inspection

The inspection shall include:

a. Checking for obvious leaks and spills.

b. Checking for any obvious soil or water contamination caused by a release or leakage.

c. Determining from contract documents, on-site personnel, and any required sampling and testing, the general nature of the contamination, and estimated depth to groundwater.

d. Classifying the soil strata according to ASTM D 2488 from visual observations of the site and any required excavation. (Note: sieve analyses are not required; excavation is not required solely for soil strata classification)

e. Recording local climatological conditions during inspection.

3.2.2 Field Screening Soils

The Contractor shall exercise a high degree of control over field screening, sampling, and testing in conjunction with construction in order to minimize the amount of excavated material requiring temporary stockpiling, prevent dilution of contaminated soils with clean soils, and insure completion of work within the limited construction season. The Contractor shall obtain timely and accurate chemical sampling and test data. All samples taken each day shall be tested with a maximum 14-day turnaround.

3.3 SOIL CLASSIFICATION, TESTING, AND ANALYSIS

3.3.1 Classification of Soil Contamination

a. Clean. No visible stains, no smell of fuels or volatiles, no field screening test results above background.

b. Suspected Contaminated. Suspect visible stains, odor of fuel or volatiles, field screening test results above background.

c. Contaminated. Obviously and highly stained soil, heavy odor of fuel or volatiles, field screening test results above background.

3.3.2 Field Screening Tests

The Contractor's Qualified Person shall use an hydrocarbon vapor (HV) test or other appropriate field test to qualitatively check for the presence or absence of soil contamination in all project excavation areas. The Contractor shall incorporate field screening into the SAP to insure adequate and economical selection of samples for laboratory testing. Field screening shall be utilized according to ADEC requirements and prudent, professional judgment. The type of field screening instruments to be used on site shall depend upon the type of contamination indicated. The Contractor shall include in the SAP a description of the type of instruments selected, limits, action levels, procedures for testing, to include, number of test to be taken and coordination/verification with the commercial testing laboratory tests, and the Qualified Person's training to use the instruments and interpret the data. The Contractor shall prepare a table of field screening results to be updated as work proceeds. A final copy, including explanatory narrative and sample location, shall be part of the field report.

3.3.3 Sampling and Testing

Analysis for petroleum contamination must follow the Alaska methods for petroleum hydrocarbons referred to in Table 1 of ADEC-05, adopted by reference. Sampling and testing shall be in accordance with the methods identified below (Type Test/Method or Procedure):

a. Gasoline Range Organics (GRO)/State of Alaska Method AK 101.

b. Diesel Range Organics (DRO)/State of Alaska Method AK 102.

d. Benzene, Toluene, Ethyl benzene, Xylenes (BTEX)/EPA SW-846, Test Method 8021B. BTEX samples shall be preserved in accordance with AK 101 method SMK.

e. TCLP Metals and TCLP Volatile Organic Chemicals Test Method SW846-1311 shall be taken from the contaminated stock pile.

f. Sampling sites within an excavation shall include sidewalls, bottom, top of the soil-groundwater interface if it is exposed, and groundwater if it collects in the excavation.

3.3.3.1 Number of Samples

The minimum number of soil samples collected from excavations shall be as identified in 18 AAC 78 (including guidance manuals). The Contractor is

responsible for preparing the proposed sampling scheme and determining the analyses to be performed on the samples, and shall include this information in the Sampling and Analysis Plan (SAP).

a. Stockpiles. Samples shall be taken each day that excavation or stockpiling operations occur. The following numbers of samples, as a minimum, shall be collected and tested in accordance with the approved SAP.

b. Temporary Stockpiles and all Excavated Materials: Sample as required to segregate excavated materials into classification specified, i.e., clean, suspected contaminated, and contaminated.

3.3.3.2 Number of Tests

The tests specified shall be performed on each sample taken, except two TCLP tests (2 each TCLP metals and TCLP volatile organic chemicals) shall be done from the entire contaminated soil excavation. The number of tests shall be sufficient to perform the work specified as described in the SAP.

3.3.4 Quality Control (QC) Samples

In addition to the samples and tests as specified above, ten percent (10%) (minimum of one) of the samples collected for each test method shall be collected as split/duplicate samples for analysis in the Contractor's commercial testing laboratory. Samples for volatile analyses shall be collected as triplicates, others shall be splits of homogenized samples. The SAP shall include information regarding the quantities and types of these samples to be collected. QC and QA samples shall be taken simultaneously as triplicate splits. Other Contractor QC Samples (trip blanks, decontamination blanks, etc.) and other samples shall be taken as required by the ADEC GUIDANCE MANUAL (ADEC-01, ADEC-02, ADEC-03, ADEC-04, ADEC-05) the SAP and the Internal Quality Control Reporting requirements below.

3.3.4.1 Internal Quality Control Reporting

Internal Quality Control Reporting: (At a minimum, internal quality control samples shall be analyzed at rates specified in the specific methods.

(a) Laboratory Blanks (Method Blanks and Instrument Blanks): All analytes shall be reported for each laboratory blank. All non-blank sample results shall be designated as corresponding to a particular laboratory blank in terms of analytical batch processing.

(b) Surrogate Spike Samples: Surrogate Spike Recoveries shall be reported with all organic method reports where appropriate (i.e., when the method requires surrogate spikes). The report shall also specify the control limits for surrogate spike results as well as the spiking concentration. Any out-of-control recoveries (as defined in the specified method) shall result in the sample being rerun (both sets of data shall be reported) or data being flagged.

(c) Matrix Spike Samples: Matrix Spike Recoveries shall be reported for all organic and inorganic analyses. All general sample results shall be designated as corresponding to a particular matrix spike sample. The report shall indicate what

field sample was spiked. The report shall also specify the control limits for matrix spike results for each method for each matrix.

(d) Laboratory Duplicates and/or Matrix Spike Duplicate Pairs: Relative Percent Difference shall be reported for all duplicate pairs as well as analyte/matrix specific control limits.

(e) Controls: When run for internal quality control, Laboratory Control Standards results shall be reported with the corresponding field sample data. Control limits for LCSs shall also be specified.

3.4 EXCAVATION AND DISPOSAL REQUIREMENTS

3.4.1 Excavation

The Contractor shall conduct field screen testing prior to excavation to determine the approximate boundaries of any soil contamination and throughout the duration of excavation activities to identify any contaminated soils. Excavation shall be performed in a manner that will prevent contaminated soil from becoming mixed with previously uncontaminated soil. All excavated material shall be field screened per Paragraph Field Screening Tests. Other sampling and testing shall be as specified. Contaminated and uncontaminated soil shall be segregated in separate temporary stockpiles. Open excavations and stockpile areas shall be secured while awaiting verification test results. Surface water shall be diverted to prevent direct entry into the excavation. The excavation shall not be backfilled without approval from the Contracting Officer.

The Contractor shall attempt to achieve clean closure at each excavation site but shall not excavate beyond that required to complete the utilidor and building earthwork without written direction from the Contracting Officer. Any evidence that contamination extends beyond excavation required for the project's earthwork shall be reported on the same day it is discovered, to the Installation's Environmental Coordinator, and the Contracting Officer.

3.4.2 Temporary On-Site Stockpiles

Uncontaminated excavated soil shall be temporarily stockpiled and used for backfill within the requirements of these specifications. Contaminated soil shall be stockpiled for sampling. Uncontaminated soil shall be stockpiled separately from the contaminated soil, a safe distance away from, but adjacent to, the excavation. Contaminated soil shall be placed on an impermeable geomembrane meeting the minimum requirements in 18 AAC 75.370 for short term storage, and covered with a sheet of geomembrane meeting the minimum requirements in 18 AAC 75.370. Top covers for stockpiles shall be held in place with concrete pavers or sandbags.

3.4.3 Disposal of Contaminated Soil

The Contractor shall provide treatment of the contaminated soil at an offsite thermal desorption facility capable of processing the soil contaminant. The facility shall meet the requirements of 18 AAC 75.365, Offsite or Portable Treatment Facilities and shall have the required Federal, State, and local permits to operate and process the petroleum contaminated soil. The Contractor shall provide for an off-site final disposal site for the treated soil. Treated soil shall not be returned to

Eielson Air Force Base. The Contractor shall provide the location of the disposal site to the Contracting Officer. The disposal site and method shall be in compliance with all Federal, State, and local regulations regarding fill and backfilling existing land features and, limitations on the use of the treated soil. Contractor shall provide Certificates of Thermal Remediation to the Contracting Officer in addition to all truck weigh bills for contaminated soil delivered for treatment.

3.4.4 Disposal of Contaminated Water

The occurrence of contaminated sites is discussed in Appendix A, GEOTECHNICAL SUMMARY. The Contractor shall obtain a Notice of Disposal from ADEC for disposal of contaminated water. The Contractor shall provide all sampling, analysis, treatment, and reporting as required by ADEC.

3.4.5 Transportation of Wastes

Transportation shall be provided in accordance with Department of Transportation (DOT) Hazardous Material Regulations and State and local requirements, including obtaining all necessary permits, licenses, and approvals.

3.4.5.1 Hauling of Contaminated Soils

All truckloads of contaminated materials shall be covered during transport. If wet materials are transported, trucks shall be lined to preclude spillage of contaminated materials. The Contractor shall take precautions to prevent particulate matter from becoming airborne. Any spills during transport shall be promptly picked up and the affected area cleaned. All spills shall be reported to the ADEC through the Installation Environmental Office (see paragraph, SPILLS). The Contractor shall take all necessary precautions to prevent any cross contamination between contaminated and non-contaminated soils.

3.4.6 Investigative Derived Waste (IDW)

a. The Contractor shall provide drums for any IDW generated as part of this work. The drums shall be labeled with a Contractor point of contact and phone number, project name and number, and description of contents. The drums shall be stored at the Eielson Hazardous Waste Facility. The Contractor is responsible for sampling drum contents. The Government will treat the waste if it is POL contaminated. The Contractor shall dispose of waste contaminated with hazardous compounds which are not POL.

b. The Government will provide a facility for the decontamination of heavy equipment, if necessary.

3.5 BACKFILLING

Excavations shall be backfilled as required to complete the utility work on schedule. The Contractor shall not wait for the soil sampling results prior to beginning backfill with uncontaminated soil. The excavation shall be dewatered if necessary at no expense to the Government. See Paragraph 1.3 DESCRIPTION OF WORK for use of contaminated soil as backfill.

3.6 CONTAMINATED SOIL STOCKPILES

Long-Term soil stockpiles shall not be constructed for this work. The

contaminated soil shall be transported to the off-site contaminated soil treatment facility within the 180-day time frame allowed by the ADEC for temporary, Short-Term soil stockpiles. A site on Base shall be coordinated with the Contracting Officer for Short-Term soil stockpiling. The Contractor shall include a plan for Short-Term soil stockpiling. This plan shall include diagram of the footprint, section, scheduling, placement, and maintenance of the stockpile area. The bottom membrane, cover, cover anchors, and all other materials and labor for the Short-Term stockpiles shall be provided by the Contractor. The materials and stockpile operation shall meet the requirements of 18 AAC 75.370.

3.7 SITE ASSESSMENT REPORT (SA)

The Contractor shall prepare and submit a draft and final SA report for each excavation or site. All copies, except one final SA report, shall be bound, including all photographs/slides. The Contractor shall make an assessment of the site based on the fieldwork and analysis required by this contract. As-built drawings shall accompany the SA Report and be listed in the Report's Table of Contents. As a minimum, each SA report shall include the following:

a. The Owner's Name and Address.

b. The Operator's Name and Address (if different from the owner).

c. Location of the Excavation.

d. Any historical information regarding a previous release, repair, spill or cleanup, which becomes known during the project.

e. Data report required by ADEC GUIDANCE MANUAL.

f. Name and business address of each person who supervised the SA.

g. A narrative description of activities conducted at the site and dates the activities occurred.

h. A scaled Site Sketch that shows the following:

(1) The location and configuration of any tanks, piping, containers, and contamination found (if applicable);

(2) The locations of any samples taken, including depth;

(3) the proximity to buildings;

(4) any release sites (if applicable);

(5) any free product sites (if applicable);

(6) any debris sites;

(7) a bar scale and north arrow; and

(8) any other pertinent information.

i. A Photographic History. A photographic history and description of the contract work to include pre- and post-construction photographs. Each print shall show the

following information in typewritten format:

(1) Location;
(2) Contract No.;
(3) Contractor/Photographer;
(4) Date/Time;
(5) Photograph No.;
(6) Description; and
(7) Direction of View.

j. Local Climatological Conditions During the Site Work

k. Documentation of Materials Handling to include:

(1) information on all "regulated" and "hazardous" materials;

(2) quantities removed;

(3) procedures utilized;

(4) disposition;

(5) copies of "Complete Manifest Packages"; and

(6) copies of all "Transportation and Disposal Tracking Forms".

l. Data Presentation. All test results shall be submitted. Results shall be presented as the reports were received from the laboratories and cross-referenced to summary sheets showing the date, time, location of the sample collected, and the name of person who collected the samples. The summary sheets shall include all project sample results, QC sample results, and QA sample results in a side-by-side format. A summary of the sampling results and findings shall be included.

m. Contractor shall provide EDF, Version 1.2a for the analytical data.

n. Field Notes. The Contractor shall maintain field notes in a bound book. Field notes shall be written in ink. Erasures will not be allowed. The Contractor shall document all field activities and any visibly contaminated soil. The Contractor shall include a copy of the field notes as part of the draft Field Report. The original field notes shall be submitted as part of the final Field Report.

o. ADEC Forms.

3.7.1 SA Report Schedule

The Contractor shall submit the draft SA report within 21 calendar days of completion of excavation. The Contracting Officer will provide comments on the draft report to the Contractor within 30 calendar days after the draft report has been submitted. The Contractor shall incorporate all Government comments in the final report. The Contractor shall submit the final report within 14 calendar days or receipt of comments.

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SECTION 02300

EARTHWORK

PART 1 GENERAL

1.1 REFERENCES

The current edition of publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 117	Standard Test Method for Materials Finer than 75mm (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C 136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM D 75	(1992) Sampling Aggregates
ASTM D 422	Standard Test Method for Particle-Size Analysis of Soils
ASTM D 1557	Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3(2,700 kN-m/m3))
ASTM D 2487	Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System)

1.1.1 Existing Soil, Groundwater, and Contaminated Site Information

Numerous existing geotechnical and contaminated site reports for the Base are available. Details of known contaminated sites in the vicinity of project work are presented in Appendix A, GEOTECHNICAL SUMMARY. In addition, the results of existing and extensive Base-wide soil and groundwater investigations are presented.

1.2 SUMMARY

1.2.1 Section Includes

This section includes requirements for the provision of site earthwork to include all excavation and backfill for work under this contract.

1.2.2 Components Included

(1) Classified material.
(2) Unclassified material.
(3) Structural fill.

1.2.3 Related Sections

Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS.
Section 01355, ENVIRONMENTAL PROTECTION
Section 01356, STORM WATER POLLUTION PREVENTION MEASURES
Section 02280, CONTAMINATED SOILS REMOVAL, HAULING, AND STOCKPILING.
Section 02509, UTILIDOR STRUCTURE
Section 02531, SANITARY SEWERS
Section 02741, ROADWAY
Section 02770, CONCRETE SIDEWALKS AND CURBS AND GUTTERS
Section 16000, UTILIDOR POWER DISTRIBUTION, COMMUNICATIONS, AND LIGHTING SYSTEMS

1.3 DESIGN SUBMITTALS FOR REVIEW AND CONFORMANCE

Design Drawings: Submit design drawings in accordance with Section 01013, 65 AND 100 PERCENT DESIGN.

Specifications: Submit new detailed specification sections to specify the quality, characteristics, installation procedures, and testing requirements for all items of the proposed earthwork in accordance with Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS. The appropriate Division 02 SITEWORK specification(s) shall be properly edited for this project and submitted.

Design Analysis: Submit a design analysis in accordance with Section Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS. The basis of design shall establish conformance to applicable referenced codes and the suitability of the fill and backfill requirements for this project.

1.4 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-06 Test Reports

Structural Fill Sieve Analysis

PART 2 PRODUCTS

2.1 PERFORMANCE

All earthwork recommendations shall be based upon the recommendations of a Contractor engaged registered Professional Engineer who is experienced in the geotechnical issues related to this project. Recommendations and design shall be fully illustrated and specified in 65 AND 100 PERCENT DESIGN REQUIREMENTS package submitted by the designer of record in accordance with Specification Section 01013, 65 AND 100 PERCENT DESIGN.

Materials shall be classified in accordance with ASTM D 2487, Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System). Compaction efforts shall be specified by ASTM

standards.

2.1.1 Classified Fill and Backfill

Classified fill and backfill shall be approved, well-graded non-frost susceptible (NFS) materials consisting of sand, gravel, hard, durable fragments of stone or gravel, and containing not more than 60 percent by weight passing the No. 4 sieve. All material shall be free of frozen lumps. Material shall not exceed a size equaling 2/3 of the specified maximum lift thickness.

NFS is inorganic soil containing less than three percent by weight of grains finer than 0.02 mm. The methods of test shall be ASTM C 117, ASTM C 136, and ASTM D 422. Sample collection for testing shall follow ASTM D 75.

2.1.2 Unclassified Fill and Backfill

Unclassified fill and backfill shall be approved materials consisting of sand, gravel, or other materials, and shall be free of organic materials, frozen lumps, trash, lumber, or other debris. The material may be frost susceptible. Acceptable materials as classified under ASTM D 2487 are GW, GP, SW, GM, SM, SP, SC, and ML.

Stripped vegetation such as grass sod shall not be used as backfill. If it is not salvaged for reinstallation, sod shall be wasted.

2.1.3 Structural Fill and Backfill

Structural fill and backfill shall consist of unfrozen, NFS gravel that meets the following gradation limits:

U.S. Standard Sieve Size	Percentage Passing
4-inch	100
2-inch	85-100
1/4-inch	Less than 70
No. 200	Less than 5
	(based on the 3/4-inch minus fraction)

Provide a Structural Fill Sieve Analysis report for material being imported for structural fill prior to construction

2.1.4 Granular Fill and Backfill

Granular fill and backfill shall be uniform or gap graded, free draining, 2-inch to No. 4 sieve in diameter.

PART 3 EXECUTION

3.1 EARTHWORK

Soil compaction shall be achieved with equipment appropriate for the soil location and type. Materials being compacted shall be moistened or aerated as necessary to provide the moisture content that will readily facilitate obtaining the required compaction. Each layer of material shall be compacted, to not less than the percentage of maximum density required. Excavated clean material in excess of that required for backfill may be disposed of on base upon approval of an Environmental Protection/borrow Pit Plan.

3.2 WASTE DISPOSAL AND BORROW SOURCE

A Preliminary Eielson AFB Waste Disposal and Borrow Pit Plan for this project can be found in Appendix D. To request authorization to use Base waste disposal and borrow pit areas the Contractor shall submit Part I of the Eielson AFB Waste Disposal/Borrow Pit Worksheet to 354 CES/CEVN (377-5182). An example of this worksheet is found in Appendix C. The 354 CES/CEVN will prepare a final Eielson AFB Waste Disposal and Borrow Pit Plan for this project. The Final Plan may differ from and will supercede the Preliminary Plan. The Contractor shall comply with the Final Plan.

No painted, mastic coated, or fuel contaminated concrete shall be disposed of at the Base Concrete Disposal Site.

3.3 DEWATERING

The Contractor shall obtain site specific dewatering permits from the ADEC prior to any dewatering activity. Dewatering shall be in accordance with Permit 2004-DB0101. See Appendix E of the RFP documents for a copy of these permits. See also Section 02280, CONTAMINATED SOILS REMOVAL, HAULING, AND STOCKPILING, Paragraph 3.4.4, Disposal of Contaminated Water.

Pumping volumes for dewatering shall be estimated based on soil boring logs and groundwater elevation data presented in Appendix A, Geotechnical Summary. Dewatering shall anticipate pumping large volumes because gravel will typically be present at and below the water table.

Copies of all site specific dewatering permit shall be sent through the Contracting Officer and concurrently to the 354th CES/CEVQ, Francis Isgrigg, 377-1645.

3.4 CONTAMINATED SOILS

Contaminated soils encountered during construction shall be reported immediately to the Contracting Officer and concurrently to 354th CES Environmental Flight, 377-1645. Field screening, testing, and disposal shall be in accordance with Section 02280, CONTAMINATED SOILS REMOVAL, HAULING, AND STOCKPILING.

3.5 COMPACTION TESTING

A Government approved testing laboratory shall accomplish all testing.

3.5.1 Type and Frequency

Particle size analysis for soils shall be in accordance with ASTM D 422. Moisture density relations shall be in accordance with ASTM D 1557. At a minimum one particle size analysis and one moisture density test shall be performed on each different type of material placed as bedding or backfill.

3.5.1.1 Compaction Test

The following density tests are required beneath structures with on-grade concrete floor slabs. The number of tests shall apply to each layer of material placed.

(1) Bedding Layers under Utilities (Direct Bury): One test per

100 feet of trench or a minimum of two tests, whichever is greater.

(2) Bedding Layers under Utilidors: One test per 75 feet of Utilidor trench or a minimum of two tests, whichever is greater.

(3) Compacted Area under Manholes: A minimum of two tests per manhole or every 25 square feet, whichever is greater.

(4) Trench Backfill in Graded Areas: Minimum of two tests per layer or one test per layer for each 100 feet of trench, whichever provides the greatest number of tests.

(5) Trench Backfill in Traffic Areas: Minimum of two tests per layer or one test per layer for each 50 feet of trench, whichever provides the greatest number of tests.

3.5.1.2 Gradation and Non-frost Susceptibility Tests

Tests shall be conducted on structural soil materials for manholes, utilidors, roadways, driveways, and parking areas. In-place structural soil materials shall be sampled and tested for gradation and non-frost susceptibility (NFS) requirements at least once for every 50 compacted-cubic yards or portion thereof. For NFS determination soil shall be analyzed in accordance with Paragraph 2.1.1, Classified Fill and Backfill.

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SECTION 02509

UTILIDOR STRUCTURE

PART 1 GENERAL

1.1 REFERENCES

The current editon of 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 CONCRETE INSTITUTE (ACI)

ACI 301	Structural Concrete
ACI 302.1R	Concrete Floor and Slab Construction
ACI 304R	Measuring, Mixing, Transporting, and Placing Concrete
ACI 305R	Hot Weather Concreting
ACI 306R	Cold Weather concreting
ACI 315	Details and Detailing of Concrete Reinforcement
ACI 318	Building Code Requirements for Structural Concrete
ACI 347R	Guide to Formwork for Concrete

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 123	(2000) Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A 780	Standard Practice for the Repair of Damaged and Uncoated Areas of Hot-Dipped Galvanized Coatings
ASTM C 31	Making and Curing Concrete Test Specimens in the Field
ASTM C 39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C 42	Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
ASTM C 90	(1998) Loadbearing Concrete Masonry Units
ASTM C 94	Standard Specification for Ready-Mixed Concrete

ASTM C 143	Standard Test Method for Slump of Hydraulic Cement Concrete
ASTM C 172	Sampling Freshly Mixed Concrete
ASTM C 173	Air Content of Freshly Mixed Concrete by the Volumetric Method
ASTM C 231	Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C 578	Rigid, Cellular Polystyrene Thermal Insulation
ASTM D 4258	(1999) Standard Practice for Surface Cleaning Concrete for Coating.
ASTM D 1227	Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing
ASTM D 4479	Standard Specification for Asphalt Roof Coatings
ASTM D 1621	Standard Test Method for Compressive Properties of Rigid Cellular Plastics

FEDERAL SPECIFICATIONS (FS)

FS TT-E-2784	Enamel (Acrylic-Emulsion, Exterior Gloss and Semigloss)

PRECAST PRESTRESSED CONCRETE INSTITUTE (PCI)

PCI MNL-116	Quality Control for Plants and Production of Precast and Prestressed Concrete Products (Third Edition)

THE SOCIETY FOR PROTECTIVE COATINGS (SSPC)

SSPC PA 1	Shop, Field, and Maintenance Painting
SSPC Paint 25	Red Iron Oxide, Zinc Oxide, Raw Linseed Oil and Alkyd Primer (Without Lead and Chromate Pigments)
SSPC SP 1	Solvent Cleaning
SSPC SP 2	Hand Tool Cleaning
SSPC SP 3	Power Tool Cleaning
SSPC SP 7	Brush-Off Blast Cleaning

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as

otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Design Drawings

SD-04 Samples

Waterproofing and Dampproofing

Insulation

Chemical Grouting

Access Hatch

Exterior Paint for Above Grade Structure

Concrete Masonry Units (CMU) for Facade and Planter Replacement

SD-05 Design Data

Manhole Ladders

Pipe Support System

Design Analysis

Specifications

Corrosion Protection

1.3 SUMMARY

1.3.1 Section Includes

This section includes requirements for the provision of utilidor structures to insure adequate design and protection of integral utility systems. Actual utilidor and manhole modifications shall be in accordance with the RFP plans.

