SOLICITATION, OFFER, AND AWARD *(Construction, Alteration, or Repair)*	1. SOLICITATION NO. W917PM-08-R-0045	2. TYPE OF SOLICITATION [ ] SEALED BID (IFB) [X] NEGOTIATED *(RFP)*	3. DATE ISSUED 08-Apr-2008	PAGE OF PAGES 1 OF 159

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

4. CONTRACT NO.	5. REQUISITION/PURCHASE REQUEST NO.	6. PROJECT NO.

7. ISSUED BY CODE W917PM	8. ADDRESS OFFER TO *(If Other Than Item 7)* CODE
AFGHANISTAN ENGINEER DISTRICT US ARMY CORPS OF ENGINEERS KABUL APO AE 09356 TEL: FAX:	**See Item 7** TEL: FAX:

9. FOR INFORMATION CALL:	A. NAME HAMILTON BATISTA	B. TELEPHONE NO. *(Include area code)* *(NO COLLECT CALLS)*

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 no., date):*

ANCOP Sharana

This project consists of the design and construction of site improvements and construction of facilities to support the Afghanistan National Civil Order Police (ANCOP) Patrol Unit and Urban Units in Afghanistan. This project is defined as the management, design, material, labor, and equipment to design and construct and/or refurbish all utilities, roads, buildings, force protection measures, site security, de-mining activities, and other features as referenced herein.

Pre Proposal Conference: 20 April 2008 at 10:00 a.m. Kabul time (CD's with drawings will be given out at the pre proposal conference)

If the proposals are hand carried deliver to the US Army Corps of Engineers; House 1, Street 1, West Wazir Akbar Khan (behind Amani High School, Kabul Afghanistan, prior to the time and date specified for receipt of proposals.

11. The Contractor shall begin performance within 7 calendar days and complete it within 360 calendar days after receiving [ ] award, [X] notice to proceed. This performance period is [X] mandatory, [ ] negotiable. *(See* Section 00800 *.)*

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

13. ADDITIONAL SOLICITATION REQUIREMENTS:

A. Sealed offers in original and 3 copies to perform the work required are due at the place specified in Item 8 by 05:00 PM *(hour)* local time 08 May 2008 *(date).* If this is a sealed bid solicitation, offers must 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, [X] 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 120 calendar days for Government acceptance after the date offers are due will not be considered and will be rejected.

SOLICITATION, OFFER, AND AWARD (Continued)

(Construction, Alteration, or Repair)

OFFER ***(Must be fully completed by offeror)***

14. NAME AND ADDRESS OF OFFEROR *(Include ZIP Code)*		15. TELEPHONE NO. *(Include area code)*
		16. REMITTANCE ADDRESS *(Include only if different than Item 14)* **See 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 to or greater than the minimum requirements stated in Item 13D. Failure to insert any number means the offeror accepts the minimum in Item 13D.)*

AMOUNTS	SEE SCHEDULE OF PRICES

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

19. ACKNOWLEDGMENT 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: CODE

CONTRACTING OFFICER WILL COMPLETE ITEM 28 OR 29 AS APPLICABLE

☐ 28. NEGOTIATED AGREEMENT *(Contractor is required to sign this document and return _ _ copies to issuing office.)* Contractor agrees to furnish and deliver all items or perform all work, requisitions 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 or 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)* TEL: EMAIL:	
30B. SIGNATURE	30C. DATE	31B. UNITED STATES OF AMERICA BY	31C. AWARD DATE

SECTION 00010

SECTION 00010

PROPOSAL SCHEDULE

The Contractor shall provide a price for all items, including those labeled, "Optional Items." The Government will evaluate the Contractor's entire proposal to determine which CLINs represent the lowest price to the Government.

No. Description Qty	Unit	Unit Price	Total Amount
Base Proposal:			
CLIN 0001 Site Adapt Construction Sharan	**LS**	**xxx**	**$ _____**
CLIN 0002 DBA Insurance	**LS**	**xxx**	**$_____**
Sub-Total Base $_____			
Options			
0003 Soccer Field	**LS**	**xxx**	**$_____**
Sub-Total Options: _____			**$**
TOTAL PROPOSAL: (total of all above costs – Base and all Options)			**$_____**

PROPOSAL SCHEDULE NOTES

1. Offeror shall submit prices on all items.

2. Only one contract for the entire schedule will be awarded under this solicitation. This project will be awarded as a lump sum contract. This Proposal Schedule is an accounting tool for allocating funds to applicable budget.

3. Costs associated with this project shall include design and construction costs, site development, and utility installation.