1.3.2 Components Included

(1) Utilidor floor, walls, and lids.
(2) Manholes.
(3) Ladders and hatches.
(4) Reinforcement, utility pipe anchors and support, ties, joints, fasteners, miscellaneous rough hardware items and accessories that form a part of the utilidor structural system.
(5) Components necessary to accommodate other utilidor systems.
(6) Sumps.

1.3.3 Related Sections

Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS
Section 01355, ENVIRONMENTAL PROTECTION

Section 02280, CONTAMINATED SOILS REMOVAL, HAULING, AND STOCKPILING.
Section 02300, EARTHWORK.
Section 02510, WATER DISTRIBUTION SYSTEM
Section 02531, SANITARY SEWERS
Section 02559, STEAM DISTRIBUTION SYSTEM
Section 02741, ROADWAY
Section 02770, CONCRETE
Section 13000, HAZARDOUS MATERIALS ABATEMENT
Section 16000, UTILIDOR POWER DISTRIBUTION, COMMUNICATIONS, AND LIGHTING SYSTEMS

1.4 Design and Construction

The design and construction shall comply with the latest editions of the following guides, standards, and codes. In the case of discrepancies between the following guides, standards, and codes, and the RFP Design Requirements, the more stringent shall apply.

(1) International Building Code (IBC) 2000
(2) Code of Federal Regulations (CFR) 29 Part 1910
(3) Occupational Safety and Health Administration (OSHA)
(4) TM 5-852-6 Arctic and Subarctic Construction: Calculation Methods for Determination of Depths of Freeze and Thaw in Soils
(5) TM 5-852-5 Arctic and Subarctic Construction Utilities
(6) Code of Federal Regulations (CFR)
(7) Occupational Safety and Health Administration (OSHA)
(8) January 2002 Eielson Utilidor Design Guide

1.5 DESIGN SUBMITTALS FOR REVIEW AND CONFORMANCE

Design Drawings: Submit design drawings in accordance with Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS.

Specifications: Submit new detailed specification sections to specify the quality, characteristics, installation procedures, and testing requirements for all items of the proposed utilidor structural system in accordance with Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS. U.S. Army Corps of Engineers Alaska District Guide Specification Section 2560, UTILIDOR SYSTEM and the appropriate Division 03 CONCRETE specification section(s) shall be properly edited by the Contractor for this project and submitted.

Design Analysis: Submit a design analysis in accordance with Section Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS. The basis of design shall establish conformance to applicable referenced codes, and the suitability of the utilidor design. The Geotechnical Summary report in Appendix A includes seismic loading criteria for structural design.

1.6 QUALITY CONTROL

1.6.1 Precast Concrete

Precast concrete members shall be the products of a manufacturer specializing in the production of precast concrete units. Factory fabrication, sampling and testing of precast units shall conform to PCI MNL-116. At the precast manufacturer's option, in lieu of core samples, ACI 318, full-scale load tests may be performed on randomly selected units,

as directed by the Contracting Officer.

1.7 DELIVERY, STORAGE AND HANDLING

1.7.1 Delivery of Products

Deliver materials to the site in an undamaged condition. Deliver proprietary items in manufacturers' original unopened and undamaged containers or packages with manufacturer's name and brand and other pertinent data such as specification number, type and class, date of manufacture, and shelf life clearly labeled. Schedule delivery of materials to coincide with scheduled installation.

1.7.2 Storage and Handling

Carefully store materials off the ground to provide proper ventilation, drainage, and protection against weather and dampness. Protect materials from marring, staining, rust, damage, and overload and from contaminants such as grease, oil, and dirt. Store materials at temperatures recommended by the manufacturer. Ensure that materials can be accurately identified after removal from containers or after removal of identification tags. Handle materials to avoid damage such as chipping and breaking. Replace damaged material.

PART 2 PRODUCTS

2.1 SYSTEM PERFORMANCE

The utilidor shall be modified as required to accommodate different piping arrangements and upgrades as detailed in the RFP plans. All utilidors have and shall continue to have removable concrete lids. The completed utilidor system shall meet or exceed all recognized standards of the construction for subsurface structures.

2.2 COMPONENT PERFORMANCE

Design of all system components shall be based upon the recommendations of a Contractor engaged registered Professional Engineer who is experienced in Utilidor and subsurface structures design.

2.2.1 Precast Utilidor Lids

Precast utilidor lids shall be designed and constructed in accordance with the requirements as specified herein. Utilidor tops shall be designed to accommodate the imparted live and dead loads placed on the structure and shall not be more than 3'-0" wide (measured perpendicular to the utilidor span). Each panel shall contain non-deformed lifting loops (3-inches high and 4-inches long) or eyes of stainless steel. Pipe support hangers and equipment anchors shall not be supported from the utilidor lids.

2.2.2 Utilidor Lid Seal

Provide sealing compound, preformed hydrophilic butyl rubber waterstop, between utilidor walls and lid. Typical waterstop product is Earth Shield Type 20 as manufactured by JP Specialties, www.earthshield.com. At the joint between utilidor lids and outer edge of wall/lid joint, seal the joint with expanding polyurethane field foam insulation. Apply an elastomeric surface seal only on the insulation surface facing the soil.

Where project work includes removing and resetting lids under roadway and vehicle traffic areas, waterproofing membrane shall be installed over the lid top and edge. Extend membrane to at least six feet beyond back of curb or edge of pavement.

Compliance with the requirements for the replacement of utilidor tops will be determined by a review of the drawings, specifications, and design analysis submitted at design completion in accordance with Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS.

2.2.3 Poured in Place Concrete

Concrete shall be in accordance with ACI 318, with a minimum 28-day compressive strength (f'c) equal to 4000 psi. The reinforcing of concrete walls shall be continuous, and therefore, typical details showing the arrangement of reinforcing at corners and intersections of these members shall be shown on the design drawings submitted in accordance with Section 01013, 65 AND 100 PERCENT DESIGN. Reinforcing steel drawings shall be submitted in accordance with ACI 315 Manual of Standard Practice.

2.2.4 Manholes

Manholes shall be modified as detailed in the RFP plans. Manhole modifications shall be of the reinforced concrete type and they shall be watertight. Manhole sidewalls shall be constructed by one monolithic pour.

2.2.5 Manhole Ladders

Ladders shall be designed and constructed in accordance with IBC 2000, CFR 29 Part 1910 and shall be OSHA approved. Rungs shall have slip resistant, ribbed surface. All aluminum, wall mounted, welded construction, as manufactured by Halliday Products, Series L1B, or equal.

2.2.6 Pipe Support System Anchor and Thrust Support

The Contractor shall submit design calculations as part of the Design Analysis, Design Drawings, and Specifications in accordance with Section 01013, 65 AND 100 PERCENT DESIGN showing the adequacy of the pipe support system. The pipe support system shall be constructed from steel. Supports shall be slotted to prevent the accumulation of liquid. The maximum spacing between pipe supports for straight runs shall be as recommended by the pipe and/or coupling manufacturer. No hangers or supports shall be suspended from top of manhole or utilidor lids.

Pipe support racks in accessible utilidor shall be designed to maximize clear passage. Where two support systems occur, stagger vertical supports to maximize passage width.

To avoid the highly corrosive environment near utilidor floors, pipe support systems shall be designed to avoid, whenever possible, columns supported by base plates attached to the floor.

Thrust blocks, anchors, hangers, inserts, and other supports shall be adequate to support the fully charged pipe in service.

Support for expansion joints must locate the blowdown on the bottom of the pipe and allow unimpeded blowdown operation.

Design for all pipe support systems, including sanitary sewer, shall

include anchors for seismic loading.

For steam and condensate wall anchors, the bolts shall extend all the way through the wall. Anchors shall consist of welded steel plates, channels, and wide flange sections as required. Channel sections that extend between concrete walls with steel base plates bolted to the wall are acceptable. Likewise channel sections extending between floor and ceiling in a manhole chamber, bolted in place with steel base plates, are acceptable.

Floor anchors must be approved by the 354 CES/CEOWD, Utilidor Maintenance Shop.

2.2.7 Corrosion Protection

All steel shall be corrosion protected except as noted. Steel support system including columns, beams, and connector fittings shall be supplied by the manufacturer with hot-dip galvanizing, per ASTM A 123. Repair damaged hot-dipped galvanizing per ASTM A 780 with cold galvanizing compounds as manufactured by ZRC Products or approved equal.

Shop fabricated steel shall be galvanized following SSPC-CS 23.00, Specification for the Application of Thermal Spray Coatings (Metallizing) of Aluminum, Zinc, Their Alloys, and Composites for the Corrosion Protection of Steel. Blast clean and profile surface to SSPC-SP10 prior to applying a 6 to 12 mil thickness of zinc. An exception is steel surfaces that will require attachments welded in the field shall not be galvanized or painted. Provide sufficient surface area for field welding attachments.

In addition, all steel within 18 inches of the utilidor floor shall be coated with 8 to 10 mils dry thickness of coal tar epoxy. The coal tar epoxy coating shall be a self-priming, heavy duty, cold-applied, water resistant epoxy coating made from pitch derived from suitable tars, selected solvents, mineral fillers and special additives. The coal tar coating shall meet US Army Corps of Engineers C-200 polyamide-cured coal tar epoxy formulation. C-200(a) is not acceptable.

Prior to application of coal tar epoxy, non-galvanized steel surfaces shall be blast cleaned per SSPC-SP6.

Prior to coal tar epoxy application, thermal spray galvanized steel surfaces shall be cleaned of all grease and dirt per SSPC-SP1.

Prior to application of coal tar epoxy, hot dipped and factory galvanized steel surfaces shall be prepared under shop conditions in a two step process. First the surface is cleaned from all grease and dirt per SSPC-SP1. The second step is a wash primer treatment, ASTM D 6386, to neutralize surface oxides and hydroxides and etch the surface. For drying time prior to applying coal tar epoxy, follow the wash primer manufacturer's instructions. A typical wash primer is Heresite P-750 Wash Primer.

Primer and paint shall be suitable for the substrate (e.g. steel), and service temperature and high humidity found in the utilidor. Sheet metal shall be cleaned in accordance with SSPC SP 1 prior to painting. Apply paint in accordance with SSPC PA 1.

2.2.8 Insulation

Utilidor board insulation shall be of the rigid extruded polystyrene type

and shall conform to ASTM C 578. Minimum 60 pounds per square inch compressive strength per ASTM D 1621. Expanded polystyrene shall not be substituted.

2.2.9 Waterproofing and Dampproofing

Waterproofing systems for concrete surfaces shall consist of a rubber-based primer and composite sheet applied over the primer. The sheet shall be suitable for the low temperature conditions and consist of rubberized asphalt and cross-laminated, high-density polyethylene film. Grace Construction Products Bituthene P-3000 Primer and Low Temperature Waterproofing Membrane is a typical product.

Dampproofing product shall be a bituminous material meeting ASTM D 1227, Type III or II, Class I or ASTM D 4479,Type I. Typical product is Sealmastics by W.R. Meadows, Inc.

2.2.10 Chemical Grouting

The chemical grouting material used shall be an acrylic base gel, acrylate base gel or urethane base gel.

2.2.11 Access Hatch

Access Hatch frames and covers shall be of the solid lid type and shall:

a. Have a minimum concrete contact of three inches overlap.
b. Be constructed of aluminum alloy.
c. Have a clear access as indicated on the drawings.
d. Have hatches covered with one or two lids.
e. Have external (non-recessed),heavy duty, butt-type hinges with stainless steel pins securely attached to the frame that shall not work loose under repeated opening and closing of the lids.
f. Have fixed protruding handles (non-recessed) with a minimum clear hand opening of 5 inches by 2-1/2 inches.
g. Have hold open arms that lock the hatch at 90 degress and to prevent lids from slamming open and loosening hinges.
h. Padlock lugs.
i. Stainless steel slam lock with removable key.
j. Insulate underside of hatch leaf with 2 inches minimum thickness rigid, self adhering, foam insulation. Keep hatch parts necessary for opening and closing shall not be impeded by insulation. Protect insulation surface with 10 to 20 mils of 2-part urethane coating, Polyshield, Permax, or equal.
k. Lift out frost lid panels are prohibited.

Interior Frost Lids shall be of the solid lid type and shall:

a. Be constructed of aluminum alloy.
b. Have clear access as indicated on the drawings.
c. Maximize clear opening within the available interior shaft dimensions.
d. Have hold open arms that lock the hatch at 90 degress and to prevent lids from slamming open and loosening hinges.

Both Access Hatch and Interior Frost Lids shall meet the following:

a. Frames and covers shall be proof-load tested for 300 pounds per

square foot.
b. Frames and covers shall be as manufactured by Halliday Products, Nystrom, Bilco, or equal and as modified in above paragraphs.

2.2.12 Exterior Paint for Above Grade Structure

Concrete shall be allowed to cure at least 30 days before painting. Surfaces shall be cleaned in accordance with ASTM D 4258. Glaze, efflorescence, laitance, peeling paint, dirt, grease, oil, and other foreign matter shall be removed prior to painting.

Ferrous surfaces including those that have been shop coated shall be solvent cleaned or detergent washed in accordance with SSPC SP 1. Surfaces that contain loose rust, mill scale, and other foreign substances shall be cleaned mechanically using hand tools according to SSPC SP 2, power tools according to SSPC SP 3 or by sandblasting according to SSPC SP 7. Shop coated surfaces shall be protected from corrosion by treating and touching up corroded areas immediately upon detection.

Paint color for both concrete and metal surfaces is to be equivalent to Sherman Williams color No. 11 TH9 Sapling.

For exterior ferrous surfaces paint the first coat shall meet SSPC Paint 25. The second and third coat shall be FS TT-E-2784, Type I.

For exterior concrete surfaces the first and second coat shall meet FS TT-E-2784, Type III.

2.2.13 Concrete Masonry Units (CMU) for Facade and Planter Replacement

Hollow concrete masonry units shall conform to ASTM C 90, Type I. Cement shall have low alkali content and be of one brand. Units shall have patterned face shell. Face shell shall be split faced. Units shall be integrally colored during manufacture. Color shall match Air Force Base standards for structure location. Style and color of split face CMU being replaced shall also be used to determine new CMU style and color. Patterned face shell shall be properly aligned in the completed wall.

2.2.14 Manhole Number Sign

Manhole sign shall consist of painted sheet aluminum with 3 inch high, block lettering, indicating manhole number. Lettering and background colors shall be provided by the Contracting Officer. Sheet aluminum, paint material, and paint application shall meet traffic sign standards for the State of Alaska Department of Transportation and Public Facilities. Minimum sheet metal thickness shall be 0.080 inches.

Install two (2) signs on above grade portion of access shaft. Each sign is to face opposite oncoming traffic or to be located on shaft to maximize visibility from the street. Where more than one shaft enters a manhole chamber, install signs on two access shafts for maximum visibility from the nearest street. Attach signs to access shaft with hex head screws and hollow set drop-in anchor or other device set in predrilled holes to allow removal and replacement of signs.

2.2.15 Manhole Number Post

Where soil mounding prevents installation of metal signs on access shafts,

provide a steel post of sufficient diameter for manhole number lettering. Vertically display manhole number on the post using 3 inch high block lettering. Set post to prevent frost jacking, interference with snow removal, maximize visibility from the street, and in proximity to access shaft. Paint numbers on two sides of the post for visibility to oncoming street traffic. Provide welded steel or domed concrete cap for manhole number post. Lettering and post background colors shall be provided by the Contracting Officer.

2.2.16 Access Hatch Sign

Provide each access hatch with one metal sign reading, "Confined Space Permit Required", riveted to its exterior surface. Metal sign, paint material, and paint application shall meet the requirements of Paragraph 2.2.14, Manhole Number Sign. Lettering shall be 2 inches high, red color, block lettering on a white background.

2.2.17 Inner Frost Lid Deck

The inner frost lid deck shall be constructed of steel plate and angle. Deck shall support live load of at least 300 pounds per square foot. Deck shall be continuously supported around its perimeter by steel angle; steel angle shall be attached to concrete shaft with mechanical anchor bolts in pre-drilled holes. Provide perimeter clearance for thermal movement in a temperature range from -20 to 100 degrees Fahrenheit. An opening shall be provided in the deck for installing an Interior Frost Lid. Both top and bottom face of steel deck and perimeter steel angle support shall be thermal spray galvanized with 6 to 12 mill thickness of zinc-aluminum oxide. Decks shall not be insulated or constructed of wood

PART 3 EXECUTION

3.1 EXAMINATION

3.1.1 Verification of Conditions

Coordinate the utilidor structural system work with the work of other trades at the job site to ensure that components, which are to be incorporated into the structural system, are available to prevent delays or interruptions as the work progresses. Prior to installation, verify that utilidor system components are undamaged. Damaged utilidor system components shall be repaired or removed and replaced with new components. Repairs to damaged utilidor system components shall be done in accordance with the applicable industry standard, the manufacturer's recommendations and/or good construction practice. All repairs to damaged utilidor system components shall be done so as not to void the warranty of the component. If the damaged component warranty cannot be sustained after repair, the component shall be replaced with a new one. Coordinate all construction activities with adjacent projects in the same area so as to ensure no schedule conflicts.

3.2 INSTALLATION/APPLICATION/ERECTION

3.2.1 General Requirements

Install all work in accordance with the approved submittals, the industry standard publications referenced and the respective manufacturer's recommendations and instructions to assure compliance with the requirements

specified herein. In the event of conflict between technical specification of the contract and the specified building code, the more stringent requirements shall apply. A Government approved laboratory shall accomplish all testing.

3.2.2 Concrete Work

Earth cut forms are not permitted. Chamfer above grade exposed joints, edges, and external corners of concrete 3/4-inch. Formwork, including tolerances, shall conform to ACI 347R. Tack welding of reinforcement is not permitted. Batching, measuring, mixing, transporting, placing, and curing concrete shall conform to ASTM C 94, ACI 301, ACI 302.1R.1R, and ACI 304R. Cold weather concrete installation shall conform to ACI 306R. Hot weather concrete installation shall conform to ACI 305R.

3.2.3 Precast Utilidor Tops

Placement of precast tops shall be accomplished after the concrete has attained the specified compressive strength, unless otherwise approved by the precast manufacturer. Brace as required. Place precast tops level, plumb, square, and true within tolerances. Bearing surfaces shall be flat, free of irregularities, and properly sized. Provide proper clearances. Correct bearing surface irregularities with non-shrink grout.

3.2.4 Manholes

Where connections to existing manholes are required, the Contractor shall break open the manhole to the minimum extent necessary for adequate tying of the new construction to the old. No structural elements or appurtenances shall be supported from manhole tops other than the access ladder, electrical hardware, and structural elements that cannot be located elsewhere.

Manholes containing fire hydrants shall have precast two-part lids that match the existing lids. Annular space around hydrant barrels and two-part lid joint shall be sealed weather tight.

3.2.5 Insulation

Provide 2 inches of insulation on exterior of utilidor and manhole walls and tops that are exposed during construction. As a minimum, insulation shall cover the utilidor tops and extend down the walls of the utilidor a distance of 2 feet. Insulation shall be attached to exterior surfaces with an adhesive as recommended by the insulation manufacturer. If bituminous waterproofing is used, it shall still be tacky when installing the insulation.

3.2.6 Chemical Grouting

Prior to chemical grouting, the interior floor and walls of the utilidor and manholes shall be cleaned using low volume, high-pressure water and surfactant. The Government's Field Representative and Contractor shall identify and mark the cracks and seepage areas to be chemically grouted. Types of chemical grout to be used include urethane, acrylate, and acrylic.

Grouting shall be performed by a crew under the direct supervision of a superintendent who has documented experience in the chemical grouting of soil behind structures. Storage, mixing, handling, and use of all materials and compounds shall be in strict accordance with the

manufacturer's instructions and specifications. Grouting shall seal the concrete to stop leakage and seepage.

3.2.7 Concrete Wall Penetrations

All concrete wall penetrations shall be sealed water tight around the appurtenance penetrating the wall. The penetration seal shall include a rubber-sealing element between the pipe wall and the concrete.

3.2.8 Waterproofing and Dampproofing

The below ground exterior of all new concrete manhole and utilidor sidewalls and lids shall be waterproofed using a membrane system; except lids shall receive bituminous dampproofing. Waterproofing shall extend a minimum of 2 ft beyond construction joints with existing utilidors and manholes. Waterproof all existing below ground manholes exposed in the course of constructing new access shafts, ceilings, and expanding existing manhole chambers. The utilidor walls exposed while removing lids to access utilidor piping shall not be waterproofed.

Top and exposed ends of existing lids in non-traffic areas shall receive dampproofing. Outer surface of lid to lid joints under roadway shall be waterproofed in addition to typical lid to lid sealing.

3.3 UTILIDOR HEATING REQUIREMENTS

3.3.1 Winter Heating Requirement

When the ambient air temperature is below 32 degrees F, the utilidor sections and manholes shall be heated. All temperatures shall be constantly and adequately monitored. The Contractor shall submit its heating and monitoring plan. For the purposes of this paragraph, "backfilled" shall mean that the insulation has been installed and backfill has been brought to within 3 inches of the top of the structure's walls. This requirement shall apply to both new utilidors and manholes, and existing utilidors and manholes that have work under this contract. When the utilidor sections or manholes are insulated and backfilled, the structures shall be heated such that the minimum inside air temperature at all locations is 40 degrees F minimum. When the utilidor sections or manholes are not backfilled, the entire structure, to include air spaces and all external surfaces and unbackfilled trench areas within 3 lineal feet of the structure's walls, shall be heated to 40 degrees F minimum.

3.3.2 Adjacent Utilidors

Any utilidor system not included in this contract but connected to utilidors having work under this contract shall be heated as described above. The extent of this heating shall include all areas that are disturbed under this contract. "Disturbed" shall include excavation or any other work that alters the thermal regime and exposes the utilidor and/or manholes to freezing temperatures.

3.4 FIELD QUALITY CONTROL

3.4.1 Concrete Sampling and Testing

3.4.1.1 Sampling

Collect samples of fresh concrete to perform tests specified in accordance

with ASTM C 172 and ASTM C 31.

3.4.1.2 Slump Tests

Take concrete samples during concrete placement. Perform tests at commencement of concrete placement, when test cylinders are made, and for each batch (minimum) or every 10 cubic yards (maximum) of concrete. Tests shall be performed in accordance with ASTM C 143. Testing lab shall be a Government approved Lab.

3.4.1.3 Temperature Tests

Test the concrete delivered and the concrete in the forms. Perform tests in hot or cold weather conditions (above 80 degrees F and below 50 degrees F) for each batch (minimum) or every 10 cubic yards (maximum) of concrete, until the required temperature is obtained, and whenever test cylinders and slump tests are made. Testing lab shall be a Government approved Lab.

3.4.1.4 Compressive Strength Tests

Make five test cylinders for each set of tests in accordance with ASTM C 31. Precautions shall be taken to prevent evaporation and loss of water from the specimen. Test two cylinders at 7 days, two cylinders at 28 days, and hold one cylinder in reserve in accordance with ASTM C 39. For each manhole, take no less than two sets of samples and perform strength tests for each mix design of concrete placed. Each strength test result shall be the average of two cylinders from the same concrete sample tested at 28 days. If the average of any three consecutive strength test results is less than f'c, as specified in the concrete mix design, or if any test result falls below the designed f'c by more than 500 psi, take a minimum of three ASTM C 42 core samples from the in-place work represented by the low test cylinder results and test. Concrete represented by core test shall be considered structurally adequate if the average of three cores is equal to at least 85 percent of the designed f'c and if no single core is less than 75 percent of designed f'c. Locations represented by erratic core strengths shall be retested. Remove concrete not meeting strength criteria and provide new acceptable concrete. Repair core holes with non-shrink grout. Testing lab shall be a Government approved Lab.

3.4.1.5 Air Content Tests

Test air-entrained concrete for air content at the same frequency as specified for slump tests. Test shall be performed in accordance with ASTM C 173 or ASTM C 231. Testing lab shall be a Government approved Lab.

-- End of Section --

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SECTION 02510

WATER DISTRIBUTION SYSTEM

PART 1 GENERAL

1.1 REFERENCES

The current edition of publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 197	Standard Specification for Cupola Malleable Iron
ASTM A 126	Standard Specification for Gray Iron Castings for Valves, Flanges, and Pipe
ASTM A 53	Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless
ASTM A 153	Standard Specification for Zinc Coating (Hot Dipped) on Iron and Steel Hardware
ASTM A 536	Standard Specification for Ductile Iron Castings
ASTM C 518	Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus
ASTM C 591	Unfaced Preformed Rigid Cellular Polyisocyanurate Thermal Insulation
ASTM C 547	Mineral Fiber Pipe Insulation
ASTM D 1621	Standard Test Method for Compressive Properties of Rigid Cellular Plastics
ASTM D 2842	Standard Test Method for Water Absorbtion of Rigid Cellular Plastics

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME B1.20.1	Pipe Threads, General Purpose (Inch)
ASME B16.3	Malleable Iron Threaded Fittings
ASME B16.1	Cast Iron Pipe Flanges and Flanged Fittings

AMERICAN WATER WORKS ASSOCIATION (AWWA)

AWWA C110	(2003) Ductile-Iron and Gray-Iron Fittings for Water
AWWA C151	(2002) Ductile-Iron Pipe, Centrifugally Cast, for Water
AWWA C500	Metal-Seated Gate Valves for Water Supply Service
AWWA C502	AWWA Standard for Dry-Barrel Fire Hydrants
AWWA C508	Swing Check Valves for Waterworks Service, 2 In. Through 24 NPS In.
AWWA C606	AWWA Standard for Grooved and Shouldered Joints

STATE OF ALASKA ADMINISTRATIVE CODES (AAC) AND STATUTES (AS)

18 AAC 80	Drinking Water

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 24	Installation of Private Fire Service Mains and Their Appurtenances

MANUFACTURERS STANDARDIZATION SOCIETY (MSS)

MSS SP 70	Cast Iron Gate Valves, Flanged and Threaded Ends
MSS SP 80	Bronze Gate, Globe, Angle and Check Valves

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Design Drawings

SD-03 Product Data

Pipe Material

Fittings and Specials

Joints and Gaskets

Pipe Insulation and Jacket System

Water Valve and Equipment Insulation Covers

Hydrants

Gate Valves

Check Valves

Expansion Joints

Supports

Hangers

Thrust Restraints

Guides

SD-05 Design Data

Design Analysis

Specifications

1.3 SUMMARY

This section includes requirements for the provision of the water distribution systems within the utilidor structural System.

1.3.1 Components Included

(1) Pipe material.
(2) Joints and gaskets.
(3) Pipe insulation.
(4) Hydrants.
(5) Valves.
(6) Supports/guides/thrust restraints.

1.3.2 Related Sections

Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENT
Section 01355, ENVIRONMENTAL PROTECTION
Section 02509, UTILIDOR STRUCTURE
Section 02531, SANITARY SEWERS
Section 02559, STEAM DISTRIBUTION SYSTEM
Section 13000, HAZARDOUS MATERIALS ABATEMENT
Section 16000, UTILIDOR POWER DISTRIBUTION, COMMUNICATIONS, AND LIGHTING SYSTEMS

1.4 Design and Construction

The design and construction shall comply with the latest editions of the following guides. In the case of discrepancies between these guides and the RFP Design Requirements, the more stringent shall apply.

(1) January 2002 Eielson Utilidor Design Guide (See Appendix G of the DB/RFP)

(2) Cold Regions Utilities Monograph, American Society of Civil Engineers (ASCE), Latest Edition

(3) State of Alaska Administrative Code 18 AAC 80

1.5 DESIGN SUBMITTALS FOR REVIEW AND CONFORMANCE

Design Drawings: Submit design drawings in accordance with Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS.

Specifications: Submit new detailed specification sections to specify the quality, characteristics, installation procedures, and testing requirements for all items of the proposed water distribution system in accordance with Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS. U.S. Army COE Alaska District Guide Specification Section 02511, WATER DISTRIBUTION SYSTEMS IN UTILIDORS shall be properly edited for this project and submitted.

Design Analysis: Submit a design analysis in accordance with Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS. The basis of design shall establish conformance to applicable referenced codes, and the suitability of the water distribution design. The Contractor shall provide services to comply with 18 AAC 80, Article 2. Public Water system Review and Approval Requirements. The Air Force has completed a hydraulic model of the Base water system. Pipe sizes are listed on Schedules located in the plan set. They reflect pipe diameters determined by the hydraulic model to meet present and future flow requirements in the Project Area.

1.6 DELIVERY, STORAGE, AND HANDLING

1.6.1 Delivery of Products

Deliver materials to the site in an undamaged condition. Deliver proprietary items in manufacturers' original unopened and undamaged containers or packages with manufacturer's name and brand and other pertinent data such as specification number, type and class, date of manufacture, and shelf life clearly labeled. Schedule delivery of materials to coincide with scheduled installation.

1.6.2 Storage and Handling

Carefully store materials off the ground to provide proper ventilation, drainage, and protection against weather and dampness. Protect materials from marring, staining, rust, damage, and overload and from contaminants such as grease, oil, and dirt. Store materials at temperatures recommended by the manufacturer. Ensure that materials can be accurately identified after removal from containers or after removal of identification tags. Handle materials to avoid damage such as chipping and breaking. Replace damaged material.

1.7 INTERRUPTION OF SERVICES

All water main shut-downs and start-ups shall be done by the Base Utilidor Shop personnel. The Contractor shall submit to the Contracting Officer for approval a Utility Main Shut-Down and Start-Up Procedure. The Contractor shall provide all materials, and equipment for this procedure. Coordinate shut-down and start-up through the Contracting Officer and give a 7 day notice prior to this work. See Section 01013 65 AND 100 PERCENT DESIGN REQUIREMENTS, Paragraph Temporary Utility Service Plan.

PART 2 PRODUCTS

2.1 COMPONENT PERFORMANCE

Design of all system components shall be based upon the recommendations of a Contractor engaged Professional Engineer registered in the State of Alaska who is experienced in utilidor and utilities design. The following are design requirements for specific components. Product cut sheets shall be submitted as part of the design after award. These product cut sheets shall be coordinated with the Design Drawings, Design Analysis, and Specifications submitted by the designer of record. All pipe materials in contact with water supply shall meet NSF 61. Fire hydrants are exempt from NSF 61.

2.1.1 Pipe Material

Pipe sizes 4-inches and smaller in diameter shall be unlined Schedule 40, hot dipped galvanized steel in accordance with ASTM A 53. Pipe shall be welded or seamless.

Pipe sizes greater than 4-inches in diameter shall be cement lined ductile iron in accordance with AWWA C151 and have a pressure rating of 150 psi working pressure.

2.1.2 Fittings and Specials

2.1.2.1 Ductile Iron Pipe

Fittings for ductile-iron pipe shall have a pressure rating no less than that of the adjoining pipe, unless otherwise specified. Fitting and specials with flanged joints shall conform to AWWA C110. Fittings and specials for grooved end pipe shall conform to AWWA C606.

2.1.2.2 Galvanized Steel Pipe

Threaded fittings for steel pipe shall be ASTM A 153 galvanized, class 150, ASTM A 197 malleable cast iron. Threads shall meet ASME B1.20.1 and ASME B16.3 Cast iron companion flanges shall be ASTM A 153 galvanized, class 125, ASTM A 126 cast iron, ASME B16.1 dimensions, and ASME B1.20.1 threads.

2.1.3 Joints and Gaskets

Ductile iron pipe joints shall be rigid or flexible AWWA C606 grooved and shouldered joints. AWWA C606 coupling housings shall be ASTM A 536 ductile iron with enamel paint finish. Gaskets, bolts, and nuts shall also meet the requirements of AWWA C606. All pipe joints shall be restrained. Plain-end pipe and mechanical couplings (Dresser style) or push-on joints shall not be used in utilidors.

AWWA C606 flexible grooved joints shall not be used in pipe served by an expansion joint.

Ductile iron pipe and cement lined steel pipe shall not be welded.

Steel pipe 4 inches in diameter shall be rigid or flexible AWWA C606 grooved and shouldered joints. AWWA C606 coupling housings shall be ASTM A 536 ductile iron with an ASTM A 153 galvanized finish. Gaskets, bolts, and nuts shall also meet the requirements of AWWA C606. Steel Pipe diameters less than 4 inches shall be threaded joints per ASME B1.20.1.

2.1.4 Pipe Insulation and Jacket System

Water line and couplings throughout utilidors and manholes shall be covered with polyisocyanurate insulation molded by the manufacturer specifically for the pipe and appurtenance on which it is to be installed. The insulation shall be homogenous, of uniform density, self-extinguishing and meet the requirements of ASTM C 591. The insulation shall have the following properties:

Compressive Strength 20 psi (min.) by ASTM D 1621 @ 74 deg F

Initial Thermal Conductivity 0.014 BTU/(hr-ft2-deg F)(max.) K value @ 75 deg F by ASTM C 518

Moisture Adsorption 3% by volume (max.) by ASTM D 2842

Attach insulation shell to pipe with 0.015 inch thick, 1/2-inch wide stainless steel band and stainless steel wing seals.

In the utilidor provide a tri-directionally reinforced, Underwriters Laboratory listed, white kraft/foil/scrim laminated jacket with a maximum temperature resistance of 300 degrees F.

Jacket and insulation shall have an Underwriters Laboratory listed fire and smoke hazard rating not exceeding:

Flame Spread: 25

Smoke Developed: 50

Insulation within the manhole shall have an aluminum jacket as described for pipe insulation in Section 02559, STEAM DISTRIBUTION SYSTEM

2.1.4.1 Water Valve and Equipment Insulation Covers

Insulating system for water valves and equipment shall have the following characteristics:

a. Removable, one-piece sewn cover construction with Velcro fasteners.

b. Metal Fasteners: stainless steel.

c. Thread: High temperature bonded multifilament, Teflon coated rated for 475 deg F maximum.

d. Seams: Double sewn, 8 stitches per inch minimum.

e. Closures: 2-inch minimum flap. Provide end closures with draw strings.

f. Jacket: Silicon coated fiberglass fabric, 16-oz minimum.

g. Insulation: 2-inch thick fiberglass with a thermal conductivity of k= 0.25 BTU-inch/hr.-ft2-deg F at 300 degrees F mean temperature. Insulation shall be molded mineral fiber conforming to ASTM C 547, Class 2, asbestos free. Contractor may

also use premolded polyisocyanurate insulation.

2.1.4.2 Insulation Thickness

Provide pipe minimum insulation thicknesses according to the following schedule:

Pipe Size	Insulation Thickness
3/4"	1"
1" to 2"	1-1/2"
2-1/2" and larger	2"

2.1.5 Hydrants

Fire hydrants shall be dry type and meet or exceed AWWA C502, latest revision. Rated working pressure shall be 250 psig, test pressure shall be 500 psig. The nozzle section, upper and lower standpipes, and hydrant base shall be ductile iron. The main valve closure shall be of the compression type, opening against the pressure and closing with the pressure. Nozzle section to be designed for easy 360-degree rotation by the loosening of no more than four bolts. The seat diameter shall be 5-1/4 inches. Hydrant must be designed so that removal of all working parts can be accomplished without excavating. The bronze seat to be threaded into mating threads of bronze for easy field repair. The draining system of the hydrant shall be bronze and be positively activated by the main operating rod. Hydrant to be furnished with a sliding bronze drain valve. Sliding drain valves made of rubber, plastic, or leather will not be allowed. Hydrant must have an internal travel stop nut located in the top housing of the hydrant. Hydrant operating threads to be factory lubricated and O-ring sealed from water, moisture, and foreign matter. Hydrant shall have a traffic flange. Hydrants shall be Waterous-Pacer®, Kennedy Valve, Inc. or approved equal with two (2) 2.5 inch hose outlets and one (1) 4.5 inch suction connection. Hydrant shall be painted with ICI Paint Color Number 4W423-6, Dark Brown.

2.1.6 Butterfly and Globe Valves

Butterfly and globe valves shall not be used.

2.1.7 Gate Valves

2-inch and smaller valves shall be threaded, bronze, class 125/200 WOG, conforming to MSS SP 80 w/union near valve but not between valve and main. Valves greater than 2-inch shall be outside screw and yoke (OS&Y), cast iron, flanged, class 125/200 WOG, solid wedge, bronze mounted, gate valves conforming to MSS SP 70. Bronze components, packing, and elastomers shall conform to AWWA C500.

2.1.8 Check Valves

Valves larger than 2-inch shall be iron body, bronze mounted, flanged ends, and shall be the non-slam type meeting the requirements of AWWA C508. The valves shall have a clear waterway equal to the full nominal diameter of the valve. Valves shall open to permit flow when inlet pressure is greater than the discharge pressure, and shall close tightly to prevent return flow when discharge pressure exceeds the inlet pressure.

2.1.9 Expansion Joints

Expansion joints shall be the laminated bellows type expansion joints properly anchored and guided, Hyspan Series 1500 or equal. Joints shall be packless and flexible with no internal sleeves. Expansion elements shall be of stainless steel. Joints shall be equipped with limit rods to prevent the expansion joint from exceeding the rated travel. Expansion joints shall contain carbon steel flat faceplate 150-pound class flanges. Expansion joints shall be rated at 150 psig, minimum design pressure rating, and tested to 225 psig. Expansion joints shall be Hyspan 1500 or approved equal. Design thermal expansion for the temperature range 40 to 140 degrees F.

2.1.10 Supports/Hangers/Thrust Restraints

The Contractor shall submit design calculations in accordance with Section 01012, DESIGN AND CONSTRUCTION DELIVERABLES/PROCEDURES showing the adequacy of the pipe support system which shall be as recommended by the pipe manufacturer. Supports shall be slotted to prevent the accumulation of liquid where water lines and sewer lines are placed on the same support. Hangers, inserts, and supports shall be adequate to support the fully charged pipe in service. The maximum spacing between pipe supports for straight runs shall be as recommended by the pipe and/or coupling manufacturer. No hangers or supports shall be suspended from top of manhole or utilidor lids. The connection between the utilidor water or fire lines and the interior building water or sprinkler piping, and all bends, plugs and tees shall be installed and restrained against thrust in accordance with NFPA 24. See also Specification Section 02509, UTILIDOR STRUCTURE.

2.1.11 Guides

Alignment guides shall be cast-iron or steel and shall be so constructed that the axial movement of the pipe caused by thermal expansion will be guided in a straight line only and movement in any other direction will be adequately restrained. The guide may be a guiding cylinder attached to an anchor base or a clamp type attached to a flanged slide, moveable in guide bars attached to an anchor base. Guiding surfaces shall be machine finished and properly lubricated. The anchor base shall be correctly designed, adequately supported, and properly aligned to prevent distortion and binding of the pipe in the guide. The guide must be removable from its anchor base without disturbing the water pipe.

PART 3 EXECUTION

3.1 EXAMINATION AND VERIFICATION OF CONDITIONS

Coordinate the water distribution system work with the work of other trades at the job site to ensure that components, which are to be incorporated into the water distribution system, are available to prevent delays or interruptions as the work progresses. Prior to installation, verify that water distribution system components are undamaged. Damaged water distribution system components not scheduled for replacement or repair shall be repaired or removed and replaced with new components. Repairs to damaged water distribution system components shall be done in accordance with the applicable industry standards, the manufacturer's recommendations and/or good construction practice.

3.2 INSTALLATION/APPLICATION/ERECTION

3.2.1 General Requirements

Install all work in accordance with these specifications, the approved submittals, the industry standard publications referenced, and the respective manufacturer's recommendations and instructions to assure compliance with the requirements specified herein. In the event of conflict between the specified installation/application/erection requirements and the specified code, the more stringent installation/application/erection requirements shall apply.

3.2.2 Piping

Piping shall be replaced as indicated in the concept drawings. Pipe shall be cut accurately to the measurement established at the site by the Contractor and shall be worked into place without springing or forcing. Care shall be taken not to weaken the structural portion of the utilidor or manholes. Changes in pipe sizes shall be made with reducing fittings.

Piping shall be racked along the utilidor to maximize clear space for worker access along the length of the utilidor. Maintain a minimum of 8-inch clearance around all piping measured from the bare surface. Where possible piping shall not be placed side-by-side in the same plane. Stagger the placement of specialties longitudinally along the utilidor to maximize maintenance clearance access.

Low point drains shall be installed on water lines at each manhole as to allow for the manual draining of all pipe segments.

3.2.3 Hydrants

Hydrant legs shall be a minimum of 6-inches with isolation valves inside the utilidors and located at the main. Hydrant services shall be steam traced from the water main to the hydrant shoe. Where hydrants are placed on manholes, the lids shall consist of split concrete assembly sufficient to allow for hydrant assembly removal. Hydrant pipe penetrations passing through manhole lids shall be sealed watertight. Prior to taking any hydrant out of service notify the Fire Department 72 hours prior to outage.

3.2.4 Gate Valves

Gate valves will be installed at locations required by the new distribution system. At a minimum gate valves shall be located as described in Schedules located in the plan set.

3.2.5 Check Valves

Check valves will be installed at locations required by the new distribution system. Check valves will not be installed in laterals from the water main to the hydrants.

3.2.6 Expansion Joints

Pipe alignment must be maintained to insure axial displacement of the joint. Alignment must be maintained through the use of anchors and guides. The Contractor shall submit design calculations showing the adequacy of the pipe expansion system which shall be as recommended by a licensed engineer.

3.2.7 Supports/Hangers/Thrust Restraints

The Contractor shall submit design calculations showing the adequacy of the pipe support system. Supports shall be slotted to prevent the accumulation of liquid where water and sewer lines are placed on the same support. Inserts and supports shall be adequate to support the fully charged pipe in service. The maximum spacing between pipe supports for straight runs shall be as recommended by the pipe and/or coupling manufacturer. Pipe support spacing shall not exceed 5 feet apart at heavy fittings and valves. Pipe shall be supported at each coupling and multiple fittings as required. Supports shall not exceed 1-ft from each change of direction in piping. Where possible all pipe to support contact shall be shielded by a graphite or polytetrafluoroethylene (PTFE), also referred to as Teflon, slide plate and/or cradle. Hangers and supports shall not be suspended from utilidor or manhole roofs. Pipe shall be secured to each horizontal support in utilidors to limit side-to-side and vertical movement; axial movement shall not be restrained in this manner. Metal supports in utilidors and manholes that are in contact with the floor shall be adequately protected against corrosion.

Plugs, caps, tees, and bends on all waterlines 4-inches in diameter and larger, and on all fire hydrants, shall be provided with concrete or structural steel thrust restraint blocking, anchors or metal tie rods and clamps or lugs as required by the NFPA. Valves shall be securely anchored or shall be provided with thrust blocking to prevent movement. Blocking shall be placed between a solid surface and the hydrant, valve, or fitting to be anchored. Blocking shall be placed so that the fitting joints will be accessible for repair. The connection between the utilidor water or fire lines and the interior building water or sprinkler piping, and all bends, plugs, and tees on fire protection lines shall be installed and restrained against thrust in accordance with NFPA 24. Steel rod, clamps, and other restraint devices shall be protected against corrosion.

3.2.8 Guides

The Contractor shall submit design calculations showing the adequacy of the pipe guide system which shall be as recommended by the pipe manufacturer. Guides shall be securely anchored against pipe movement. In no case will pipe rollers, racks, or hangers be considered substitutes for guides. Alignment guides that are supported from the floor shall be adequately protected against corrosion. When the pipeline approaches and expansion joint the pipe shall be adequately guided to the joint.

3.3 FIELD QUALITY CONTROL

Water line shall be flushed, hydrostatically tested, and disinfected. The Contractor shall submit a material and test certificate for flushing, hydrostatic testing, and disinfecting.

3.3.1 Flushing

Prior to any tests performed all newly installed water facilities shall be open bore flushed to remove any foreign matter. The Contractor at no additional cost to the Government shall replace water appurtenance damaged by foreign objects left in the water line. The minimum rate of flow shall be 10 feet per second or the maximum flow rate available to the system under fire flow conditions. Coordinate flushing of the water line through the Contracting Officer at least forty eight (48) hours before flushing to

confirm availability of water. Open bore flushing shall be accomplished at each extremity of the main prior to hydrostatic tests and disinfection. Under no circumstances shall open bore flushing be done through fire hydrants or reduced outlets. Flushing shall be made in the presence of the Contracting Officer or his representative.

3.3.2 Hydrostatic Testing

After the pipe system is completed and the fire hydrants are permanently installed, the newly laid piping or any valve section of water piping or fire line shall be subjected to a hydrostatic pressure test. A test shall be for a period of 2-hours at 120 psi or 1.33 times the system working pressure which ever is greater. If the pressure remains constant without the aide of a pump, the test section will have passed. This test shall be made in the presence of the Contracting Officer or his representative.

3.3.3 System Disinfection

Before acceptance of potable water operation, each unit of completed water and fire line shall be disinfected as prescribed by AWWA C651. All portions of the disinfected line shall have at least 10 ppm free chlorine residual at the end of 24 hour chlorine contact period. Chlorine residuals shall be tested at each end and middle of section being disinfected. All valves and hydrants in section shall be operated to ensure disinfection. After disinfection period, flush section until chlorine residual is no greater than in the water supply main; provide test result and location of testing. Following disinfection and flushing, two consecutive sets of total coliform baceteria tests, 24 hours apart, shall be collected from the treated section of pipe; at least one sampling set for every 1,200 feet of pipe. Chlorine Disinfection shall be repeated until tests indicate the absence of pollution for at least 2 full days. The unit will not be accepted until satisfactory results have been obtained from water samples submitted by the Contractor to a laboratory certified by the State of Alaska to perform testing for coliform bacteria.

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SECTION 02531

SANITARY SEWERS

PART 1 GENERAL

1.1 REFERENCES

The current edition of publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME B1.20.1	Pipe Threads, General Purpose (Inch)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 123	(2000) Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A 536	Standard Specification for Ductile Iron Castings
ASTM D 2000	Classification System for Rubber Products in Automotive Applications

AMERICAN WATER WORKS ASSOCIATION (AWWA)

AWWA C104	American National Standard for Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water
AWWA C110	(2003) Ductile-Iron and Gray-Iron Fittings for Water
AWWA C111	Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
AWWA C151	(2002) Ductile-Iron Pipe, Centrifugally Cast, for Water
AWWA C606	AWWA Standard for Grooved and Shouldered Joints

STATE OF ALASKA ADMINISTRATIVE CODES (AAC) AND STATUTES (AS)

18 AAC 72	(1999) Wastewater Treatment and Disposal

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G"

designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Design Drawings

SD-03 Product Data

Pipe Material

Fittings and Specials

Joints and Gaskets

Insulation and Jacketing

Pipe Material

Joints and Gaskets

Expansion Joints

Supports

Hangers

Manhole sump pumps

SD-05 Design Data

Design Analysis

Specifications

1.3 Summary

1.3.1 Section Includes

This section includes requirements for the provision of the sanitary sewer collection system. This section covers both sanitary sewers in the utilidor system and direct burial.