4. DESIGN COSTS DEFINITION: Design costs shall consist of preparation of master planning and site designs, plans, design analysis, drawings, and specifications.

5. NON-DESIGN COSTS DEFINITION: Non-design costs shall include the following: initial site visits; field, topographic, property, boundary, utility, and right-of-way surveys; subsurface explorations and borings; feasibility, functional, and economic studies and other investigations; preparation or verification of as-built drawings; preparation of general and development criteria; preparation of general and feature design memoranda; services of consultants where not specifically applied to the preparation of working drawings or specifications; construction phase services; models, renderings, or photographs of completed designs; reproduction of designs for review purposes; and travel and per diem allowances in connection with the above excludable services.

6. COST LIMITATION: The established design cost limitation for all Design Costs, as defined in paragraph 4, shall not exceed 6 percent of the total construction cost **excluding profit.**

7. SEPARATION OF WORK: All work for Design and Construction shall be included in all Proposal Items.

8. EVALUATION OF OPTIONS: The award will be made to the offeror whose proposal represents the best overall value to the Government. For pricing purposes the Government will evaluate both the Base Proposals and Option Proposals. The Government is not obligated to exercise the options.

9. EXERCISE OF OPTIONAL BID ITEMS: Optional bid items (if any) may, at the option of the Government, be added to the contract at any time within 180 calendar days after receipt of notice to proceed.

10. ORDER of WORK: The following order of work shall apply before start of optional bid items:
    All base bid contract line items have priority.

11. Period of performance is 360 calendar days from receipt of notice to proceed for the base.
    Liquidated damages are assessed at $1,900.00 per day for every day of delay past the period of performance of 360 days until contract completion.

-END OF SECTION-

DELIVERY INFORMATION

CLIN	DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC

INSTRUCTIONS TO OFFEROR

SECTION 00100
Bidding Schedule/Instructions to Offerors
W917PM-08-R-0045

PREPROPOSAL CONFERENCE WILL BE HELD 20 APRIL 2008 10:00 **AM KABUL TIME**. Offerors, who plan to participate, please email me at Stella.Lejeune@tac01.usace.army.mil, no later than 17 April, **5:00PM KABUL TIME.**

Estimated cost range of this project is between **$10,000,000.00 and $25,000,000.00.**

NOTICE: Return Section 00600, "Representations and Certifications" and requested information from Sections 00010 "Solicitation Contract Form" and 00100 "Bidding Schedule/Instructions to Bidders", with your proposal. All amendments, if any, must be acknowledged and returned with the proposals. If you do not return these sections you will be considered **Non-Responsive.**

Request for information must be directed to the person listed in Item 9 of the 1442. Inquiries and request that are directed to any other person may not be relayed to the proper person and therefore, may not be answered. Please email all questions to Stella.LeJeune@usace.army.mil.
Question must be submitted prior to 14 May 2008. Questions after that date may not be answered.

All proposals must be delivered to: **U.S. Army Corps of Engineers, House #1 Street #1, West Wazir Akbar Khan (Behind Amani High School), Kabul, Afghanistan, Attn: Stella LeJeune, prior to 5:00pm, Kabul Time, 18 May 2008 for receipt of proposals.** Due to heightened security conditions, access to the building is controlled by security. Your packages will be opened and checked at the gate by the security guards. **Electronic proposals will not be accepted.**

Section 100 – 52.222-23
Section 600 – 52.222-22
Section 700 – 52.222-21, 26, 27, 29, 35, 36, 37
"Only applicable if contractor recruits personnel within the US."

252.247-7024 "Only applicable if contractor gave a negative response to 252.247-7022."

52.204-3, 52.232-38, 52.204-6, 252.204-7001, 52.232-34
"Only applicable to contractors that are not to be registered in the CCR database."

52.232-33, 252.204-7004
"Only applicable to contractors that are to be registered in the CCR database."

252.229-7000, 252.229-7001
"Only applicable if contractor is a foreign concern."

CLAUSES INCORPORATED BY REFERENCE

52.204-6	Data Universal Numbering System (DUNS) Number	OCT 2003
52.214-34	Submission Of Offers In The English Language	APR 1991
52.214-35	Submission Of Offers In U.S. Currency	APR 1991
52.215-1	Instructions to Offerors--Competitive Acquisition	JAN 2004
52.217-3	Evaluation Exclusive Of Options	APR 1984
52.217-4	Evaluation Of Options Exercised At The Time Of Contract Award	JUN 1988
52.217-5	Evaluation Of Options	JUL 1990
52.236-28	Preparation of Proposals--Construction	OCT 1997
252.204-7001	Commercial And Government Entity (CAGE) Code Reporting	AUG 1999

CLAUSES INCORPORATED BY FULL TEXT

52.214-5000 APPARENT CLERICAL MISTAKES (MAR 1995)--EFARS

(a) For the purpose of initial evaluations of bids, the following will be utilized in the resolving arithmetic discrepancies found on the face of bidding schedule as submitted by the bidder:

(1) Obviously misplaced decimal points will be corrected;

(2) Discrepancy between unit price and extended price, the unit price will govern;

(3) Apparent errors in extension of unit prices will be corrected;

(4) Apparent errors in addition of lump-sum and extended prices will be corrected.