1.3.2 Components Included

(1) Pipe material.
(2) Joints and gaskets.
(3) Pipe insulation and jacketing.
(4) Fittings and specials.
(5) Clean outs.
(6) Expansion joints.
(7) Supports.
(8) Sump pumps.

1.3.3 Related Sections

Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS
Section 01355, ENVIRONMENTAL PROTECTION

Section 02300, EARTHWORK.
Section 02509, UTILIDOR STRUCTURE
Section 02510, WATER DISTRIBUTION SYSTEM
Section 02559, STEAM DISTRIBUTION SYSTEM
Section 02741, ROADWAY
Section 02770, CONCRETE SIDEWALKS AND CURBS AND GUTTERS
Section 13000, HAZARDOUS MATERIALS ABATEMENT
Section 16000, UTILIDOR POWER DISTRIBUTION, COMMUNICATIONS, AND LIGHTING SYSTEMS

1.4 Design and Construction

The design and construction shall comply with the current edition of the following guides. In the case of discrepancies between these guides and the RFP Design Requirements, the more stringent shall apply.

(1) January 2002 Eielson Utilidor Design Guide (See Appendix G of the DB/RFP)

(2) Cold Regions Utilities Monograph, American Society of Civil Engineers (ASCE), Latest Edition

(3) State of Alaska Administrative Code 18 AAC 72 Wastewater Disposal Regulations.

1.5 DESIGN SUBMITTALS FOR REVIEW AND CONFORMANCE

Design Drawings: Submit design drawings in accordance with Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS

Specifications: Submit new detailed specification sections to specify the quality, characteristics, installation procedures, and testing requirements for all items of the proposed sanitary sewer collection system in accordance with Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS. U.S. Army Corps of Engineers Alaska District Guide Specification Section 2533 SEWERS IN UTILIDORS and the appropriate Division 02 SITEWORK specification(s) shall be properly edited for this project and submitted.

Design Analysis: Submit a design analysis in accordance with Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS. The basis of design shall establish conformance to applicable referenced codes, and the suitability of the sewer collection system design. The Contractor shall provide services to comply with 18 AAC 72, Article 2. Domestic Wastewater System Plan Review. The Air Force has completed a hydraulic model of the Base wastewater collection system. Pipe sizes listed in Schedules located in the plans reflect pipe diameters determined by the hydraulic model to meet present and future Project Area flow requirements.

1.6 DELIVERY, STORAGE, AND HANDLING

1.6.1 Delivery of Products

Deliver materials to the site in an undamaged condition. Deliver proprietary items in manufacturers' original unopened and undamaged containers or packages with manufacturer's name and brand and other pertinent data such as specification number, type and class, date of manufacture, and shelf life clearly labeled. Schedule delivery of

materials to coincide with scheduled installation.

1.6.2 Storage and Handling

Carefully store materials off the ground to provide proper ventilation, drainage, and protection against weather and dampness. Protect materials from marring, staining, rust, damage, and overload and from contaminants such as grease, oil, and dirt. Store materials at temperatures recommended by the manufacturer. Ensure that materials can be accurately identified after removal from containers or after removal of identification tags. Handle materials to avoid damage such as chipping and breaking. Replace damaged material.

1.7 INTERRUPTION OF SERVICES

All sewer main shut-downs and start-ups shall be done by the Base Utilidor Shop personnel. The Contractor shall submit to the Contracting Officer for approval a Utility Main Shut-Down and Start-Up Procedure. The Contractor shall provide all materials, and equipment for this procedure. Coordinate shut-down and start-up through the Contracting Officer and give a 48-hour notice prior to this work. See Section 01013 65 AND 100 PERCENT DESIGN REQUIREMENTS, Paragraph Temporary Utility Service Plan.

PART 2 PRODUCTS

2.1 COMPONENT PERFORMANCE

Design of all system components shall be based upon the recommendations of a Contractor engaged Professional Engineer registered in the State of Alaska who is experienced in utilidor and utilities design. The following are design requirements for specific components. Product cut sheets shall be submitted as part of the design after award. These product cut sheets shall be coordinated with the Design Drawings, Design Analysis, and Specifications submitted by the designer of record.

2.1.1 Direct Buried Sewer Components

2.1.1.1 Pipe Material

Direct buried sanitary sewer pipe shall be ductile iron in accordance with AWWA C151. All pipes shall have a cement-mortar lining in accordance with AWWA C104. The pipe shall have a minimum thickness of Class 50.

2.1.1.2 Fittings and Specials

Fittings for ductile iron pipe shall have a pressure rating no less than that of the adjoining pipe, unless otherwise specified. Fitting and specials shall conform to AWWA C110. Flanged or grooved and shouldered joints shall not be used for direct bury pipe.

2.1.1.3 Joints and Gaskets

Joints shall be rubber gasketed push-on joints or mechanical joints conforming to AWWA C111 depending on the service requirements.

2.1.1.4 Insulation and Jacketing

Direct buried sewer lines shall be insulated with urethane foam or approved equal. Insulation shall have a waterproof coating or jacket to protect the

insulation from water intrusion. Both the insulation and waterproofing/jacket shall be factory fabricated.

Contractor may propose the use of alternate insulation materials and methods than those described. Approval of proposals for use of substitute materials and methods will be given only if sufficient evidence is presented with the request for their use, to demonstrate their durability and functional adequacy in every respect. Approval shall not be granted for use of substitute materials or methods, which permit the permeation of water vapor into or through the insulation or through the insulation joints, or which will not withstand 200 degree F temperatures without damage.

2.1.1.5 Clean-outs

Clean-outs for direct buried sewers shall be of the "Double Wye" type to allow the cleaning tool to enter either the upstream or downstream direction. The clean-out diameter shall match the pipe diameter on services and mains up to 6-inches in diameter.

2.1.2 Sanitary Sewers in Utilidors Components

2.1.2.1 Pipe Material

Pipe material for sump discharge line shall be galvanized steel pipe per design requirements of Section 02510, WATER DISTRIBUTION SYSTEM, Paragraph PIPE MATERIALS.

2.1.2.2 Fittings and Specials

Fittings for ductile-iron pipe shall have a pressure rating no less than that of the adjoining pipe, unless otherwise specified. Fitting and specials with flanged joints shall conform to AWWA C110. Fittings and specials with grooved and shouldered end joints shall conform to AWWA C606.

Fittings for sump discharge line shall conform to design requirement Section 02510, WATER DISTRIBUTION SYSTEM, Paragraph FITTINGS AND SPECIALS for galvanized steel pipe.

2.1.2.3 Joints and Gaskets

Pipe joints shall be AWWA C606 grooved and shouldered. AWWA C606 coupling housings shall be ASTM A 536 ductile iron. Joints on sump discharge line shall be threaded per ASME B1.20.1.

2.1.2.4 Expansion Joints

Bellows type joints shall not be used.

Grooved pipe type coupling expansion joints shall be flexible and shall be combinations of couplings and short nipples, joined in series to provide increased expansion. Design thermal expansion for the temperature range 40 to 140 degrees F.

2.1.2.5 Supports/Hangers

Supports shall be concrete saddles secured to the floor whenever possible.

Sanitary sewer support system requires seismic restraints. Attach

restraints to the wall rather than the floor whenever feasible.

The Contractor shall submit design calculations in accordance with Section 01012, DESIGN AND CONSTRUCTION DELIVERABLES/PROCEDURES showing the adequacy of the pipe support system which shall be as recommended by the pipe manufacturer. Metal supports shall be slotted to prevent the accumulation of liquid where water lines and sewer lines are placed on the same support. Hangers, inserts, and supports shall be adequate to support the fully charged pipe in service. The maximum spacing between pipe supports for straight runs shall be as recommended by the pipe and/or coupling manufacturer. No hangers or supports shall be suspended from top of manhole or utilidor lids.

2.1.2.6 Transition to Existing Pipe

Where new pipe joins existing cast iron and asbestos cement pipe, the transition coupling shall have gaskets provided by the coupling manufacturer to the type and diameter of pipe being joined. The center ring and end ring of the coupling shall be ductile iron per ASTM A 536, Grade 65-45-12. The gasket material shall be virgin SBR per ASTM D 2000, compounded for sewer service. The coupling shall utilize rods mounted around the coupling body to provide a watertight closure. Romac Industries Style 501, Ford Meter Box Company Style FC, or equal.

The transition coupling shall be restrained using a system of pipe clamps, clamping bolts, restraining rods, T-bolts, and nuts. The clamps shall be cast from ductile iron meeting or exceeding ASTM A 536, Grade 65-45-12. The clamping bolts, rods, T-bolts, and nuts shall be high strength low alloy steel per AWWA C111. Hot dip galvanize all parts per ASTM A 123.

Where new pipe joins existing ductile iron pipe with AWWA C606 joints, provide a spool to connect using grooved and shouldered couplings.

2.2 MANHOLE SUMP PUMPS

Provide electric sump pumps where scheduled on the drawings. Sump pumps shall have bronze impellers, ON/OFF/Auto pump control, high-level alarm and thermal protection and a minimum operating temperature range of 100 degrees F to 40 degrees F. Provide exterior remote red warning strobe with wire guard and alarm horn mounted above grade adjacent to the manhole; see electrical design criteria and plans. Pumps shall discharge to sanitary sewer main. Provide Goulds Model 3886, or equal, pumps to match existing sump pumps used system wide.

On sump pump discharge line install (1) one check valve where discharge is to a gravity sewer. Install (2) two check valves in series where discharge is to a force main or gravity sewer.

2.3 Check Valves

Check valves for sump discharge line shall conform to the requirements of MSS SP-80. Valves shall be Class 300, bronze body, with threaded connections

PART 3 EXECUTION

3.1 EXAMINATION AND VERIFICATION OF CONDITIONS

Coordinate the sanitary sewer collection system work with the work of other trades at the job site to ensure that components, which are to be incorporated into the sanitary sewer system, are available to prevent delays or interruptions as the work progresses. Prior to installation, verify that sanitary sewer collection system components are undamaged. Damaged sanitary sewer collection system components shall be repaired or removed and replaced with new components. Repairs to sanitary sewer collection system components shall be done in accordance with the applicable industry standards, the manufacturer's recommendations and/or good construction practice.

3.2 INSTALLATION/APPLICATION/ERECTION

3.2.1 General Requirements

Install all work in accordance with these specifications, the approved submittals, the industry standard publications referenced, and the respective manufacturer's recommendations and instructions to assure compliance with the requirements specified herein. In the event of conflict between the specified installation/application/erection requirements and the specified code, the more stringent installation/application/erection requirements shall apply.

3.2.2 Cleanouts

Cleanouts shall be located in accordance with the Uniform Plumbing Code. In addition, specific locations are at each service leaving the manhole or main utilidor and at least one sewer main cleanout in each manhole. Distance between mainline cleanouts shall not exceed 400 feet. Sewers shall have wye-style clean outs.

3.2.3 Sanitary Sewers in Utilidors

3.2.3.1 Piping

Piping shall be replaced as indicated on the conceptual drawings contained in attached concept drawings. Pipe shall be cut accurately to the measurement established at the site by the Contractor and shall be worked into place without springing or forcing. Changes in pipe sizes shall be made with reducing fittings.

3.2.3.2 Expansion Joints

Pipe expansion shall be accommodated through the use of AWWA C606 grooved type pipe couplings. The Contractor's licensed engineer shall submit design calculations, product information and manufacturer's recommendations for application of this type of system.

3.2.3.3 Supports/Hangers

The Contractors licensed engineer shall submit design calculations showing the adequacy of the pipe support system in accordance with Section 01012, DESIGN AND CONSTRUCTION DELIVERABLES/PROCEDURES. Supports shall be slotted to prevent the accumulation of liquid. Inserts and supports shall be adequate to support the fully charged pipe in service. The maximum spacing

between pipe supports for straight runs shall be as recommended by the pipe and/or coupling manufacturer. Pipe support spacing shall not exceed 5 feet apart at heavy fittings and valves. Pipe shall be supported at each coupling and multiple fittings as required. Supports shall not exceed 1-ft from each change of direction in piping. Where possible all pipe support contact shall be shielded by a graphite or polytetrafluoroethylene (PTFE), referred to as Teflon, slide plate and/or cradle. Hangers and supports shall not be suspended from utilidor or manhole roofs. Pipe shall be secured to each horizontal support in utilidors to limit side-to-side and vertical movement; axial movement shall not be restrained in this manner. Steel supports in utilidors and manholes shall be protected against corrosion as described in Section 02509, UTILIDOR STRUCTURE.

3.3 TESTING

Force mains shall be open bore flushed to remove foreign objects, and then hydrostatically tested at 60 psi described for a water line in Section Section 02510, WATER DISTRIBUTION SYSTEM. Secure pipe and, cap all wyes and other openings to withstand the test pressures.

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SECTION 02559

STEAM DISTRIBUTION SYSTEM

PART 1 GENERAL

1.1 REFERENCES

Code Reference and Industry Standards Criteria: The design and construction shall comply with the current edition of the following guides, standards, local codes, and ordinances. In the case of discrepancies between the following guides, standards, local codes, and ordinances and the RFP Mechanical Design Requirements the more stringent requirement shall apply.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI A13.1	Scheme for the Identification of Piping Systems

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME B1.20.1	Pipe Threads, General Purpose (Inch)
ASME B16.3	Malleable Iron Threaded Fittings
ASME B16.5	Pipe Flanges and Flanged Fittings NPS 1/2 thru NPS 24
ASME B16.11	Forged Fittings, Socket-Welding and Threaded
ASME B31.1	(B31.1a; B31.1b; B31.1c) Power Piping
ASME B16.39	Malleable Iron Threaded Pipe Unions Classes 150, 250, and 300
ASME B40.1	Gauges - Pressure Indicating Dial Type - Elastic Element
ASME BPV IX	Boiler and Pressure Vessel Code; Section IX Welding and Brazing Qualifications

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 36/A 36M	(2003; Rev. A) Carbon Structural Steel
ASTM A 47	Ferritic Malleable Iron Castings
ASTM A 53	Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless
ASTM A 106	Seamless Carbon Steel Pipe for High Temperature Service

ASTM A 193/A193 M-01b	Alloy-Steel and Stainless Bolting material for High Temp Service
ASTM A 194	Specification for Carbon and Alloy Steel Nuts for Bolts for High-Pressure and High-Temperature Service
ASTM A 733	Welded and Seamless Carbon Steel and Austenitic Stainless Steel Pipe Nipples
ASTM A 234/A 234 M	Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service
ASTM A 387	Specification for Pressure Vessel Plates, Alloy Steel, Chromium-Molybdenum
ASTM B 209	Aluminum and Aluminum-Alloy Sheet and Plate
ASTM B 650	Electrodeposited Engineering Chromium Coatings of Ferrous Substrates
ASTM C 533	Calcium Silicate Block and Pipe Thermal Insulation
ASTM C 547	Mineral Fiber Pipe Insulation
ASTM E 84	Surface Burning Characteristics of Building Materials
ASTM F 1139	Standard Specifications for Steam Traps and Drains

MANUFACTURERS STANDARDIZATION SOCIETY OF THE VALVE AND FITTINGS INDUSTRY (MSS)

MSS SP-25	Standard Marking System for Valves, Fittings, Flanges and Unions
MSS SP-45	By-pass and Drain Connections
MSS SP-69	Pipe Hangers and Supports - Selection and Application
MSS SP-80	Bronze Gate, Globe, Angle and Check Valves

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 90A	Insulation of Air-Conditioner and Ventilation Systems

MISCELLANEOUS

Eielson Utilidor Design Guide (See Appendix G of the Design Build RFP)

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as

otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Design Drawings

SD-03 Product Data

Piping and fittings

Valves

Steam traps

Pressure gauges

Temperature gauge

Strainers

Steam Venturi Ejector

Alignment guides

Expansion Joints

Insulation

SD-05 Design Data

Design Analysis

Specifications

1.3 SUMMARY

1.3.1 Section Includes

These specifications constitute the basis for the utilidor steam and condensate design and installation for Eielson AFB. The Contractor may use alternative design solutions and materials to meet the technical performance criteria. The alternative design solutions must provide methods, materials, workmanship, and quality of installation equal to the minimal requirements of this specification section.

1.3.2 Components Included

(1) New steam piping and appurtenances within utilidor.
(2) New condensate piping and appurtenances within utilidor.
(3) New steam and piping insulation within utilidor.
(4) New steam and condensate anchors, guides, and expansion joints.
(5) New utilidor manhole steam ejectors.

1.3.3 Related Sections

Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS
Section 01355, ENVIRONMENTAL PROTECTION
Section 02509, UTILIDOR STRUCTURE
Section 02510, WATER DISTRIBUTION SYSTEM
Section 02531, SANITARY SEWERS
Section 13000, HAZARDOUS MATERIALS ABATEMENT
Section 16000, UTILIDOR POWER DISTRIBUTION, COMMUNICATIONS, AND LIGHTING SYSTEMS

1.4 SCOPE

Design and furnish all construction documents, labor, materials, equipment, supervision of labor, and performance of all operations required to completely install satisfactorily operating steam and condensate systems as defined herein. Scope shall include the steam and condensate piping system within the utilidor exiting to the building service entrance pit. Provide new utilidor piping based on the pipe sizes of the existing system. Provide new valves and appurtenances, quantities and locations, based on the requirements of this RFP. System shall include all traps, anchors, expansion joints, and appurtenances required to extend steam and condensate to the building service entrance.

1.5 DESIGN SUBMITTALS FOR REVIEW AND CONFORMANCE

Design Drawings: Submit design drawings in accordance with Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS.

Specifications: Submit new detailed specification sections to specify the quality, characteristics, installation procedures, and testing requirements for all items of the proposed utilidor steam system in accordance with Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS. U.S. Army Corps of Engineers Alaska District Guide Specification Section 02559 HEAT DISTRIBUTION SYSTEMS IN UTILIDORS AND MANHOLES and the appropriate Division 15 MECHANICAL specification section(s) shall be properly edited for this project and submitted. Items to address and include in the steam distribution utilidor design package per this criteria specification, but not necessarily limited to are as follows:

Design Analysis: Submit a design analysis in accordance with Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS. The basis of design shall establish conformance to applicable referenced codes, and the suitability of the utilidor piping design.

1.6 DELIVERY, STORAGE, AND HANDLING

1.6.1 Delivery of Products

Deliver materials to the site in an undamaged condition. Deliver proprietary items in manufacturers' original unopened and undamaged containers or packages with manufacturer's name and brand and other pertinent data such as specification number, type and class, date of manufacture, and shelf life clearly labeled. Schedule delivery of materials to coincide with scheduled installation.

1.6.2 Storage and Handling

Carefully store materials off the ground to provide proper ventilation,

drainage, and protection against weather and dampness. Protect materials from marring, staining, rust, damage, and overload and from contaminants such as grease, oil, and dirt. Store materials at temperatures recommended by the manufacturer. Ensure that materials can be accurately identified after removal from containers or after removal of identification tags. Handle materials to avoid damage such as chipping and breaking. Replace damaged material.

1.7 INTERRUPTION OF SERVICES

1.7.1 Utility Mains

All steam and condensate main shut-downs and start-ups shall be done by the Base Utilidor Shop personnel. The Contractor shall submit to the Contracting Officer for approval a Utility Main Shut-Down and Start-Up Procedure. The Contractor shall provide all materials, and equipment for this procedure. Coordinate shut-down and start-up through the Contracting Officer and give a 48-hour notice prior to this work. See Section 01013 65 AND 100 PERCENT DESIGN REQUIREMENTS, Paragraph Temporary Utility Service Plan.

1.8 OPERATING AND MAINTENANCE DATA

The Contractor shall prepare operating and maintenance instructions containing information to operate, prolong service life, or replace parts of the work. Operating and maintenance data shall specifically include:

(1) List of all contractors and subcontractors names, addresses, and telephone numbers.

(2) List of all equipment and material manufacturers' local representatives and suppliers and their addresses and telephone numbers.

(3) Pipe identification schedules.

(4) Nameplate directory with a list of all equipment indicating designation, location of equipment, manufacturers' name, model number, serial number, electrical characteristics, primary control switch location, and normal position of switch.

(5) Valve directory indicating valve number, size, location, function, service, type, and normal position.

1.8.1 Equipment Literature

Literature shall be grouped together by system, i.e. steam, steam condensate, etc. For all equipment, fixtures, devices, valves and specialties, provide the following:

(1) Manufacturer's data sheets and cut sheets.

(2) Model and serial numbers.

(3) Capacity curves, charts, and calculations.

(4) Electrical characteristics.

(5) Replacement parts list.

(6) As-built equipment piping diagrams.

(7) As-built equipment wiring diagrams.

(8) Manufacturer's instructions for operation and maintenance.

(9) Completely mark out on all literature sheets all non-applicable items.

(10) Where piping and wiring diagrams are not available from the manufacturer, the Contractor shall produce them.

1.8.2 Master Maintenance Schedule

List each item of equipment requiring inspection and maintenance, showing component maintenance required and the intervals when such inspection and maintenance shall be performed (daily, weekly, monthly, semi-annually, etc.). For each item, reference the page within the maintenance manual where detailed manufacturer's maintenance instructions can be found.

1.9 COMPONENT IDENTIFICATION

1.9.1 Piping Identification

(1) Contractor shall provide pipe markers that identify all piping with approved color coded adhesive bands that show fluid type, piping system identification and directional flow arrows. Adhesive bands shall be W.H. Brady Company's "Quik-Label" or equal.

(2) Piping identification label to be black letters not less than 2-inches high. Directional arrows to be black, not less than 2-inches long, on yellow background. Piping identification and directional arrows shall meet ANSI A13.1.

(3) Identify piping at approximately 15 ft centers in all utilidors, manholes, and mechanical rooms, as well as in all the other spaces (such as shafts) in which piping may be viewed. There shall be at least one set of identifying bands per pipe in each space requiring identifying bands. In addition, the origination of each pipe main shall be further identified indicating the zone served.

1.9.2 Steam Trap Identification

Steam traps shall be labeled with a 2-inch round/square numbered brass tag with stamped black filled lettering which is connected by a stainless steel jack chain to the trap.

1.9.3 Valve Identification

1) Identify valves in all areas with a 2-inch round/square numbered brass tag with stamped black filled lettering which is connected by a stainless steel jack chain. Identification tags shall be engraved, indicating the service abbreviation, stating whether normally open or normally closed. Install tags with stainless steel jack chain on handwheel or stem.

(2) Service abbreviation shall match piping service

identification label. In addition, each valve tag shall include the manhole number and its unique sequential identification number of that valve within the manhole.

1.9.4 Equipment Identification

(1) Manufacturer's nameplates shall be provided on all equipment identifying manufacturer's name, model number, size, capacity, and electrical characteristics. Leave manufacturer's nameplates clean and legible.

(2) Identify all equipment with engraved Lamicoid identification tags showing symbol number and service as shown on the concept drawings. Securely fasten identification tags to equipment.

1.10 DESIGN CRITERIA

1.10.1 High Pressure Steam Utility Mains

Shall be designed and sized for 100 psi steam at maximum steam velocity of 12,000 FPM and 2 psi/100 ft pressure drop. Low pressure steam distribution within the mechanical room shall be designed and sized with a maximum steam velocity of 7,200 FPM and 0.25 psi/100ft.

1.10.2 Pumped Condensate Utility Mains

Shall be sized for a pressure drop of 1 psi/100 ft, and 1.5 times the total steam demand.

1.10.3 Thermal Expansion Joints

Expansion for piping design shall be based on a temperature range of 40 degrees Fahrenheit to 400 degrees Fahrenheit. Field preset expansion joints as required for actual expansion joint installation temperature.

1.10.4 Drip Leg Steam Traps

Shall be sized for heat loss load, not warm-up load.

PART 2 PRODUCTS

2.1 GENERAL

All equipment and materials shall be protected from corrosion. For products with protective coatings, specifications shall be written to require the products' corrosion protection bond to pass one of the industry standard adhesion tests.

2.1.1 Component Performance

Design of all system components shall be based upon the recommendations of a Contractor engaged Professional Engineer registered in the State of Alaska who is experienced in utilidor and utilities design. The following are design requirements for specific components. Product cut sheets shall be submitted as part of the design after award. These product cut sheets shall be coordinated with the Design Drawings, Design Analysis, and Specifications submitted by the designer of record.

2.2 PIPING AND FITTINGS

Unless otherwise specified, all pipe, fittings, valves, and piping accessories shall conform to the requirements of ASME B31.1, and shall be the proper type, class, and grade for pressure and temperature of the heating medium.

2.2.1 Steel Pipe

Steel pipe 2-inches in diameter and larger shall be seamless or electric-resistance welded conforming to ASTM A 53, Grade B, Type E or S; or to ASTM A 106, Grade B. Steel pipe 1-1/2 inches in diameter and smaller shall be seamless conforming to ASTM A 106, Grade B. All condensate pipe shall be Schedule 80. Gauge piping and steam piping 2-inch in diameter and smaller shall be Schedule 80. All other pipe shall be Schedule 40.

2.2.1.1 Nipples

Nipples shall conform to ASTM A 733, as required to match pressure rating of adjacent piping.

2.2.1.2 Steel Flanges

Steel flanges shall be raised face type with spiral wound centering ring non-paper (Garlock) gaskets, conforming to ASME B16.5 Class 150 and shall match valves or flanged fittings. Flanges shall have the manufacturer's trademark affixed in accordance with MSS SP-25 so as to permanently identify the manufacturer. Flanges shall be prohibited in inaccessible utilidor locations. Flanges shall utilize ASTM A 193/A193 M-01b, Grade B7 stud with matching ASTM A 194, Grade 2H nuts.

2.2.1.3 Pipe Threads

Pipe threads shall conform to ASME B1.20.1. Pipe threads may be used only on pipe 3/4 inch or smaller. Exception is that all steam trace joints shall have welded joints.

2.2.2 Fittings

Fittings shall have the manufacturer's trademark affixed in accordance with MSS SP-25 so as to permanently identify the manufacturer.

2.2.2.1 Welded Fittings

Welded fittings shall conform to ASTM A 234/A 234 M, buttwelded or socket welded, standard weight or extra strong, as required to match connecting piping. Buttwelded fittings shall conform to ASME B16.9, and socket welded fittings shall conform to ASME B16.11.

2.2.2.2 Malleable Iron Fittings

Fittings shall conform to ASME B16.3, ASTM A 47, class as required to match connecting piping.

2.2.2.3 Unions

Unions shall conform to ASME B16.39, standard weight or extra heavy, as required to match adjacent piping.

2.2.3 Insulating Flanges and Dielectric Unions

Insulating flanges or flange gasket kits shall be installed at every pipe connection from the trench system to an underground system and at dissimilar metals. The kit shall consist of a flange gasket, bolt sleeves, and one insulating washer and one steel washer for both ends of each bolt. The gasket kits shall be capable of electrically isolating the pipe at the pressure and temperature of the heating medium at the point of application. Material of the type being used must have been installed in an installation, which has been satisfactorily operating for not less than 2 years. The Contractor shall ensure that these kits are provided and properly installed according to manufacturer published instructions as indicated. Dielectric unions, pressure rated to match pressure on system used, shall be used for joining dissimilar metals, 3/4-inch and smaller threaded pipe.

2.3 VALVES

All valves 2-inches and small shall be bronze, union bonnet gate type MSS SP-80 200 SWP/400 WOG, rising stem. All valves over 2-inches and larger shall be cast steel ASME B31.1 Class 150 OS&Y. All steam isolation valves 6-inches and larger shall have integral, built-up by-pass gate or globe valves sized in accordance with MSS SP-45.

2.4 STEAM TRAPS

Class of steam trap body shall be suitable for a working pressure of not less than 1.5 times the steam supply working pressure but not less than 200 psi. Traps shall fail open. All steam traps shall be thermostatic with bimetallic element, automatic air discharge, integral cage unit and strainer, and meet ASTM F 1139, Gestra or equal.

Where a steam trap with an integral strainer is not provided, provide strainer as a separate unit immediately upstream of the trap and, steam trap shall discharge to a flash tank. Flash tank discharges to condensate pipe.

2.5 PRESSURE GAUGES

Gauges shall conform to ASME B40.1 Steam gauges shall be provided with "pig-tail" siphons, pin type pulsation snubbers, and shut-off isolation valves. Pressure gauges on pumped condensate lines shall be provided with pin type pulsation snubbers, and shut-off isolation valves.

2.6 TEMPERATURE GAUGE

Temperature gauge for condensate return system shall have a dial face adjustable for any position for maximum readability, cast aluminum case, polished stainless steel ring, dial with white background and black markings, stainless steel black pointer, bronze bearings, and non-mercury bulb. Thermometer connection to pipe shall use a standard 0.5 inch NPT removable brass union connection. Temperature range from 30 to 300 degrees fahrenheit. Typical product is a Trerice, Universal Angle, Dial Thermometer.

2.7 STRAINERS

Strainers shall be cast steel y-type with connections the same size as the piping in which the connections are installed. Strainer shall be suitable

for temperature and pressure requirements of the system. Each strainer shall be equipped with an easily removable cover and sediment basket. Bodies shall be cast steel, arrows cast into the side clearly showing the direction of flow, and bottoms drilled and plugged. Basket shall be made of perforated stainless steel, or monel, be easily removable, and provide net free areas through the basket of at least 2.5 times that of the entering pipe. The flow shall be into the basket an out through the perforations.

2.8 STEAM VENTURI EJECTOR

Provide manually operated steam venturi ejector at all manholes as scheduled on the drawings. Ejectors shall have cast iron bodies with removable bronze nozzles. Ejectors shall have a 1-inch inlet and a 2-inch outlet. Manufacturer; Watson McDaniel Model 17 or equal

2.9 ALIGNMENT GUIDES

Alignment guides shall be cast-iron or steel and shall be so constructed that the axial movement of the pipe caused by thermal expansion will be guided in a straight line only and movement in any other direction will be adequately restrained. Alignment guides for steam and condensate pipes shall be "spider" type heavy carbon steel with factory painted finish. Spider shall be sized with enough travel to insure that a minimum of 1/2 the width remains within the length of the outer housing for all condition of operation. The upper half of the clap or guiding cylinder housing must be removable. Alignment guides shall be compatible with expansion joints supplied.

2.10 PIPING SUPPORTS

Steam and condensate piping supports for piping on utilidor piping support racks shall be roller chair or adjustable pipe roller type with cast iron rollers, steel roll rods, steel chair and bolts. Provide insulation protection shields and saddles as required to protect piping insulation and allow longitudinal pipe movement.

2.11 EXPANSION JOINTS

Expansion joints for steam and condensate pipes shall be slip type, injection packed, Hyspan series 6501 with flanged ends or equal. MIL-E 17814 Type IV Class 1 or Class 2. Provide expansion joints with drain port and plug. Joint shall be installed with drain port located on the bottom to facilitate drip and trap assembly installation. Expansion joints shall provide for either single or double slip of connected pipes, as required or indicated, and for not less than the traverse indicated. Joints shall be designed for steam working pressure not less than 100 psig and shall be in accordance with applicable requirements of EJMA-1 and ASME B31.1. Joints shall be designed for packing injection under full line pressure. End connections shall be flanged. Joints shall be provided with anchor base where required or indicated. Where adjoining pipe is carbon steel, the sliding slip shall be seamless steel plated with a minimum of 2 mils of hard chrome conforming to ASTM B 650. Joint components shall be fabricated from material equivalent to that of the pipeline. Initial settings shall be made in accordance with manufacturer's recommendations to compensate for ambient temperature at time of installation. Pipe alignment guides shall be installed as recommended by joint manufacturer, but in any case shall not be more than 5 feet from expansion joint, except that for lines 4-inches or smaller, guides shall be installed not more than 2 feet from

the joint.

2.12 INSULATION

All insulation materials, including linings, jackets, facings, wet or dry adhesives, and vapor barriers, shall meet requirements of NFPA 90A. Flame spread rating shall not exceed 25 and smoke developed rating shall not exceed 50, as defined in ASTM E 84.

2.12.1 Fiberglass Insulation

Provide complete with vapor barrier permeability rating of 0.02 perm, and with a thermal conductivity of k=.25 btu-in./hr-ft2-F at 100 degrees F mean temperature. Insulation shall be molded mineral fiber conforming to ASTM C 547, Class 2, Asbestos free.

2.12.2 Calcium Silicate Insulation

Provide complete with vapor barrier permeability rating of 0.02 perm, and with a thermal conductivity of k=.40 btu-in./hr-ft2-F at 300 degrees F mean temperature, or better. Shall have recommended temperature rating of 1200 degrees F. Insulation shall be molded calcium silicate conforming to ASTM C 533, Type I, Asbestos free.

2.12.3 Insulation for Flanges, Unions, and Fittings

Fittings shall be insulated with premolded prefabricated, or field fabricated segments of insulation. Insulation shall be removable, reusable, and have a continuous service temperature rating of at least 600 degrees fahrenheit. Flanges and unions shall not be insulated.

2.12.4 Insulation for Valves

Valves shall be insulated with premolded prefabricated insulation with a continuous service temperature rating of at least 600 degrees fahrenheit. Insulation shall be removable and reusable and shall have essentially the same thermal characteristics and thickness as the adjoining piping. Insulation shall be secured with nylon buckles and straps on the outside of the insulation. Insulation secured with lacing is not acceptable.

2.12.5 Rigid Insulation Inserts

Provide rigid insulation inserts for 2-1/2 inch and smaller pipe. Inserts shall be calcium silicate, or approved substitute, for installation between pipe and hanger. Insulation inserts shall be not less than 6-inches long for 1/2-inch to 2-1/2 inch pipe; thickness equal to adjoining insulation.

2.12.6 Insulation Protection Shields

Provide MSS SP-69, Type 40, 16 gauge galvanized metal insulation protection shields for 2-1/2 inch and smaller pipe; formed to fit the diameter of the insulation, extending up to the centerline of the pipe. Length equal to insulation inserts.

2.12.7 Insulation Protection Saddles

Provide MSS SP-69, Type 39, ASTM A 387 Grade 22 steel pipe saddles for 3-inch and larger pipe for insulation protection at cast iron roller chair supports. Provide insulation protection saddles with welded center plates

for pipe sizes greater than 10-inches.

2.12.8 Nonmetallic Jacket

Nonmetallic jacket shall consist of a 6 ounce per square yard fiberglass fabric impregnated with chlorosulfonated polyethylene (Hypalon) and a 1.5 mils polyvinyl fluoride film (Tedlar) bonded to it. Overall thickness of the composite shall be 0.010 inch and weigh approximately 10.5 ounces per square yard. Jacket may be either field or factory applied to the insulation. This jacket shall not be used with any calcium silicate insulation. Nonmetallic jacket shall be used with removable, reusable, molded insulation.

2.12.9 Metal Jackets

Aluminum jackets shall be 0.025 inches thick, have an embossed finish and meet ASTM B 209. Jacket sections shall be joined using longitudinal slip joints with a minimum 2-inch lap, caulk and seal between all metal seams. Jacket shall be secured with 1/2-inch wide 0.015-inch thick annealed stainless steel bands.

PART 3 EXECUTION

3.1 PIPING

The following items are typical for all piping installations:

(1) Close all openings of piping during construction with appropriate caps, plugs, or covers during progress of the work to preclude introduction of undesirable materials or contaminants.

(2) Slope all pipe lines and provide low point drains, using hose end gate valves and high point vents, using specified automatic air vents.

(3) Ream ends of all pipe to full diameter free of burrs, nicks, and sharp edges.

(4) Cut pipe accurately from measurements taken on the site. Springing or bending to fit or make up pipe shall not be permitted.

(5) Piping shall be supported in a manner to prevent binding, undue swing, and vibration transmission to the structure.

(6) Threaded Joints: Apply Teflon tape to male equipment threads.

(7) Ring gaskets, spiral wound with centering ring, shall be used with all flanges.

(8) Arrange piping along walls in horizontal groups, each group to be in one plane.

(9) Provide insulating couplings, dielectric nipples or flanges to prevent electrolysis at dissimilar metal piping connections.

(10) All changes in direction, branches, laterals and intersections in piping shall be made with welded fittings. Mitering of pipe to form elbows, notching straight runs to form

tees or any similar construction shall not be permitted.

(11) Reduction in pipe sizes shall be made with reducing tees or reducing fittings. Weld O Lets and Thread 0 Lets may be used on branch piping 2-inches and smaller connecting to mains over 4-inches. Branch pipes over 2-inches shall use welded fittings.

(12) Bushings and close nipples shall not be permitted.

(13) Provide gate valves at blow down/drains. See typical details sheet C7.1. Blow down/drain valves shall be at least 1.5 inches in diamater and the same size as blow down/drain discharge line. No hose adapters or end caps.

(14) Valves for drains and trap assemblies shall be as close as possible to mains (steam or condensate main as applicable). If valve is not on first nipple from main, then weld all joints between valve and main.

(15) Provide warm up valves and by-passes around all main line steam isolation valves. Weld all joints between by-pass valve and main.

(16) Provide isolation valves on steam and condensate mains in each manhole so that each section of main can be isolated for maintenance. Tees shall have three (3) valves and cross-flow fittings shall have four (4) valves. Valve spacing interval on steam mains shall be no more than 400 feet.

(17) In all manholes provide isolation valves on all steam and condensate mains, laterals, and branch take-offs. Lateral isolation valve shall be placed as close as possible to the connection point to the service mains.

(18) All drip legs shall be same diameter as steam line.

(19) Provide full dimension drip leg with steam trap and gate blow down/drain valves and trap assemblies at all steam main low points and at the base of all vertical offsets in the steam main.

(20) Provide full dimension drip legs with steam trap and gate blow down/drain valve and trap assemblies on both sides of all service main steam valves.

(21) Provide a full dimension drip leg with steam trap and gate blow down/drain valve on the building side of all steam service lateral take-offs and at vertical risers at building line.

(22) The condensate service laterals shall have low point maintenance drain down valves.

(23) All valves shall be installed with stems vertical wherever possible, and in no case shall stems be oriented below horizontal.

(24) Field check valves for packing and lubricant. Replace leaking packing.

(25) Install valves to be accessible from floor level. Do not install valves with stem pointing downward.

(26) Provide main isolation and/or lateral branch isolation valves same size as respective main or lateral branch line size.

(27) Install swing check and gravity closing lift check valves in horizontal position.

(28) Provide 3/4 inch minimum steam heat trace line with gate valves and trap assemblies for all fire hydrant water services.

(29) Pressure gauges shall be provided on each side of all steam isolation valves within the utilidor.

(30) Install pressure gauges on the upstream side of each steam ejector venturi.

(31) All pressure gauges shall be provided with isolation valves and snubbers. Pressure gauges on steam lines shall be provided with "pig tails".

(32) Locate and install pressure gauges to permit observation by personnel standing on manhole floor.

(33) Traps shall be located in a readily accessible location for maintenance.

(34) Install steam drip legs and line traps at each low point and the end of line point of the steam line.

(35) Provide all steam traps with an isolation valve before and check valve after trap, followed by a second isolation valve after the check valve. Install 3/4 inch steam trap test valve after steam trap. Where steam traps do not have integral strainer install strainer before trap and discharge trap to flash tank. Flash tank discharge to condensate pipe.

(36) Install main line steam and condensate blowdown stations in accessible utilidors at not greater than 400 foot intervals. Provide 1 1/2-inch steam and 1-1/4 inch condensate blowdown connections with threaded ends. Direct blowdown discharges away from areas likely to be occupied by maintenance workers.

(37) All steam trap assemblies and expansion joints in utilidors shall be installed at manholes for accessibility. Close all openings in pipes with appropriate caps, plugs, or covers during progress of the work to preclude introduction of undesirable materials or contaminants.

(38) Expansion compensation in steam and condensate piping must be accommodated by the use of expansion joints. Piping bends/loops are not allowed.

(39) As field conditions allow, maintain a minimum 8-inch clearance, measured from the bare surface, around all steam and condensate piping.

3.2 PIPE SLEEVES

(1) Provide sleeves where pipes pass through walls. Sleeves in

bearing walls, foundations, masonry or concrete walls, and slabs shall be black steel pipe. All sleeves through frame or similar construction shall be 20 gauge galvanized sheet metal with edges turned 1/2-inch, installed flush with both sides of wall partition. All sleeves shall be flush with surfaces except basement floor and any wet floor area where seepage may occur. In such areas the sleeves shall project a minimum of 1-inch above floor.

(2) Size sleeves to allow 1/2-inch annular space between pipe insulation, or the bare pipe, and the pipe sleeve. The space between pipe and sleeve shall be filled with mineral wool or other non-combustible material to prevent passage of fire and smoke. The non-combustible material shall be caulked with butyl between pipe and sleeve at wall surface. The caulking shall have suitable smoke and flame retarding capabilities for the application.

(3) For piping passing through sleeves in areas containing floor drains and in waterproof construction, caulk annular space between pipe or pipe insulation and the enclosing sleeve to attain a watertight installation. Caulk and finish with sealing compound.

3.3 PIPE ANCHORS

Pipe anchors in manholes and utilidors shall be of welded construction, designed by the Contractor. The number and approximate location of anchors is indicated on the contract drawings. Shop drawings indicating anchor locations and details of design, including calculations, shall be submitted for Government Approval. Shop drawing approval shall be obtained prior to placing any piping. The range of anticipated pipe temperatures, which shall be used to determine the design forces on anchors, is from 32 degrees Fto a potential operating temperature as indicated on the drawings. Pressures for calculating forces are as follows: Working pressure of 85 psig and a test pressure of 200 psig. If expansion anchors are used in lieu of cast in place anchor bolts, an additional safety factor of 1.5 shall be used in sizing the anchor bolts. No supports, anchors, or stays shall be attached in places where they may cause damage during installation or by the weight or expansion of the pipe. All steel shapes shall conform to ASTM A 36/A 36M. Anchors shall be attached to pipes by welding.

3.4 INSULATION

Provide insulation on all steam and condensate piping systems. Insulation for the steam and condensate return lines in manholes shall be calcium silicate with an aluminum jacket and stainless steel bands. The insulation within the manholes (i.e. calcium silicate insulation with aluminum jackets) shall be required to extend 6 ft into the utilidor. Valves, flanges and expansion joints, over 2-inches in diameter, shall be covered with removable valve blankets that are secured with nylon buckles and straps. Insulation thickness shall be as required for Alaska District CEGS for heat distribution systems in corridors and manholes.

3.5 WELDING

Provide and perform welding of pressure piping systems in accordance with provisions of all applicable codes, including ASME BPV IX and ASME B31.1 series, Code For Pressure Piping.

3.5.1 QUALIFICATIONS AND PROCEDURES

Provide designer approved welding procedures, and welder qualifications in accordance with ANSI A13.1/ASME B31.1, Paragraph 127.5, for shop and project site welding of piping work.

3.5.2 EXAMINATION, INSPECTION AND TESTING

Provide, design engineer of record, approved non-destructive testing procedures, inspection and testing reports in accordance with ANSI A13.1/ ASME B31.1, Paragraph 136 for shop and project site welding of piping work. Mandatory minimum non-destructive testing by a qualified welding inspector shall be 100% visual and 10% radiographic. Visual testing shall be 100% of final welds and 10%, random testing, of all weld passes. Submit a copy of the testing report to the Contracting Officer.

3.6 TESTING

Tests shall be conducted before, during, and after the installation of the system. The Contractor shall provide all instruments, equipment, facilities, and labor required to properly conduct the tests. Test pressure gauges for a specific test shall be approved by the Contracting Officer and shall have dials indicating not less than 1-1/2 times, nor more than 3 times the test pressure.

3.6.1 CLEANING OF PIPING

Prior to the hydrostatic and operating tests, the interior of the piping shall be flushed with clean water until the piping is free of all foreign materials. Flushing and cleaning out of system pipe, equipment, and components shall not be considered completed until witnessed and accepted by the Contracting Officer. After flushing the system is completed, the system shall be drained and filled with clean water. Temporary bypasses or temporary strainers shall be provided around equipment and control valves to prevent clogging.

3.6.2 FIELD TESTS

The following field tests shall be conducted when applicable to the system involved. If any failures occur, the Contractor shall make such adjustments or replacements as the Contracting Officer may direct, and the tests shall be repeated until satisfactory tests are completed.

3.6.2.1 Hydrostatic Tests of Service Piping

Before testing, isolate or remove all equipment from system that would be damaged by test pressure. Purge or bleed air from piping systems before performing hydrostatic testing. All piping shall be tested hydrostatically before insulation is applied at field joints, and shall be proved tight at a pressure 1-1/2 times the working pressure of 100 psig or at 200 psig, whichever is greater. Test all piping systems before concealing piping. Hydrostatic test pressures shall be held for a minimum of 24 hours. If the hydrostatic test pressure cannot be held, the Contractor shall make such adjustments or replacements and the tests repeated until satisfactory results are achieved.

3.6.2.2 Equipment Tests

All pumps, valves, traps, alarms, controls, and any other operable item of

equipment shall be operated to verify proper operation and compliance with the specifications. Pump voltage, current, and discharge readings shall be recorded and submitted for approval.

3.6.2.3 Insulating Flange Test

Insulating flanges shall be tested for electrical isolation in accordance with the insulating flange manufacturer's standard test. This test shall be witnessed and approved by the Contracting Officer.

3.6.2.4 Operational Tests

After installation of the concrete trench system, or testable portion thereof, operational tests shall be conducted. Trench covers shall not be placed prior to completion of operational tests. Operational tests shall consist of operating the system at the pressure and temperature expected for the system when in normal service, and shall demonstrate satisfactory operating effectiveness. The test on each system, or portion thereof, shall last a minimum of 24 hours.

3.6.2.5 Trench Water Removal Tests (Sump Pump Test)

After the above tests are completed, and before concrete trench and valve manhole covers are placed, the concrete trenches, sumps, and valve manholes shall be cleaned of dirt and debris. Concrete trench system shall be tested to ensure gravity drainage of water is maintained in trench bottom from high points to drained low points. Contractor shall verify water does not pond between high and low points, and that drained low points are operational either by use of sump pumps or by gravity drainage to storm drains, as indicated. Test shall not be considered completed until witnessed and accepted by the Contracting Officer. Trench tops shall be placed and sealed immediately after approval by the Contracting Officer.

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SECTION 02741

ROADWAY

PART 1 GENERAL

1.1 REFERENCES

The current editions of publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

ALASKA TEST METHOD (ATM)

ATM T-13	Degradation Value of Aggregates
ATM T-17	Bituminous Mix Design by the Marshall Method

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

AASHTO T-96	Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine

U.S. AIR FORCE MANUALS (AFM)

AFM 88-7, Chap. 1	Pavement Design for Roads, Streets, Walks and Open Storage Areas

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES (ADOT & PF)

ADOT&PF	2004 Standard Specifications for Highway Specifications Construction as Modified March 13, 2005

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES (ADOT & PF)

T-21.02	Pavement Marking Applications
T-22.03	Pavement Marking Symbol Dimensions

WESTERN ALLIANCE FOR QUALITY IN TRANSPORTATION CONSTRUCTION (WAQTC)

WAQTC TM-1	Determining the Percentage of Fracture in Coarse Aggregate
WAQTC FOP for AASHTO T 27/T11	Sieve Analysis of Fine and Coarse Aggregates, and Materials Finer than 75mm in Mineral Aggregates by Washing

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Design Drawings

SD-05 Design Data

Design Analysis

Specifications

SD-06 Test Reports

Subbase Analysis

Aggregate Base Course

1.3 SUMMARY

1.3.1 Section Includes

This section includes requirements for existing streets and paved areas to be removed and replaced in conjunction with this project.