(b) For the purpose of bid evaluation, the government will proceed on the assumption that the bidder intends his bid to be evaluated on basis of the unit prices, the totals arrived at by resolution of arithmetic discrepancies as provided above and the bid will be so reflected on the abstract of bids.

(c) These correction procedures shall not be used to resolve any ambiguity concerning which bid is low.

(End of statement)

CLAUSES INCORPORATED BY FULL TEXT

52.215-20 REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COST OR PRICING DATA (OCT 1997)

(a) Exceptions from cost or pricing data. (1) In lieu of submitting cost or pricing data, offerors may submit a written request for exception by submitting the information described in the following subparagraphs. The Contracting Officer may require additional supporting information, but only to the extent necessary to determine whether an exception should be granted, and whether the price is fair and reasonable.

(i) Identification of the law or regulation establishing the price offered. If the price is controlled under law by periodic rulings, reviews, or similar actions of a governmental body, attach a copy of the controlling document, unless it was previously submitted to the contracting office.

(ii) Commercial item exception. For a commercial item exception, the offeror shall submit, at a minimum, information on prices at which the same item or similar items have previously been sold in the commercial market that is adequate for evaluating the reasonableness of the price for this acquisition. Such information may include--

(A) For catalog items, a copy of or identification of the catalog and its date, or the appropriate pages for the offered items, or a statement that the catalog is on file in the buying office to which the proposal is being submitted. Provide a copy or describe current discount policies and price lists (published or unpublished), e.g., wholesale, original equipment manufacturer, or reseller. Also explain the basis of each offered price and its relationship to the established catalog price, including how the proposed price relates to the price of recent sales in quantities similar to the proposed quantities;

(B) For market-priced items, the source and date or period of the market quotation or other basis for market price, the base amount, and applicable discounts. In addition, describe the nature of the market;

(C) For items included on an active Federal Supply Service Multiple Award Schedule contract, proof that an exception has been granted for the schedule item.

(2) The offeror grants the Contracting Officer or an authorized representative the right to examine, at any time before award, books, records, documents, or other directly pertinent records to verify any request for an exception under this provision, and the reasonableness of price. For items priced using catalog or market prices, or law or regulation , access does not extend to cost or profit information or other data relevant solely to the offeror's determination of the prices to be offered in the catalog or marketplace.

(b) Requirements for cost or pricing data. If the offeror is not granted an exception from the requirement to submit cost or pricing data, the following applies:

(1) The offeror shall prepare and submit cost or pricing data and supporting attachments in accordance with Table 15-2 of FAR 15.408.

As soon as practicable after agreement on price, but before contract award (except for unpriced actions such as letter contracts), the offeror shall submit a Certificate of Current Cost or Pricing Data, as prescribed by FAR 15.406-2.

(End of provision)

CLAUSES INCORPORATED BY FULL TEXT

52.216-1 TYPE OF CONTRACT (APR 1984)

The Government contemplates award of a **Firm Fixed Price** contract resulting from this solicitation.

(End of provision)

CLAUSES INCORPORATED BY FULL TEXT

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:

“Please contact the Office of Federal Contract compliance Programs as appropriate.”

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 Afghanistan. (End of provision)

CLAUSES INCORPORATED BY FULL TEXT

52.233-2 SERVICE OF PROTEST (SEP 2006)

(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 Government Accountability Office (GAO), shall be

served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from

US Army Corps of Engineers, House 1, Street 1, West Wazir Akbar Khan (behind Aman High School), Kabul, Afghanistan.

(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)

CLAUSES INCORPORATED BY FULL TEXT

52.236-27 SITE VISIT (CONSTRUCTION) (FEB 1995) – ALTERNATE I (FEB 1995)

(a) The clauses at 52.236-2, Differing Site Conditions, and 52.236-3, Site Investigations and Conditions Affecting the Work, will be included in any contract awarded as a result of this solicitation. Accordingly, offerors or quoters are urged and expected to inspect the site where the work will be performed.