1.3.2 Components Included

(1) Paved street replacement.

1.3.3 Components Excluded

Items Forming Part of Another System

(1) Demolition including asbestos abatement.
(2) Utilidor structural system.
(3) Water distribution system.
(4) Sanitary sewer collection system.
(5) Steam distribution system.
(6) Power distribution, lighting, and communication systems.
(7) Sidewalk repair and replacement.

1.3.4 Related Sections

Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS
Section 01355, ENVIRONMENTAL PROTECTION
Section 02300, EARTHWORK
Section 02509, UTILIDOR STRUCTURE
Section 02770, CONCRETE SIDEWALKS AND CURBS AND GUTTERS
Section 16000, UTILIDOR POWER DISTRIBUTION, COMMUNICATIONS, AND LIGHTING SYSTEMS

1.4 DESIGN SUBMITTALS FOR REVIEW AND CONFORMANCE

Design Drawings: Submit design drawings in accordance with Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS.

Specifications: Submit new detailed specification sections to specify the quality, characteristics, installation procedures, and testing requirements for all items of the paved and unpaved road removal and replacement in accordance with Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS. The appropriate Division 02 SITEWORK specification(s) shall be properly edited for this project and submitted.

Design Analysis: Submit Submit a design analysis in accordance with Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS. The basis of design shall establish conformance to applicable referenced codes, and the suitability of the fill and backfill requirements for this project.

PART 2 PRODUCTS

2.1 PERFORMANCE

All paving replacement and repairs shall be based upon the recommendations of a registered Professional Engineer who is experienced in the paving replacement and repair issues related to this project. Recommendations and design shall be fully illustrated and specified in Design Drawings, Design Analysis, and Specifications submitted by the designer of record in accordance with Section 01013, 65 AND 100 PERCENT DESIGN.

2.1.1 Flexible Pavement Section

Flexible pavement shall be designed following AFM 88-7, Chap. 1, Flexible Pavement Design or approved ADOT&PF method. The Government shall provide traffic characteristics. Pavement section shall also be capable of supporting American Association of State Highway Transportation Officials (AASHTO) HS20 standard highway loading and gross vehicle weight (GVW) up to 70,000 pounds. Minimum pavement, base, and subbase thickness are given in a plan detail on Sheet C5.1.

2.1.2 Hot-Mix Asphalt

Hot-Mix Asphalt: Provide dense, hot-laid, hot-mix asphalt plant mixes conforming to ADOT&PF Standard Specifications, type and class of which to be determined by the Contractor engaged engineer. Mix to be designed according to procedures in ATM T-17 and comply with the following requirements:

(1) Provide mixes with a history of satisfactory performance in geographical area where Project is located.

(2) The contractor shall obtain approval of the job mix design prior to placing any asphalt concrete on the job.

2.1.3 Subbase

Subbase shall consist of nonfrost susceptible (NFS) pit run gravel, sand, combination of these, or other approved NFS materials. Gradation for subbase shall meet the same requirements as Structural Fill in Section 02300, EARTHWORK

Provide a Subbase Analysis report for material being imported for subbase prior to construction

2.1.4 Aggregate Base Course

Aggregate base course shall be crushed stone or crushed gravel and shall consist of sound, tough, durable pebbles or rock fragments of uniform quality. All material shall be free from clay balls, vegetable matter, or other deleterious matters. In addition, aggregate shall meet the following requirements:

Percent of Wear	AASHTO T-96	50 max
Degradation Value	ATM T-13	45 min
Percent Fracture	WAQTC TM-1	70 min

Gradations shall conform to the following requirements, as determined by WAQTC FOP for AASHTO T 27/T11:

Sieve Designation	Percent Passing
1-1/2 inch	100
1 inch	70-100
3/4 inch	60-90
3/8 inch	45-75
No. 4	30-60
No. 8	22-52
No. 40	8-30
No. 200	0-6

Provide a Aggregate Base Course report for material being imported for aggregate base course prior to construction

2.1.5 Paint

Paint for traffic markings shall be furnished in accordance with ADOT&PF Standard Specifications Section 708-2.03 Paint For Traffic Markings.

2.1.6 Curbs and Gutters

Curbs and gutters shall be in accordance with Section 02770, CONCRETE SIDEWALKS AND CURBS AND GUTTERS.

PART 3 EXECUTION

3.1 SUBBASE AND AGGREGATE BASE COURSE

Subbase shall be placed and compacted in accordance with Section 304 SUBBASE of 2004 ADOT&PF Standard Specifications. Aggregate base course shall be placed and compacted in accordance with Section 301 SUBBASE of the 2004 ADOT&PF Standard Specifications.

3.2 ASPHALT PLACEMENT

Asphalt mixing plant, hauling equipment, paver and compaction equipment, placing and spreading, and compaction shall be performed in accordance with Section 401 ASPHALT CONCRETE PAVEMENT of 2004 ADOT&PF Standard Specifications.

3.3 JOINTS

Joining new pavement patches to existing pavement shall be accomplished in accordance with 2004 ADOT&PF Standard Specifications Section 401-3.14 Joints.

3.4 CURBS AND GUTTERS

Curbs and gutters removed during construction shall be replaced with new. Parking lots shall have curbs and gutters to provide for a durable edge and to access sidewalks where appropriate.

3.5 PAVEMENT MARKINGS

All pavement existing markings shall be repainted and restriped. Pavement shall be marked according to ADOT&PF Standard Drawings Manual, Drawing T-21.02 Pavement Marking Applications and T-22.03 Pavement Marking Symbol Dimensions.

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SECTION 02770

CONCRETE SIDEWALKS AND CURBS AND GUTTERS

PART 1 GENERAL

1.1 REFERENCES

The current edition of publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN CONCRETE INSTITUTE (ACI)

ACI 211.1	Selecting Proportions for Normal, Heavy Weight and Mass Concrete
ACI 305R	Hot Weather Concreting
ACI 306R	Cold Weather concreting
ACI 325.9R	Guide for Construction of Concrete Pavements & Concrete Bases

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 184	Fabricated Deformed Steel Bar Mats for Concrete Reinforcement
ASTM A 185	Steel Welded Wire Fabric, Plain, for Concrete Reinforcement
ASTM A 615	Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
ASTM C 33	Standard Specification for Concrete Aggregates
ASTM C 39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C 192	Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory
ASTM C 94	Standard Specification for Ready-Mixed Concrete
ASTM C 150	Standard Specification for Portland Cement
ASTM C 171	Sheet Materials for Curing Concrete
ASTM C 260	Standard Specification for Air-Entraining Admixtures for Concrete

ASTM C 494	Standard Specification for Chemical Admixtures for Concrete
ASTM C 309	Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C 827	Change in Height at Early Ages of Cylindrical Specimens of Cementitious Mixtures
ASTM C 1107	Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Non-shrink)
ASTM D 1190	Standard Specification for Concrete Joint Sealer
ASTM D 1752	Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction

U.S. AIR FORCE MANUALS (AFM)

AFM 88-7, Chap. 5	General Provisions and Geometric Design for Roads, Streets, Walks, and Open Storage Area

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Design Drawings

SD-05 Design Data

Design Analysis

Specifications

Concrete mix design

1.3 SUMMARY

This section includes concrete requirements for sidewalks, curbs, gutters, and ramps.

1.4 DESIGN SUBMITTALS FOR REVIEW AND CONFORMANCE

Design Drawings: Submit design drawings in accordance with Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS.

Specifications: Submit new detailed specification sections to specify the quality, characteristics, installation procedures, and testing

requirements for all items of sidewalk removal and replacement in accordance with Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS. The appropriate Division 02 SITEWORK and Division 03 CONCRETE specification(s) shall be properly edited for this project and submitted.

Submit a design analysis in accordance with Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS. The basis of design shall establish conformance to applicable referenced codes, and the suitability of the fill and backfill requirements for this project.

1.5 ENVIRONMENTAL REQUIREMENTS

Conform to the requirements for temperature and humidity/moisture as listed in Part 3 of this specification.

PART 2 PRODUCTS

2.1 PERFORMANCE

All sidewalk, curb, and gutter replacement and repairs shall be based upon the recommendations of a Contractor engaged registered Professional Engineer who is experienced in the sidewalk, curb, and gutter replacement and repair issues related to this project. Recommendations and design shall be fully illustrated and specified in Design Drawings, Design Analysis, and Specifications submitted by the designer of record in accordance with Section 01013 65 AND 100 PERCENT DESIGN REQUIREMENTS.

2.1.1 Sidewalk, Curb, and Gutter

Sidewalk, curb, and gutter material shall be portland cement concrete as specified herein. Typical dimensions shall be as shown in the plans. Transition new sidewalk width to match existing sidewalk of greater or lesser width.

2.2 REINFORCING MATERIALS

The reinforcing of concrete walks shall be continuous and, therefore, typical details showing the arrangement of reinforcing and joints shall be shown on the design drawings submitted in accordance with Section 01012, DESIGN AND CONSTRUCTION DELIVERABLES/PROCEDURES. Reinforcing steel drawings shall be submitted in accordance with ACI 325.9R.

(1) General: Reinforcing materials shall be clean, straight, and shop-fabricated to the indicated dimensions.

(2) Wire Mesh: Mesh shall be welded, plain, cold-drawn steel wire fabric conforming to ASTM A 185.

(3) Metal Accessories: Reinforcing bar accessories, chairs, ties, slab bolsters, and spacers shall be cold-drawn, industrial-quality, basic wire corrugated or straight, clean, and free of rust, furnished in sizes and quantities to adequately support reinforcement.

(4) Metal-Joint Inserts: Metal-joint inserts for contraction joints shall be formed of zinc-coated steel sheets.

(5) Fabricated Bar Mats: Mats shall be welded or clip-assembled

steel bars, and shall conform to ASTM A 184. Bars used in fabrication of mats shall be Grade 60 deformed billet-steel bars conforming to ASTM A 615.

(6) Reinforcing Bars: Reinforcing bars and tie bars shall be deformed billet-steel bars, Grade 60, conforming to ASTM A 615.

(7) Joint Dowel Bars: Dowel bars for load transfer, expansion joints, and transverse contraction joints in reinforced concrete slabs shall be plain billet steel bars, Grade 60, conforming to ASTM A 615. Bars shall be cut true to length with ends square and free of burrs.

2.3 JOINT MATERIALS

1) Preformed Joint Fillers: Fillers shall be preformed, non-extruding, resilient fillers conforming to ASTM D 1752, thickness as indicated.

(2) Wood-Joint Fillers: Wood joint fillers for temporary joint filling shall be sound heart redwood as approved.

(3) Elastic-Joint Sealant: Joint sealant shall be a hot-poured rubber-modified asphalt joint sealer conforming to ASTM D 1190.

2.4 CURING MATERIALS

(1) Impervious Sheeting: Waterproof paper shall be fiber reinforced, non-staining, white, two-ply Kraft paper conforming to ASTM C 171. Polyethylene sheeting shall be white polyethylene film, 4-mil (0.004 inch) minimum thickness, with water-retention capability conforming to ASTM C 171.

(2) Liquid Membrane-Forming Compounds: Liquid membrane-forming compounds shall be a spray-applied, white-pigmented compound conforming to ASTM C 309.

2.5 FORM MATERIALS

(1) General Forms shall be of sufficient strength to resist springing during placement of concrete and to remain in vertical and horizontal alignment until removed. Forms shall be free of distortion and defects and shall extend the full depth of the concrete. Defective forms shall be replaced with new or repaired forms at no additional cost to the Government.

(2) Steel Forms: Forms shall include spring-steel flexible forms for forming curves and corner forms, form spreaders, and fillers as required.

(3) Wood Forms: Forms shall be 2-inch nominal thick planks, surfaced on four sides, straight, free of defects, clean, and well-oiled. Wood forms shall have a nominal length of 10 feet, with a minimum of three stakes per form at a maximum spacing of 4 feet. Corners, deep sections, and radius bends shall have additional stakes and braces as required. Radius bends may be formed with 3/8-inch boards laminated to the required thickness.

(4) Form Coating: Form oil shall be a non-staining clear

compound that will not discolor or injure the concrete.

2.6 CONCRETE MATERIALS

1) Aggregates: Aggregates shall conform to ASTM C 33. Fine aggregates shall be natural or manufactured sand. Coarse aggregates shall be crushed stone or crushed gravel.

(2) Air-Entraining Admixtures: Material shall be a liquid air-entraining admixture conforming to ASTM C 260.

(3) Set-Retarding Admixtures: Set-retarding admixtures shall conform to ASTM C 494.

(4) Portland Cement: Portland cement shall conform to ASTM C 150, Type I or II.

(5) Mixing Water: Mixing water shall be potable.

2.7 CONCRETE-MIX DESIGN

Concrete mix design shall be Portland cement concrete with an air-entraining admixture, with a minimum compressive strength of 4,000 pounds per square inch (psi) at 28 days, minimum cement content of six 94 pound bags of cement per cubic yard, maximum slump of 4 inches, and 4 to 6 percent air entrainment. The proportions of the concrete-mix design shall be determined by tests conducted in accordance with the basic relations and procedures outlined in ACI 211.1, using at least three different water-cement ratios. Under no circumstances shall the maximum water-cement ratio or the minimum cement content be changed outside the limits specified for the quality of concrete to be used in the work. Concrete-mix design test specimens shall be made as specified.

PART 3 EXECUTION

3.1 GRADES

In accordance with AFM 88-7, Chap. 5 grades for walks shall follow the existing grade as nearly as possible. The transverse grades for sidewalks shall not be less than 1/4-inch per foot. The longitudinal grade shall not be greater than 15 percent.Replacement curb and gutter shall restore drainage patterns. Replacement curb and gutter shall be installed with positive grade.

3.2 CONCRETE SAMPLING AND TESTING

Concrete sampling and testing shall follow the procedure outlined in specification Section 02509, UTILIDOR STRUCTURE.

3.3 READY-MIXED CONCRETE

Ready-mixed concrete shall conform to the requirements of ASTM C 94, with modifications in the referenced ASTM specification as follows:

(a) Section 4, MATERIALS. Delete in its entirety. Materials shall be as specified.

(b) Section 5, ORDERING INFORMATION. Delete and substitute the following: At least 10 calendar days before delivery of the

concrete, the Contractor shall furnish a statement giving the source and properties of the proposed concrete-mix materials and the proposed concrete mix design strength tests for the class of concrete specified. Changes in the source of materials or the concrete-mix proportions shall not be made without prior written authorization. Proportions of the concrete mix design shall be determined by tests conducted in accordance with the basic relations and procedures outlined in ACI 211.1, using at least three different water-cement ratios. Under no circumstances shall the maximum water-cement ratio or the minimum cement content be changed outside the limits specified for the class of concrete to be used in the work. At least three flexure-test specimens for each age to be strength tested shall be made and cured in accordance with ASTM C 192 and tested for flexure strength at 7 days and 28 days in accordance with ASTM C 39. From the results of the flexure-strength tests, a curve shall be plotted showing the relationship between the water-cement ratio and compressive strength. The maximum permitted water-cement ratio shall be that value shown by the curve to produce the design-minimum laboratory flexure strength at 28 days as specified for the class of concrete to be used in the work.

(c) Section 6, TOLERANCES IN SLUMP. Delete subsections 6.1.1 and 6.1.2 and substitute the following: The slump shall be not more than the value specified in Paragraph 2.6 CONCRETE MIX DESIGN.

(d) Section 11.3, CENTRAL-MIXING CONCRETE. Delete the reference to non-agitating equipment. The use of non-agitating equipment will not be permitted.

(e) Section 11.7. Delete and substitute the following: When a truck mixer or agitator is used for mixing or delivery of concrete, no water from the truck water system or elsewhere shall be added after the initial introduction of the mixing water for the batch. Concrete shall be delivered to the work site and discharge completed within 1-1/2 hours, or before the drum has turned 300 revolutions after the introduction of cement to the aggregates, whichever comes first. As an exception, in hot weather when the temperature of the concrete is 85° F and above, the 1-1/2 hour mixing and delivery time shall be reduced to 45 minutes. When a truck mixer is used for the complete mixing of the concrete, the mixing operation shall begin within 30 minutes after the cement has been intermingled with the aggregates.

(f) Section 16, BATCH TICKET INFORMATION. Add the following: With each load of concrete delivered to the site of the work, the ready-mixed concrete manufacturer shall furnish 2 delivery tickets. In addition to the requirements of Section 16.1, delivery tickets shall provide the following information:

Type and brand name of cement;
Amount of cement per cubic yard of concrete;
Maximum size of aggregate;
Weights of fine and coarse aggregate;
Amount and brand name of air-entraining admixture;
Total water content expressed by water-cement ratio; and
Certification that all ingredients are as approved.

Strength, frequency, and number of flexural strength tests shall

be as specified.

(g) Section 18. Delete in its entirety.

3.4 HOT AND COLD WEATHER MIXING

During hot-weather conditions (temperatures exceeding 80°F), aggregates and mixing water shall be kept as cool as possible. Chilled water or chopped ice shall be used, provided the water equivalent of the ice is calculated in the total proportion of mixing water. Aggregates shall be cooled by sprinkling with water immediately before use. Cement with a temperature in excess of 80° F shall not be used.

Concrete delivered in cold weather (temperatures below 45°F) shall have a temperature of at least 60° F but no more than 80°F when it is placed. Aggregates and mixing water shall be heated and mixed uniformly in the mixer before cement is introduced, and in accordance with ACI 306R.

3.5 FORM WORK

3.5.1 Setting Forms

Forms shall be set to the required line and grade and braced and staked to resist the pressure of concrete placement, and shall have uniform bearing throughout their entire lengths and widths. Sufficient forms shall be provided to allow continuous progress of the work without the necessity of removing forms less than 12 hours after placing concrete. Forms shall be cleaned and oiled with non-staining mineral oil immediately before the concrete is placed. Should the subgrade between forms become rutted or disturbed, it shall be reshaped and compacted to specified tolerances. Before concrete is placed, the subgrade or base course between forms shall be made true with a subgrade planer.

3.5.2 Form Tolerance

After forms are set in place, their top surface shall be checked for grade. Forms shall be checked for true with a straightedge not less than 10 feet long. The top of the form shall vary not more than 1/8 inch in 10 feet, and the longitudinal axis of the vertical face shall vary not more than 1/4 inch in 10 feet.

3.6 PLACING CONCRETE

3.6.1 General

Concrete shall not be placed until the subgrade, base course, and forms have been approved for line and grade. The subgrade shall be moistened to provide a uniformly dampened condition at the time concrete is placed. Retempered concrete or concrete which has partially hardened shall not be deposited. Exposed, newly placed concrete shall be protected.

3.6.2 Cold Weather Placing

Concrete shall be placed, protected, and cured in accordance with ACI 306R.

3.6.3 Hot-Weather Placing

Concrete shall be placed, protected, and cured in accordance with ACI 305R.

3.6.4 Hand Spreading of the Concrete

Hand spreading of concrete will be permitted; only when necessary and shall be done with square-faced shovels; rakes or hoes shall not be used. Except where reinforcing steel is indicated, concrete shall be placed and spread in one course, monolithic construction, and consolidated by internal vibration, spading, and tamping along the face of the forms and at joints to remove voids and honeycomb. Depositing and spreading concrete shall be continuous, as far as possible, between transverse joints. In the event of an unavoidable interruption of the work continuing more than 1/2 hour, a construction joint shall be placed. Sections less than 15 feet in length between transverse joints will not be permitted and, if constructed, shall be removed at the Contractor's expense. Finishing operations shall not begin until surface water has disappeared or is removed in an approved manner. Applying dry cement as an absorptive material will not be permitted. Retempered concrete or concrete which has partially hardened shall not be deposited.

3.6.5 Placing Reinforcing Steel

When reinforcement is required, the concrete shall be placed in two operations. The initial pour shall be struck off to the entire width of the pour the required depth below the finished surface. The reinforcement shall be laid full length in final position without further manipulation. The top layer of concrete shall then be placed, struck off, and screeded. Any portion of the bottom layer of concrete, which has been placed more than 30 minutes without being covered with the top layer shall be removed and replaced without additional cost to the Government. Wire mesh reinforcement shall be end-lapped one full mesh plus 2 inches; edge laps shall be not less than 2 inches. Laps shall be securely fastened at each edge and at two additional points along the top. Reinforcement steel shall not be distributed along the road but shall be placed in the concrete slab directly from the hauling equipment or from a bridge riding on the forms, except for irregular widths and, where the use of hauling equipment is not practicable. The longitudinal bars of fabricated bar mats shall have a lap of at least 30 diameters. Width of the wire reinforcement sheets or bar mats shall be 4 inches less than the width of the slab. The allowable number of sheets between contraction joints or between contraction and expansion joints shall not exceed four. The length of wire fabric or bar mats, when properly placed in the work, shall be such that the reinforcement will clear transverse joints by not less than 2 inches or more than 4 inches.

3.7 JOINTS

3.7.1 General

Joints shall conform to ACI 325.9R and the specified requirements, except where indicated otherwise. Joints shall be constructed true to line with the face perpendicular to the surface of the pavement. Longitudinal joints shall be constructed parallel to the centerline of the pavement, unless otherwise required, and shall vary not more than 1/2 inch from the designated position. Transverse joints shall be constructed at right angles to the centerline of the pavement, unless otherwise indicated, and shall vary not more than 1/4 inch from a true line. In no case shall the joint fall outside the center 3 inches of the load-transfer device. When the pavement is laid in partial-width slabs, or where existing pavements are being widened, transverse joints in the new slab shall be placed in line

with similar joints in the existing pavement.

3.7.2 Longitudinal Joints

Longitudinal Joints shall be constructed as either construction joints or as transverse contraction joints as defined herein.

3.7.3 Transverse Contraction Joints

Transverse contraction joints in reinforced concrete pavement shall be saw-cut to a minimum depth of 1/4 of the slab thickness for a weakened plane joint.

3.7.4 Construction Joints

Construction joints shall be placed at the end of pours and at places where paving operations are stopped for a period of more than 1/2 hour, except where such pours end at expansion joints. Except where indicated otherwise, construction joints in both plain and reinforced pavement shall have a load-transfer device (min #5 steel dowels or formed keyway). Construction joints shall be constructed with a 1/2-inch-wide by 1/2-inch to a 3/4 inch-deep sealing groove formed in the second pour by a wood or fiberboard temporary filler.

3.7.5 Expansion Joints

Expansion joints shall be spaced as indicated and shall include a load-transfer unit and a pre-molded joint filler, except that the pre-molded joint filler without the load-transfer unit shall be used for joints abutting concrete walks, curbs, structures, catch basins, manholes, inlets, and other fixed objects. The load-transfer unit and dowels for expansion joints shall be formed keyways or steel dowels, except where indicated otherwise.

3.7.6 Joint Fillers

Joint fillers for expansion joints shall extend the full width and depth of the joint. After installation, the top shall be not less than 1/2 inch and no more than 1 inch below the finished surface. Joint fillers shall be furnished in lengths not less than the lane width being poured. Where more than one length is required, the sections shall be securely laced or clipped together. Joint fillers shall be held in place during installation by an approved installing device. The top edge of the filler shall be protected with metal cap or approved temporary filler while concrete is being placed.

3.7.7 Sawing Concrete Joints

Joints constructed by sawing shall be in accordance with ACI 325.9R. Joints constructed with a concrete saw shall be cut as soon as concrete has hardened sufficiently to prevent edge damage. The width of the joint shall be approximately 1/8 inch and shall be widened at top of groove to 1/2 inch wide by 1/2 to 3/4-inch depth. For construction joints in small sidewalks, the groove may be consistently 1/8 inch wide and 2 inches deep, regardless of the slab thickness. The depth of the groove cut shall be approximately one-fourth of the depth of the slab or to the depth indicated. Sawing concrete shall be limited to widening joints to receive sealant and for joint repairs and minor jointing. Concrete sawing shall not be used to form contraction or weakened plane joints.

3.8 FINISHING CONCRETE

3.8.1 General

Concrete finishing shall be performed with finishing machines or hand-finishing methods, as approved.

3.8.2 Striking Off and Consolidating Concrete

Immediately after depositing, the concrete shall be struck off and consolidated by an approved finishing machine or float to conform to the finished grade. While striking off, a uniform ridge of concrete shall be maintained ahead of the screed for its entire length. Sufficient mortar shall be worked to the surface to provide a dense, smooth finish. Excessive operation of the machine over a given area will not be permitted. Concrete shall be compacted by mechanical vibration or by approved hand methods for the full width of the slab and adjacent to joints to prevent voids and segregation from occurring against joint material, load-transfer devices, and joint-assembly units. Equipment that cannot produce the required compaction and surface finish will be considered unsatisfactory. The Contractor shall then furnish alternate equipment and methods that shall produce satisfactory pavement at no additional cost to the Government.

3.8.3 Floating Concrete

After the concrete has been struck off and consolidated, the surface shall be smoothed by means of a mechanical float or by a suspended pan float. The mechanical float shall be adjusted so that the float will pass over each section of pavement at least twice and may make one or two additional trips, if required, to properly compact the concrete and to produce a uniform surface texture. Excessive operation over an area will not be permitted. Where mechanical floating is not possible, hand methods may be used, as approved.

3.8.4 Straight Edging and Surface Correction

After floating has been completed, but while the concrete is still plastic, the surface shall be checked for true with a straightedge not less than 10 feet long. The straightedge shall be placed at the center of the slab with the blade parallel to the centerline and pulled slowly and uniformly to the edge. The operation shall be repeated until the surface of the concrete is free from irregularities and is in continuous contact with the bottom of the straightedge. The straightedge shall then be moved forward half its length, and the operation repeated. Depressions in the surface shall be filled with freshly mixed concrete, struck off, consolidated, refinished, and retested.

3.8.5 Final Finish

For Gutters, Curbs, and Large Slabs: As soon as excess moisture or sheen has disappeared and while it is still possible to produce a uniform surface of gritty texture, the pavement shall be finished by dragging a seamless strip of damp burlap or cotton fabric not less than 5 feet and more than 10 feet in width over the full width of the pavement. The drag shall be pulled by a self-propelled foot-bridge supported on the forms. The pavement shall be given a final finish by dragging the burlap over the full width of the pavement for a second time.

For Sidewalks: As soon as excess moisture or sheen has disappeared and while it is still possible to produce a uniform surface of gritty texture, the pavement shall be finished by dragging a broom specifically designed for concrete finishing over the full width of the pavement, taking care to produce straight lines. Edges of the individual slab units shall have a smooth trowel texture, applied after the broom finish and including all four sides of the slab unit within 2 inches of the edge or joint.

3.8.6 Edging at Forms and Joints

Edges of the slab, transverse joints, and construction joints shall be worked with an edging tool and rounded to the required radius. Tool marks appearing on the surface of the slab shall be eliminated. Joints shall be tested with a 10-foot straightedge before the concrete has set and correction shall be made to align joints with each other and with adjacent slabs.

3.8.7 Hand Finishing

Hand finishing concrete pavements will be permitted when approved and under the following conditions:

(a) To finish concrete already deposited in the event of a breakdown of mechanical equipment.

(b) To finish narrow widths or irregular areas where operating the mechanical equipment is impractical.

(c) To finish minor amount of concrete paving where the use of mechanical equipment is impractical and hand finishing would be the normal procedure.

Hand finishing concrete pavement shall conform to ACI 325.9R and shall be performed by approved methods and equipment. When striking off and consolidating by hand methods, pours shall be limited to single-lane widths or less, unless otherwise approved.

3.8.8 Surface Test

Surface Test applies slabs larger than 8 ft wide only. On the day following placing of the concrete, the pavement shall be tested with a 10-foot straightedge parallel with, and perpendicular to, the centerline as directed. Areas showing high spots exceeding 1/8 inch but not exceeding 1/2 inch in 10 feet shall be marked and removed. Where the departure from the correct cross section exceeds 1/2 inch, the pavement shall be removed and replaced at the expense of the Contractor. Any section removed shall be not less than 10 feet in length. When it is necessary to remove and replace a section of pavement, any remaining portion of the slab adjacent to the joints that is less than 10 feet in length shall also be removed and replaced.

3.8.9 Removing Forms

Forms shall remain in place at least 12 hours after concrete has been placed, then shall be removed in a manner that will avoid damage to the pavement.

3.8.10 Honeycombed or Defective Work:

After the forms have been removed, the ends of joints shall be cleaned and minor honeycombed areas shall be pointed. Areas designated as "major honeycombed areas" will be considered defective work and shall be removed and replaced at the expense of the Contractor. An area or section so removed shall be not less than 10 feet in length and not less than the full width of the lane. When it is necessary to remove and replace a section of pavement, any remaining portion of the slab adjacent to the joints that is less than 10 feet in length shall also be removed and replaced.

3.9 CURING

3.9.1 General

Freshly deposited concrete shall be protected from premature drying and maintained with minimum moisture loss at a relatively constant temperature for the period of time necessary for the hydration of the cement and proper hardening of the concrete. The Contractor shall have facilities ready for curing operations. Exposed surfaces shall be protected from drying. Wherever practical, continuous water curing is preferable. Wind breakers or sun-shading screens shall be provided when required by wind or drying conditions.

3.9.2 Cold-Weather Curing

Concrete shall be protected and cured to prevent loss of moisture and to maintain the recommended concrete temperatures for cold-weather concrete placement in accordance with ACI 306R.

3.9.3 Hot-Weather Curing

Concrete shall be protected and cured for 7 days during hot weather or during conditions of rapid drying of concrete in accordance with ACI 305R.

3.9.4 Curing Methods

Except during conditions of cold weather concrete placement, exposed concrete surfaces shall be wet cured for a minimum of 48 hours, beginning the process immediately after the finishing operations have been completed and as soon as concrete has hardened sufficiently to preclude surface damage. Concrete shall be cured by means of one or more of the methods listed:

(a) Continuous Water Spray: Continuous water spray of exposed concrete surfaces shall be achieved by use of soil-soaker hoses or fog-spray nozzles to keep the surface moist but not flooded for the curing period.

(b) Wetted Burlap or Cotton Mats: Exposed concrete surfaces shall be covered with two or more layers of wetted burlap cloth or cotton mats. Material shall be saturated with water both night and day and held securely in place during the initial curing period.

3.9.5 Final Curing

The final curing of exposed concrete surfaces shall be achieved by continuing the method of initial wet curing for the duration of the curing

period or by the use of one of the following:

(a) Impervious sheets: Exposed concrete surfaces shall be covered with polyethylene sheets or Kraft paper. Adjoining sheets shall be lapped at least 6 inches and shall overlap ends at least 12 inches. Joints shall be cemented or taped to form a continuous membrane. Sheets shall be in good condition; all perforations, tears, holes, or rips shall immediately be patched. Curing sheets shall be folded over exposed edges of concrete and secured in place.

(b) A liquid membrane-forming compound shall be applied under constant pressure to exposed concrete surfaces in one or two uniform spray applications, as directed, at a rate of 150 square feet per gallon of material by means of an approved pressure sprayer. Portable spray equipment shall be used for curing irregular-width pours or where the total amount of concrete is small. At the time of use, the curing compound shall be in a mixed state. The spray equipment shall provide effective stirring of the compound during application. The curing compound shall not be permitted to enter joints, nor shall it be allowed on surfaces to be subsequently joined with other concrete surfaces. The spraying unit shall be equipped with a calibrated gage to ensure the quantity applied is as required. The unit shall provide a fine fog spray to the surface of the concrete. An additional coat of compound shall be applied to all surfaces showing uneven coverage. Damage to any area covered with curing compound within the 7-day curing period shall be resprayed as specified. The Contractor shall provide alternate methods or equipment for the protection of the pavement in case of a breakdown of spray equipment. Failure to provide complete and uniform coverage at the required rate will be cause for discontinuation of this curing method.

3.10 JOINT SEALING

3.10.1 Preparation

Temporary fillers shall be removed manually or with a saw cut. The joint opening and adjacent concrete surfaces shall be cleaned of extraneous matter. The joint shall be cleaned by sand blasting or by other approved methods. The residue from a sawed groove or the dust and sand present after sand blasting or cleaning shall be removed.

3.10.2 Joint Sealant

Longitudinal and transverse, expansion, and isolation joints shall be sealed with the specified elastic joint sealant. Joint sealant shall be handled, prepared, and placed in strict accordance with the manufacturer's printed or certified instructions. Special care shall be taken to preclude damage by overheating the sealant. A copy of the manufacturer's printed or certified instructions shall be on the job for inspection and use before beginning the work. The sealant shall not be placed when the air temperature is less than 50° F in the shade. Each joint shall be cleaned of foreign matter, including membrane-curing compound, and the joint faces shall be clean and surface dry when the seal is applied. Immediately after cleaning, joints shall be sealed in accordance with the manufacturer's written directions, completely filling the joint. The sealant shall be stirred during heating so that localized overheating does not occur.

Sealing compound spilled on the surface of the concrete outside the joint or adjacent surfaces shall be removed immediately. Traffic shall not be permitted over the poured joint until the compound has hardened sufficiently to resist picking up of sealing compound. Sand or similar material shall not be used as a cover for the seal.

3.11 DEFECTIVE PAVEMENT

3.11.1 Repairs and Replacement of Pavement Slabs

Broken or defective slabs shall be replaced or repaired at no additional cost to the Government. Non-reinforced concrete pavement slabs that contain the following defects shall be removed and replaced:

(a) Pavement slabs with multiple cracks through the full depth of the slab separating the slab into three or more parts between contraction joints.

(b) Pavement slabs with one or more cracks through the pavement extending diagonally across more than one-third of the slab, in either a transverse or longitudinal direction replacing the smaller portion of the slab. Pavement slabs containing a single diagonal crack intersecting the transverse and longitudinal joints within one-third of the width and length of the slab from the corner, shall be repaired by replacing the smaller portion of the slab.

3.11.2 Full Depth Random Cracks

Random cracks penetrating the full depth of the pavement shall be grooved and sealed with the specific joint sealant. The sealing groove shall be approximately 1/2-inch wide and 3/4-inch deep. Random cracks that are tight and do not penetrate the full depth of the pavement shall be left undisturbed. When necessary, the depth of crack penetration shall be determined by inspection of test cores, not less than 4 inches in diameter, drilled by the Contractor at his expense, at locations directed. Core holes shall be refilled with Portland cement concrete bonded to the pavement with polysulfide epoxy binder or with non-shrink grout conforming to ASTM C 1107 and positive expansion when tested in accordance with ASTM C 827. When a transverse random crack terminates in or crosses a transverse contraction joint, the uncracked portion of the joint shall be filled with epoxy resin mortar or grout and the crack routed and sealed with the specified joint sealant. When a transverse random crack approximately parallels the planned contraction joint and is within 25 percent of the slab length from a contraction joint in non-reinforced pavement, the crack shall be routed and sealed and the joint filled with a bonded grout. When a transverse random crack is more than 25 percent of a slab length from the nearest contraction joint in non-reinforced pavement, both the joint and the crack shall be sealed with the specified joint sealant.

3.11.3 Pavement Protection and Opening to Traffic

The pavement shall be protected from damage until acceptance of the work. Traffic shall be excluded from the pavement until the concrete is at least 14 days old or until specimen beams have reached a modulus of rupture of 550 psi, and as permitted. To expedite construction, operation of paving mixers and batch hauling equipment will be permitted on new pavement after the pavement has been cured for at least 7 days, the joints have been sealed or protected, and specimen beams have reached a modulus of rupture

of 500 psi.

The pavement carrying construction traffic or equipment shall be kept clean, and spillage of materials or concrete shall be immediately removed. Damage to pavement caused by equipment or traffic on the pavement before acceptance shall be corrected by repairing or replacing pavement at no additional cost to the Government.

3.12 CLEANUP AND WASTE DISPOSAL

The Contractor shall clean up the site and dispose of waste materials and debris. After completion of the protection and curing period, insulating and curing materials shall be removed. Joints shall be sealed and excess materials removed from the site. Straw shall be removed from the site or distributed where directed. Concrete surfaces shall be swept and washed free of stains, discoloration, and loose particles.

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SECTION 13000

HAZARDOUS MATERIALS ABATEMENT

PART 1 GENERAL

1.1 REFERENCES

The planning and execution of work by the Contractor shall comply with the current edition of the following guides, standards, and codes. In the case of discrepancies between the following guides, standards, and codes, and the RFP Design Requirements, the more stringent shall apply. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

1.1.1 Planning and Execution of Work

The planning and execution of work by the Contractor shall comply with the current, or as noted, editions of the following guides, standards, and codes. In the case of discrepancies between the following guides, standards, and codes, and the RFP Design Requirements, the more stringent shall apply.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Z9.2	Fundamentals Governing the Design and Operation of Local Exhaust Systems
ANSI Z87.1	Occupational and Educational Eye and Face Protection
ANSI Z88.2	Respiratory Protection

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1926	Safety and Health Regulations for Construction
40 CFR 61	National Emissions Standards for Hazardous Air Pollutants
40 CFR 260	Hazardous Waste Management System: General
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 263	Standards Applicable to Transporters of Hazardous Waste

40 CFR 268	Land Disposal Restrictions
40 CFR 763	Asbestos
42 CFR 84	Approval of Respiratory Protective Devices
49 CFR 107	Hazardous Materials Program Procedures
49 CFR 171	General Information, Regulations, and Definitions
49 CFR 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements
49 CFR 173	Shippers - General Requirements for Shipments and Packaging
49 CFR 173.216	Shippers - General Requirements for Shipments and Packaging, Asbestos, blue, brown or white

COMPRESSED GAS ASSOCIATION (CGA)

CGA G-7	Compressed Air for Human Respiration
CGA G-7.1	Commodity Specification for Air

ARMY ENGINEERING MANUALS (EM)

EM 385-1-1	(1996) U.S. Army Corps of Engineers Safety and Health Requirements Manual

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA 340/1-90-018	Asbestos/NESHAP Regulated Asbestos Containing Materials Guidance
EPA 340/1-90-019	Asbestos/NESHAP Adequately Wet Guidance
EPA 560/5-85-024	Guidance for Controlling Asbestos-Containing Materials in Buildings

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

NIOSH Pub No. 84-100	NIOSH Manual of Analytical Methods

UNDERWRITERS LABORATORIES (UL)

UL 586	High-Efficiency, Particulate, Air Filter Units

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM E 119	Fire Tests of Building Construction and Materials
ASTM D 1331	Surface and Interfacial Tension of

	Solutions of Surface-Active Agents
ASTM E 1368	Visual Inspection of Asbestos Abatement Projects
ASTM E 1553	Practice for Collection of Airborne Particulate Lead During Abatement and Construction Activities
ASTM E 1613	Standard Method for Determination of Lead by Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-AES), Flame Atomic Absorption Spectrometry (FAAS), or Graphite Furnace Atomic Absorption Spectrometry (GFAAS) Techniques
ASTM E 1644	Practice for Hot Plate Digestion of Dust Wipe Samples for the Determination of Lead
ASTM E 1726	Sample Digestion of Soils for the Determination of Lead by Atomic Spectrometry
ASTM E 1727	Field Collection of Soil Samples for Lead Determination by Atomic Spectrometry Techniques
ASTM E 1728	Field Collection of Settled Dust Samples Using Wipe Sampling Methods for Lead Determination by Atomic Spectrometry Techniques
ASTM E 1729	Field Collection of Dried Paint Samples for Lead Determination by Atomic Spectrometry Techniques
ASTM E 1741	Preparation of Airborne Particulate Lead Samples Collected during Abatement and Construction Activities for Subsequent Analysis by Atomic Spectrometry
ASTM E 1792	Wipe Sampling Materials for Lead in Surface Dust
ASTM D 4397	Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 701	Methods of Fire Tests for Flame-Resistant Textiles and Films

STATE OF ALASKA ADMINISTRATIVE CODE (AAC)

8 AAC 61	Occupational, Health and Environmental Control, Toxic and Hazardous Substances
18 AAC 60	Environmental Conservation - Solid Waste Management

U S AIR FORCE, EIELSON AIR FORCE BASE

HMWMP	Hazardous Waste/Hazardous Material Management Plan
FW 32-7005	Hazardous Materials Management
WDBPWS	EIELSON AFB PLAN Waste Disposal/Borrow Pit Worksheet

UNIFIED FACILITIES GUIDE SPECIFICATION (UFGS)

Section 13280A	Asbestos Abatement
Section 13282N	Lead in Construction

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Hazardous Materials Abatement Plan

SD-02 Shop Drawings

Design Drawings

SD-05 Design Data

Design Analysis

Specifications

1.3 SUMMARY

1.3.1 Section Includes

This section includes requirements for the proper removal and disposal of hazardous materials from the project utilidors prior to demolition and installation of new piping and equipment.

1.3.2 Scope of Work

A survey of the utilidors has been performed and results indicate asbestos-containing or asbestos-contaminated insulation exists throughout the utilidors. Asbestos was also detected in mastics and sealants on utilidor lids, joints, walls, gaskets at flanged connections and in packing in valves. Some of the manholes have been abated of asbestos insulation. Due to flooding, all surfaces and insulation should be considered contaminated with asbestos. Water on the floor of the utilidor is assumed to be asbestos contaminated. All water removed from the utilidors shall be filtered prior to disposal in the sanitary sewer system. This water must

contain less than 7,000,000 asbestos fibers per liter prior to discharge.

Lead-containing paint was detected on manhole lids, piping, hatches, ladders, and mechanical supports. Abandoned and unserviceable lead shielded cable shall be identified by Eielson personnel or private utility owner for removal by the Contractor. The Contractor shall coordinate cable identification. Metal items removed as part of the project, whether painted or not, shall be recycled. All loose and flaking paint chips shall be collected and disposed of as hazardous waste.

Lead cable shall be recycled. The Contractor shall provide the Contracting Officer with a certificate of acceptance from the recycler.

A hazardous materials survey has been completed for the project area. The results of this survey are in Appendix F, Hazardous Materials Survey Reports.

Eielson AFB considers utilidors to be Permit Required Confined Spaces. Contractor shall have a confined space program for entry and performing work in utilidors that complies with the U.S. Army Corps of Engineers Safety and Health Requirements Manual and 29 CFR 1910.146. Confined space permits shall be issued prior to any utilidor work.

1.3.3 Related Sections

Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS
Section 01355, ENVIRONMENTAL PROTECTION
Section 02509, UTILIDOR STRUCTURE
Section 02510, WATER DISTRIBUTION SYSTEM
Section 02531, SANITARY SEWERS
Section 02559, STEAM DISTRIBUTION SYSTEM
Section 16000, UTILIDOR POWER DISTRIBUTION, COMMUNICATIONS, AND LIGHTING SYSTEMS

1.4 DESIGN SUBMITTALS FOR REVIEW AND CONFORMANCE

Submit design drawings in accordance with Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS. Hazardous materials abatement work may be incorporated on demolition drawings.

Specifications: Submit new detailed specification sections to specify the requirements for testing, removal, and disposal of hazardous materials from all areas of the project in accordance with Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS.

Design Analysis: Submit a design analysis in accordance with Section 01013, 65 AND 100 PERCENT DESIGN REQUIREMENTS. The basis of design shall establish conformance to applicable referenced codes, and suitability of the utilidor design.

1.5 QUALIFICATIONS

1.5.1 Designated Competent Person

The Contractor shall use properly qualified and trained personnel to perform duties as the competent person. The person selected shall have prior experience in the administration and supervision of abatement projects, including exposure assessment and monitoring, work practices, abatement methods, disposal procedures and site safety and health

requirements.

1.5.2 Supervisors and Workers

The Contractor shall use only properly qualified and trained supervisors and workers for all abatement work. All workers and supervisors shall have current certificates of training for the level of hazardous materials work being performed.

1.5.3 Designated Industrial Hygienist

The Contractor shall select an independent Industrial Hygienist to prepare the Contractor's Hazardous Materials Abatement Plan, prepare and perform training, direct air monitoring, and assist the Contractor's Competent person in implementing and ensuring that safety and health requirements are complied with during the performance of all required work.

1.5.4 Independent Testing Laboratory

An independent testing laboratory shall be used to perform all testing and analysis required during hazardous materials abatement. The lab shall meet the requirements as set forth in the U.S. Army Corps of Engineers Unified Facilities Guide Specification, Section 13280A ASBESTOS ABATEMENT and Section 13282N LEAD IN CONSTRUCTION.

1.5.5 Citations on Previous Projects

The Contractor and all subcontractors shall provide a record of any citations and penalties received from federal, state, or local regulatory agencies relating to asbestos or hazardous materials abatement activities performed by the contractor or subcontractor.

1.6 HAZARDOUS MATERIALS WORK PLAN

The Contractor shall develop and submit a written comprehensive site-specific Hazardous Materials Work Plan covering all abatement work to be performed by the contractor and subcontractors. The plan shall describe the personal protective equipment to be used, location and description of regulated areas, abatement methods, storage and disposal procedures, sampling and testing procedures, environmental controls, emergency response procedures, schedule and work coordination plans, and security procedures.

1.7 MEDICAL REQUIREMENTS

Medical requirements shall conform to 29 CFR 1926.1101 for asbestos abatement work, to 29 CFR 1926.62 for lead abatement work and to other pertinent state or local requirements.

1.8 TRAINING

Supervisor and worker training shall be in accordance with all federal, state, and local regulations. In addition, each worker shall be instructed by the Contractors' Industrial Hygienist on the specific health and safety hazards associated with the project, hazard communication program, specific work practices and controls required, security procedures, and the air monitoring program.

1.9 RESPIRATORY PROTECTION PROGRAM

The Contractor shall establish in writing and implement a respiratory protection program in accordance with 29 CFR 1926.62 and .1101, 29 CFR 1910. 134, ANSI Z88.2, CGA G-7, CGA G-7.1, and the specifications.

1.10 HAZARD COMMUNICATION PROGRAM

A hazard communication program shall be established and implemented in accordance with 29 CFR 1926.59.

1.11 LICENSES, PERMITS, AND NOTIFICATIONS

Necessary licenses, permits, and notifications shall be obtained in conjunction with the project's hazardous materials abatement, transportation, and disposal actions. Timely notifications of such actions shall be furnished as required by federal, state, and local regulations. The contractor is responsible for any fees or costs associated with licenses, permits, or notifications.

1.12 PERSONAL PROTECTIVE EQUIPMENT

The contractor shall provide respirators, protective clothing and eye protection at no cost to the workers. All personal protective equipment shall meet federal, state, and local requirements for the type work performed.

1.13 HYGIENE FACILITIES AND PRACTICES

The contractor shall establish a decontamination and shower area for the decontamination of employees, materials and equipment as required by 29 CFR 1926.62 and 1926.1101. The Contractor shall ensure that employees enter and exit the regulated area through the decontamination area.

1.14 REGULATED AREAS

All Class I, II, and III asbestos work shall be conducted within a regulated area. The regulated area shall be demarcated to minimize the number of persons within the area and to protect persons outside the area from exposure to hazardous materials.

1.15 SIGNS AND LABELS

Danger signs and tape shall be used to demarcate areas where hazardous materials work is being performed and shall be posted at work area entrances, exits, decon areas, emergency exits, and waste disposal areas. Warning labels shall be affixed to all components or containers containing asbestos or other hazardous waste in accordance with all federal, state, and local regulations.

1.16 LOCAL EXHAUST VENTILATION

Local exhaust ventilation equipment shall conform to ANSI Z9.2, 29 CFR 1926.62, and 29 CFR 1926.1101. Filters on local exhaust system equipment shall conform to ANSI Z9.2 and UL 586.

1.17 TOOLS

Vacuums shall be equipped with HEPA filters and have sufficient capacity to

efficiently collect, transport, and retain asbestos or other hazardous waste. Power tools shall not be used to remove asbestos unless the tool is equipped with an integral HEPA vacuum collection system. Reusable tools shall be thoroughly decontaminated prior to being removed from regulated areas.