(b) Site Visit: There will not be an organized site visit; however if you wish to visit the site the POC is: LTC Caruso
540 722-6422

(c) Participants will meet at--
NA

(End of provision)

CLAUSES INCORPORATED BY FULL TEXT

52.252-1 SOLICITATION PROVISIONS INCORPORATED BY REFERENCE (FEB 1998)

This solicitation incorporates one or more solicitation provisions by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. The offeror is cautioned that the listed provisions may include blocks that must be completed by the offeror and submitted with its quotation or offer. In lieu of submitting the full text of those provisions, the offeror may identify the provision by paragraph identifier and provide the appropriate information with its quotation or offer. Also, the full text of a solicitation provision may be accessed electronically at this/these address(es):

http://farsite.hitl.af.mil

(End of provision

CLAUSES INCORPORATED BY FULL TEXT

52.252-5 AUTHORIZED DEVIATIONS IN PROVISIONS (APR 1984)

(a) The use in this solicitation of any Federal Acquisition Regulation (48 CFR Chapter 1) provision with an authorized deviation is indicated by the addition of"(DEVIATION)" after the date of the provision.

(b) The use in this solicitation of **Defense FAR supplement (48 CFR Chapter 2)** provision with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

(End of provision)

SECTION 00110

PROPOSAL PREPARATION

PART 1 - GENERAL

A. PROPOSAL PREPARATION. Instructions for the preparation and organization of each proposal are included herein. The proposal submittal shall include **(a) one original and three copies of Volume I and (b) one original and two copies of Volume II.** The Volume II proposal and all copies thereof shall be sealed in a single package separate from the Volume I proposal and all copies thereof, and both packages shall be clearly marked. The proposal shall be submitted as required herein and elsewhere in the RFP.

Volume I shall be typed, with numbered pages and responses separated by each factor outlined and identified as shown below. A cover sheet shall identify the offeror and the project and the second sheet shall be a table of contents. The Volume I proposal is limited to no more than 50 single-sided or 25 double-sided pages, printed on 8-1/2" x 11" sheets, not including the cover sheet, designs/sketches, table of contents and letters of recommendation / evaluations / related certificates. Do not use condensed print. Do not submit any extraneous materials with your proposal.

B. **Joint Ventures.** Any firms listed in the proposal as part of a joint venture must submit a legally binding joint venture agreement. The Government will not evaluate the capability of any contractors that are not included in the joint venture agreement. Joint ventures must include a copy of the legal joint venture signed by an authorized officer from each of the firms comprising the joint venture with the chief executive of each entity identified and a translation in English, if the original agreement is in a language other than English. Incomplete evidence of a joint venture results will not be considered.

If submitting a proposal as a Joint Venture, the experience, past performance, management plan and equipment submittal of each of the Joint Venture Partners can be submitted for the Joint Venture Entity. The experience for each Joint Venture Partner will be considered the experience of the Joint Venture entity.

1. VOLUME I – MANAGEMENT-TECHNICAL PROPOSAL PREPARATION

1.1 Content. The Management/Technical proposal shall include the information as described below and shall be presented in the sequence listed.

1.1.1 Factor 1 – Experience. Demonstrate the experience of the proposed team, including sub-contractors, on projects similar to that described in this RFP which use

the site adapt design-build process. Provide a list of no less than three **(3)** and not more than five **(5)** similar and relevant site adapt design-build projects underway or completed in the last **five (5)** years that best demonstrates your experience. The list of projects shall include the information provided below. **NOTE TO OFFERORS: TO BE CONSIDERED FOR AWARD OF THIS PROJECT, OFFERORS/TEAMS MUST HAVE COMPLETED OR HAVE UNDERWAY 2 (TWO) PROJECTS EACH OF $10,000,000 OR GREATER WITHIN THE PAST FIVE YEARS. THOSE OFFERORS/TEAMS THAT CANNOT MEET THIS REQUIREMENT WILL BE CONSIDERED NONRESPONSIVE AND NOT CONSIDERED FOR AWARD. To receive credit towards this requirement for work done as a subcontractor, the team member must have been responsible for at least 75% of the contract value or $10,000,000 in work, whichever is less.**

- Project name and location;
- Firm's role on the project (site adapt design build, design/build, design, or construction);
- Project owner's name, address, telephone, email (to be contacted by the Government);
- Contractor a prime or sub-contractor for this project;
- Project completion date (estimated if in progress, as well as current portion completed);
- Construction cost;
- Brief explanation that illustrates your site adapt design/build capabilities and relevant job experiences; and
- The submitted project's Owner or Project Manager's (Point of Contact) name, current telephone, and current email address