1.18 AIR MONITORING EQUIPMENT

The Contractor's industrial hygienist shall approve air-monitoring equipment to be used to collect samples. Pumps and sampling cassettes shall be suitable for the contaminate being sampled.

1.19 EXPENDABLE SUPPLIES

Glove bags, disposal containers, sheet plastic, and other expendable materials shall conform to the requirements of U.S. Army Corps of Engineers, Unified Facilities Guide Specification Section 13280A ASBESTOS ABATEMENT and Section 13282N LEAD IN CONSTRUCTION.

1.20 CONFINED SPACE COMPLIANCE PROGRAM

A written confined space compliance program shall be established and implemented in accordance with 29 CFR 1910.146 and with the U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, latest edition. Figure 6-1 of the USACE publication is a flowchart which will be valuable in helping the Contractor in the decision making process.

PART 2 PRODUCTS

2.1 ENCAPSULANTS

Encapsulants shall meet the requirements identified in Corps of Engineers, Unified Facilities Guide Specification Section 13280A ASBESTOS ABATEMENT and Section 13282N LEAD IN CONSTRUCTION.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

The Contractor shall identify all hazardous materials in the project to be removed, create a work plan for the safe removal of these materials, remove the materials, and transport and dispose of them in accordance with all applicable federal, state, and local regulations, the specifications, and the approved work plan. Coordinate all project abatement activity with the work of other trades at the job site to ensure that unprotected workers are not exposed to hazardous materials. Provide documentation that hazardous materials have been removed, properly disposed of and the work area is safe for unprotected workers.

3.2 ASBESTOS ABATEMENT

Asbestos abatement work shall be in accordance with referenced standards and regulations, Design Drawings, Design Analysis, the Specifications, and the approved Contractor's Hazardous Materials Abatement Plan. Regulated work areas shall be established for all asbestos abatement work. Personal, work area, and environmental air monitoring shall be performed in accordance with 29 CFR 1926.1101. The Contractor shall provide a 10 day notification to the EPA prior to abatement of asbestos. At the same time EPA is notified, provide a copy of this notification to both the

Contracting Officer and the 354 CES/CEV.

3.3 LEAD BASED PAINT REMOVAL

Lead based paint removal work shall be in accordance with referenced standards and regulations, the specifications, and the approved Contractor's Hazardous Materials Work Plan. Regulated work areas shall be established for all lead abatement work. Personal, work area, and environmental air monitoring shall be performed in accordance with 29 CFR 1926.62.

3.4 CRITICAL BARRIERS

Critical barriers shall be installed in utilidors and manholes to prevent the spread of contamination throughout the utilidor, adjacent work areas, or to the public. Critical barrier shall be installed as described in Corps of Engineers, Unified Facilities Guide Specification Section 13280A ASBESTOS ABATEMENT.

Barriers installed between utilidor sections shall be left in place after abatement activities are completed. They shall be left in place during piping removal, replacement and re-insulating activities. Emergency egress shall be provided between abatement barriers. Contractor shall remove these barriers only after Government acceptance of the project.

3.5 METHODS OF COMPLIANCE

The Contractor shall employ proper control and handling procedures in accordance with 29 CFR 1926.62, 29 CFR 1926.1101 and U.S. Army Corps of Engineers, Unified Facilities Guide Specification Section 13280A ASBESTOS ABATEMENT and Section 13282N LEAD IN CONSTRUCTION. These procedures must be clearly described in the Contractor's Hazardous Materials Work Plan. Wrap and cut procedures shall be used when practical for the removal of pipes insulated with asbestos. Wrap and cut procedures shall be as shown in U.S. Army Corps of Engineers, Unified Facilities Guide Specification Section 13280A ASBESTOS ABATEMENT.

Asbestos shall be packaged for transport following 49 CFR 173.216. In addition to 49 CFR 173.216, transite pipe shall be transported in dust and sift proof containment.

3.6 FINAL CLEANING AND INSPECTION

Upon completion of abatement, the regulated area shall be cleaned by collecting, packing, and storing all gross contamination. A final cleaning shall be performed using HEPA filtered vacuums and wet cleaning of all exposed surfaces and objects in the regulated area. Upon completion of the final cleaning, the Contractor and Contracting Officers Representative shall conduct a final visual inspection of the cleaned area in accordance with ASTM E 1368.

Water collected from cleaning operations shall be collected and filtered through a dual filtration system. A first filter shall be provided to remove fibers 20 micrometers and larger, and a final filter provided that removes fibers 5 micrometers and larger.

3.7 LOCKDOWN

Prior to removal of plastic barriers and after completing the final visual

inspection requirements, a lockdown encapsulant shall be spray applied to ceilings, walls, floors, and other surfaces in the regulated area.

3.8 EXPOSURE ASSESSMENT AND AIR MONITORING

Exposure assessment, air monitoring, and analysis of airborne contaminates shall be performed in accordance with 29 CFR 1926.62, 29 CFR 1926.1101, and U.S. Army Corps of Engineers, Unified Facilities Guide Specification Section 13280A ASBESTOS ABATEMENT and Section 13282N LEAD IN CONSTRUCTION. Exposure assessment and air monitoring shall be performed by the Contractor's independent Industrial Hygienist. Samples shall be analyzed by the Contractor's independent testing lab.

3.9 CLEARANCE CERTIFICATION

When hazardous materials abatement and final cleanup is completed the Contractor will certify in writing that the area is safe before unrestricted entry is permitted.

3.10 CLEANUP AND DISPOSAL

Hazardous waste including contaminated filters, scrap, containers, equipment, and clothing shall be placed in proper disposal containers for disposal. All asbestos waste shall be disposed of at the Eielson AFB asbestos landfill in accordance with 40 CFR 61, State, and Eielson AFB procedures. Lead contaminated waste and other hazardous waste must be handled, stored, and transported in accordance with 40 CFR 260, 40 CFR 261, 40 CFR 262, 40 CFR 263, and WDBPWSEielson AFB Waste Disposal/Borrow Pit Worksheet. Hazardous waste generated on Eielson AFB shall be turned over to the Eielson AFB, CE Hazardous Waste Facility for disposal.

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SECTION 16000

UTILIDOR POWER DISTRIBUTION, COMMUNICATIONS, AND LIGHTING SYSTEMS

PART 1 GENERAL

1.1 REFERENCES

The current edition of publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

ELECTRONIC INDUSTRIES ALLIANCE (EIA)

EIA/TIA 569	Commercial Building Standard for Telecommunications Pathways and Spaces

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA RN 1	Polyvinyl-Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70	(2002) National Electrical Code
NFPA 70E	Electrical Safety Requirements for Employee Workplaces

UNDERWRITERS LABORATORIES (UL)

UL 6	Rigid Metal Conduit
UL 44	Rubber Insulated Wires and Cables
UL 467	Grounding and Bonding Equipment
UL 514A	Metallic Outlet Boxes
UL 514B	Fittings for Conduit and Outlet Boxes
UL 1242	Intermediate Metal Conduit

1.2 Design and Execution of Work

The design and execution of work by the Contractor shall comply with the latest editions of the following guides, standards, and codes. In the case of discrepancies between the following guides, standards, and codes, and the RFP Design Requirements, the more stringent shall apply.

(1) All materials shall comply with standards of American Society for Testing and Materials (ASTM) and American National Standards Institute (ANSI).

(2) Applicable standards from Electronic Industries Alliance (EIA).

(3) Applicable standards from Illuminating Engineering Society of North America (IES), (IESNA).

(4) Applicable standards from Institute Of Electrical And Electronic Engineers (IEEE).

(5) Applicable standards from Insulated Cable Engineers Association.

(6) National Electrical Code (NEC).

(7) Applicable sections from the National Electrical Safety Code (NESC).

(8) Applicable sections from the Occupational Safety and Health Administration (OSHA).

(9) Applicable sections from the Rural Electrification Association (REA).

(10) Applicable standards from the Telecommunications Industries Association (TIA).

(11) Applicable standards from the Underwriters Laboratories, Inc. (UL).

(12) National Fire Protection Association (NFPA).

1.3 SUMMARY

1.3.1 Section Includes

This section includes requirements for utilidor power, communications, and lighting systems.

1.3.2 Components Included

This section includes:

(1) Communication cable rack system within utilidor.

(2) Power and lighting requirements.

1.3.3 Related Sections

Section 01013, DESIGN REQUIREMENTS.
Section 02300, EARTHWORK.
Section 02509, UTILIDOR STRUCTURE
Section 02510, WATER DISTRIBUTION SYSTEM
Section 02531, SANITARY SEWERS
Section 02559, STEAM DISTRIBUTION SYSTEM
Section 02741, ROADWAY
Section 02770, CONCRETE SIDEWALKS AND CURBS AND GUTTERS
Section 13000, HAZARDOUS MATERIALS ABATEMENT

1.4 SUBMITTALS

SD-02 Shop Drawings

Design Drawings

Submit design drawings in accordance with Section 01013.

SD-03 Product Data

Specifications

Submit detailed specification sections to specify the quality, characteristics, installation procedures, and testing requirements for all items of the proposed utilidor power, communication, and lighting systems in accordance with Section 01013. Unified Facilities Guide Specifications Sections 16375 ELECTRICAL DISTRIBUTION SYSTEM UNDERGROUND shall be properly edited for this project and submitted.

SD-05 Design Data

Design Analysis

Submit a design analysis in accordance with Section 01013. The basis of design shall establish conformance to applicable referenced codes, and the suitability of the utilidor design.

1.4.1 Design Specifications

Design Specifications shall include but are not limited to the following:
Delivery, storage, and handling of products
Operating and maintenance data
System performance
Products
Examination
Installation requirements
Field quality control
Testing and verification
Close-out submittals

1.5 OPERATING AND MAINTENANCE DATA

Operating and Maintenance data shall be provided by the Contractor.

PART 2 PRODUCTS

2.1 SYSTEM PERFORMANCE

Design of all system components shall be based upon specifications developed by a Contractor engaged Professional Engineer registered in the State of Alaska who is experienced in utilidor and utilities design. The following are design requirements for specific components. Product cut sheets shall be submitted as part of the design after award. These product cut sheets shall be coordinated with the Design Drawings, Design Analysis, and Specifications submitted by the designer of record.

2.1.1 Lighting Requirements

Utilidor Manhole Lighting System Requirements (See Manhole Electrical Equipment Schedules as shown in Drawings)

(1) Utilidor manhole lighting shall use fixtures rated for wet locations with vapor tight, gasketed, metal housing, wire guard, and long-life incandescent lamps.

(2) Fixtures provided within each manhole shall be controlled by local switches with weatherproof covers at manhole entries and at other locations indicated on the Drawings.

(3) All areas shall be designed to provide illuminance levels recommended in the IES Lighting Handbook.

(4) As a minimum, number of fixtures shall be provided in each manhole per schedule on the Drawings.

2.1.2 Telephone Communications System Requirements

(1) Vertical rack system shall be constructed from corrosion resistant strut as shown in the Civil Drawings.

(2) Vertical racks shall be spaced at intervals not more than five foot on center throughout the utilidor.

2.1.3 Electrical Service Requirements

(1) New primary and secondary services at designated manholes shall be in accordance with NEC and NESC.

(2) New secondary services or distribution panelboards at designated manholes shall be provided for power to all manholes (not every manhole will have an electrical service). Components of the existing secondary services, with the exception of service transformers, shall not be reused. Utilize existing service transformers or provide new transformers where required due to increased circuit size and/or voltage drop.

(3) Service disconnects shall be combination meter/circuit breaker type only and rated for service entrance. Manhole locations requiring service drops from poles shall have meter disconnects mounted on the pole. All exterior mounted service equipment shall be NEMA 3R.

(4) Manholes not located near a service pole shall be powered by spare or new breakers in or on the closest building panelboard or other available panelboard.

(5) Overhead secondary conductors may be used between poles as permitted by base electric shop.

2.1.4 Electrical System Requirements

(1) All work in manholes shall be in accordance with applicable NEC, NESC, OSHA and NFPA requirements.

(2) All electrical equipment in manholes shall be U.L. listed for wet locations and appropriate for use in manhole environment.

(3) A single receptacle with weatherproof cover shall be provided for power connection of sump pump. Sump pump receptacles shall be suplied from GFPE circuit breakers in above ground panelboards supplying manhole.

(4) As a minimum, one duplex receptacle shall be provided in each manhole for general use in accordance with manhole Electrical Equipment Schedule.

(5) All receptacles shall be provided with a cover that is listed for wet locations with cord plug cap inserted in device.

(6) All circuit breakers serving manhole utilidor general use duplex receptacles shall be of the GFCI type.

(7) Alarms, sump pumps, lighting, and general-use receptacles shall be on separate circuits.

2.1.5 Compliance Checking

Compliance with utilidor, communication and lighting system requirements will be determined by a review of drawings, specifications and calculations submitted at the design completion and by a review of manufacturer's catalog data, drawings and test reports submitted during construction.

2.2 COMPONENT PERFORMANCE - CONDUIT, WIRE, AND GROUNDING

2.2.1 Conduit and Fittings

Metal conduit shall be rigid steel (zinc-coated) conforming to UL 6, intermediate metal conduit (IMC) (zinc-coated) conforming to UL 1242, or rigid metal conduit, PVC coated conforming to NEMA RN 1. Plastic conduit shall not be used.

Metal fittings for rigid steel conduit and IMC shall be cast-metal with gasketed closures conforming to UL 514A and UL 514B.

2.2.2 Wire and Cable

Conductors shall be copper. 600 volt wires and cables shall conform to UL 44 type XHHW or RHW. Wires and cables manufactured more than 12 months prior to date of delivery to the site shall not be used. The year of manufacture shall be durably marked on the outer surface of each cable at regular intervals throughout cable length. All wiring shall be in conduit.

2.2.3 Grounding and Bonding Equipment

Grounding and bonding shall be in accordance UL 467. All raceways shall include an insulated green ground conductor. Insulation shall match other wire and cable. Rod type grounding electrodes shall be 3/4 inch minimum diameter, copper clad steel material, 10-foot minimum length.

2.2.4 Communications Work

2.2.4.1 Underground Communications Work

Existing distribution and service entrance cables shall remain in operation during construction. All cable splices, if required, shall be performed

with no interruption of service. Rack system for existing cabling shall be installed as part of new work.

2.2.5 Power Services and Equipment

New services shall be provided as required such that system power for each manhole is available. All installations shall be suitably listed and protected from damage.

2.2.6 Utilities Monitoring System Infrastructure

Infrastructure for a future Utilities Monitoring System (UMS) is part of utilidor repair work. The infrastructure includes but may not be limited to the following items:

(1) Conduits, exterior NEMA 3R Data Collection Point junction box, and NEMA 4 junction box located in manhole only, shall be provided for connection to future UMS system and instruments, (Instruments and cabling Not in Contract - NIC).

a. One conduit shall be provided for instrument cabling.
b. One conduit shall be provided between Data Collection Point junction box, and separate NEMA 4 junction box located in manhole for future connection to electrical distribution system supplying manhole.
c. One spare conduit shall be provided between Data Collection Point junction box, and separate NEMA 4 junction box located in manhole for future use.

(2) Junction boxes shall be located in accessible locations in manholes to avoid interference with all other installed equipment, piping, conduits, cabling and systems.

(3) Provide pull string in each conduit for future UMS System.

(4) Future UMS (NIC) will monitor water, sewer, and steam utilities. For Phase VI utilidor, the future UMS will require the following:

a. Conduits and junction boxes as described in 2.2.6 (1), (2), and (3) above in manholes identified with sump alarms and as identified on electrical drawings.
b. PVI Sump Alarms at MHs 337/337-1, 209, 210, 208/208-1, 702 710, 133, 133A.

(5) Install instrument-sensor ports on water, steam, and condensate pipes at Master Manhole Monitoring locations. These locations and sensors are described in the following paragraphs. Valve and cap each port. Standard 3/4-inch diameter ports are typical. Locate ports in conjunction with MH piping layout. The Contractor shall confirm port locations and configuration with the Government during the design.

a. The data will be monitored at manholes and reported back to a central computer located at the Water Treatment Plant (WTP), Building 3228, for logging, processing and alarming (NIC). The computer (NIC) provides terminal access and display of the information in a graphical manner.

b. The interconnection of the monitoring data through remote telemetry units (RTUs) to the WTP shall be via the existing

telephone cable plant using modems or line driver modules (NIC).

c. The sump locations (where there are no other signals to report) shall have a single high water, Sump Alarm signal reported to the WTP (NIC).

d. Each Master Manhole location will monitor the following analog (AI) and digital (DI)inputs:

(1) Steam: pressure (AI) and temperature (AI)
(2) Condensate: pressure (AI), temperature (AI), and quality (AI)(up to 3 points within a manhole)
(3) Water: pressure (AI)
(4) Lift Stations - (when present): flow (AI), pump on/off (2 pumps)(DI), and wet well high level (DI)
(5) Sump - (when present): high level alarm (DI)

e. Sensors (NIC) shall include the following:

(1) High level alarms shall be sensed using float switches (w/Normally Open contacts)
(2) Condensate Quality shall be sensed using conductivity probes installed in the invert of the condensate main (4-20maDC AO)
(3) Pressure: Pressure Sensor and Transmitter (4-20maDC AO)
(4) Temperature: Temperature Sensor and Transmitter (4-20maDC AO)
(5) Lift Station flow: Utilize a local analyzer to monitor pump run and off times to calculate a flow through the station(4-20maDC AO)

2.2.7 Compliance Checking

Compliance with the power, lighting and communications component requirements will be determined by a review of the drawings, and specifications submitted at design completion and by a review of manufacturer's catalog data, drawings instructions, statements, reports and certificates submitted during construction.

2.3 ELECTRIC HEATER AT LIFT STATION LS 4114

Provide electric heater and electric service for Lift Station LS 4114 chamber. Panelboard shall be located above ground in a NEMA 3R cabinet supported on steel posts; similar to pump control cabinet at the site. See Sheet C2.26 for facility photo details and Sheet C1.2 for site location. Heater shall be rated for confined space Class I, Div II, wet environment, minimum 3Kw heat output or larger to keep chamber above 40 degrees Fahrenheit, and have an internal bulb type thermostat control. Submit heat loss calculation for lift station.

PART 3 EXECUTION

3.1 EXAMINATION

3.1.1 Verification of Conditions

Coordinate the electrical work with the work of other trades at the job site to ensure that components which are to be incorporated into the electrical system are available to prevent delays or interruptions of work progress. Verify that conditions are suitable for installation of the

electrical system.

3.2 INSTALLATION

Electrical installations shall conform to NFPA 70, NFPA 70E, and to the requirements specified herein. Provide new equipment and materials.

3.2.1 Installation Underground

3.2.1.1 Underground Conduit/Duct without Concrete Encasement

The type of conduit shall be rigid galvanized steel. The top of the conduit shall be not less than 24 inches below grade, and shall have a minimum slope of 3 inches in each 100 feet away from buildings and toward manholes and other necessary drainage points. Run conduit in straight lines except where a change of direction is necessary. As each conduit run is completed, draw a non-flexible testing mandrel not less than 12 inches long with a diameter 1/4 inch less than the inside diameter of the conduit through the conduit. After which, draw a stiff bristle brush through until conduit is clear of particles of earth, sand and gravel; then immediately install conduit plugs.

Provide not less than 3 inches clearance from individual conduits to each side of the trench. A minimum clearance of 3 inches shall be provided between adjacent individual conduits. Grade bottom of trench smooth; where rock, soft spots, or sharp-edged materials are encountered, excavate the bottom for an additional 6 inches, fill and tamp level with original bottom of trench with sand or earth free from particles, that would be retained on a 1/4-inch sieve. Provide warning tape. Duct banks shall be installed in accordance with NEC requirements.

3.2.2 Conduit Protection at Concrete Penetrations

Galvanized conduits which penetrate concrete (slabs, pavement, and walls) in wet locations shall be protected by a PVC sheath at the penetration; PVC sheath shall be minimum 40 mils thick conforming to NEMA RN 1, and shall extend from at least 2 inches within the concrete to the first coupling or fitting outside the concrete (minimum of 6 inches from penetration).

3.2.3 Cable Pulling

Pull cables down grade with the feed-in point at the manhole or buildings of the highest elevation. Maintain minimum allowable bending radii in forming such loops. Use lubricants that are specifically recommended by the cable manufacturer for assisting in pulling cables. Lubricant shall not be deleterious to the cable sheath, jacket, or outer coverings. Tensions shall not exceed the maximum pulling tension recommended by the cable manufacturer.

3.2.4 Electrical Installation

Electrical equipment and lighting shall be installed in accordance with NEC requirements. Lighting within manholes shall be placed to provide proper distribution of light and in accordance with IES guidelines while accommodating new and existing work of other trades.

3.2.5 Telephone Communications Work Installation

Rack system for existing cable shall be installed in accordance with NFPA 70

and EIA/TIA 569 requirements.

3.2.6 Grounding

Grounding shall conform to NFPA 70 except that grounds and grounding systems shall have a resistance to solid earth ground not exceeding 5 ohms.

3.2.6.1 Grounding Electrodes

Provide cone pointed driven ground rods driven full depth plus 6 inches. Provide connection to utilidor ground grid. Existing utilidor ground grid shall be maintained in place during construction.

3.2.6.2 Grounding Connections

Make grounding connections which are buried or otherwise normally inaccessible, excepting specifically those connections for which access for periodic testing is required, by exothermic type process. Make exothermic welds strictly in accordance with the weld manufacturer's written recommendations. Mechanical connectors are not required at exothermic weldments. For accessible connections, a compression ground grid connector of a type which uses a hydraulic compression tool to provide the correct circumferential pressure may be used. Tools and dies shall be as recommended by the manufacturer. An embossing die code or other standard method shall provide visible indication that a connector has been adequately compressed on the ground wire.

3.2.6.3 Grounding Conductors

Bare hard-drawn copper wire No. 6 AWG or 8 AWG where installed in conduit minimum.

3.2.6.4 Other Metal Parts

Ground noncurrent-carrying metal parts of equipment including metal poles, luminaires, mounting arms, brackets, and metallic enclosures. Where copper grounding conductor is connected to a metal other than copper, provide connectors suitable for this purpose.

3.3 FIELD QUALITY CONTROL

3.3.1 Distribution Conductors 600 Volt Class

Perform 600-volt cable tests to verify that no short circuits or accidental grounds exist. Make tests using an instrument which applies a voltage of approximately 500 volts to provide a direct reading in resistance; minimum resistance shall be 250,000 ohms.

3.3.2 Devices Subject to Manual Operation

Each device subject to manual operation shall be operated at least three times, demonstrating satisfactory operation each time.

3.3.3 Voltage Drop Testing

Test each circuit for maximum voltage drop at farthest point from overcurrent protective device. Test circuit under full load. Record and submit test results to the Contracting Officer.

3.3.4 General Use Receptacle Testing

Test each receptacle supplied by GFCI circuit breakers for proper operation with minimum current required for trip function based on manufacturer's UL listing data. Record and submit to the Contracting Officer minimum current required for trip function of each GCI circuit breaker at each receptacle.

3.3.5 Sump Pump Receptacle Testing

Test each sump pump receptacle supplied by GFPE circuit breaker for proper operation with minimum current required for trip function based on manufacturer's UL listing data. Record and submit to the Contracting Officer maximum current required for trip function of each GFPE circuit breaker at each receptacle.

3.3.6 Grounding System Test

Test the grounding system to ensure continuity and that interconnected resistance to ground is not in excess of 5 ohms. Test the ground rod for resistance to ground before making connections to the rod; tie the grounding system together and test for resistance to ground. Make resistance measurements in dry weather, not earlier than 48 hours after rainfall. Include in the written report: locations of ground rods, resistance and soil conditions at the time that measurements were made. Submit results of each test to the Contracting Officer.

3.3.7 Follow-up Verification

Upon completion of acceptance checks and tests, the Contractor shall show by demonstration in service that circuits and devices are in good operating condition and properly performing the intended function.

-- End of Section --