1.1.2 Factor 2 - Project Management. The offeror shall provide a narrative discussion that addresses their Project Management Plan for the work included under this RFP. The discussion shall include the following:

- Team structure described with an organizational chart to include:
  - Key site adapt design personnel names and their titles, and
  - Key construction personnel names and their titles;
- Quality control process for site adapt design work;
- Quality control process for construction work;
- Discussion of how the offeror will manage multiple / concurrent projects at several ANP locations; and

1.1.3. Factor 3 – Personnel and Equipment Resources. In the response to this factor, the offeror will provide information on both the professional personnel to be assigned to the job and the equipment resources proposed for the work.

1.1.3.1 **Personnel.** Professional resume data shall be provided on the following individuals who will be key personnel on the project team. Key personnel resumes should be for the senior working-level people who will be involved in site

adapt design and construction on a day-to-day basis, as opposed to departmental level supervisors or executives. By identifying these personnel, the offeror makes a commitment that, barring unforeseen circumstances; they are the personnel who shall be assigned to the project. All key personnel shall have a degree in the field of work governed by the position they are assigned to and a minimum of **five (5)** years of professional experience. For example, a Civil Engineer must have a degree in Civil Engineering and 5 years of professional experience.

- Project Manager for design and construction
- Quality Control Manager
- Senior Structural Engineer
- Senior Civil Engineer
- Senior Mechanical Engineer
- Senior Electrical Engineer
- Construction Superintendent
- Construction Foreman (if different from above)

Information to be provided for key personnel should be limited to no more than **one (1) page** per person and shall include the following: (see attached sample)

- Name and title
- Project assignment
- Name of firm with which associated
- Years experience with this firm and with other firms
- Education degree(s), year, specialization
- Active registration, year first registered
- Other experience and qualifications relevant to site adapt design/build construction projects

1.1.3.2 Equipment Resources. Provide a list of all proposed equipment (i.e. machinery, construction tools, vehicles, loaders, etc.) and other resources (i.e. suppliers of materials and/or services). For all equipment, indicate on the list if the equipment is owned by the offeror (or if a joint venture, the JV parties), will be leased, or is owned or leased by subcontractors. If the equipment will be leased or provided by subcontractors, indicate the name and location of the company that will provide the equipment.

1.1.4 Factor 4 - Past Evaluations/Performance. For the projects listed under Paragraph 1.1.1, Factor 1 - Experience, the offeror shall provide letters of recommendation, references, performance evaluations or other evidence of successful performance of the project. The Source Selection Evaluation Board may attempt to contact the references provided in the list of projects. They may also contact Government personnel who have worked with the offerors. It is important to verify that the points of contact listed are still available at the phone number and addresses

provided and that they are individuals who have sufficient knowledge of the project and your performance to be able to offer meaningful comments. In the event that an offeror does not have a record of past performance, a written explanation of the reasons why no record is available is requested. In the case of an offeror without a record of past performance or for whom information on past performance is not available, the offeror must provide a written explanation of the reasons why no record is available.

2. VOLUME II - PRICE PROPOSAL PREPARATION

2.1 Proposal Schedule. Offerors shall provide a signed cover letter and complete the Proposal Schedule by filling out the pricing data blanks. An executable Proposal Schedule is included in Section 00010 herein. Overhead and profit shall be applied proportionally to each category and shall not be required to be shown separately. The proposal shall include allowances in the Price Proposal and shall schedule any contingency for weather delays for severe weather in accordance with weather requirements. All prices shall be firm.

-- End of Section --

SECTION 00120

PROPOSAL EVALUATION AND CONTRACT AWARD

PART 1 – GENERAL

A. BASIS FOR AWARD. Award will be made on the basis of the lowest evaluated price of proposals meeting or exceeding the acceptability standards for non-cost factors. Tradeoffs are not permitted. Proposals are evaluated for acceptability but not ranked using non-cost/price factors.

B. EVALUATION OF FACTORS: An evaluation for acceptability will be performance on each proposal in accordance with FAR 15-101-2(b)(3). The Evaluation Factors for Award are outlined below: The proposal that provides the lowest price and is otherwise technically acceptable in all factors will be selected for award. To be considered technically acceptable, no technical factor in the proposal may be determined to be unacceptable. The failure of a proposal to meet any of the factors will result in a technically unacceptable rating and preclude award.

C. PROPOSAL EVALUATION

VOLUME 1 – MANAGEMENT-TECHNICAL PROPOSAL

Factor 1 – Experience. The Government will review the project experience of the offeror's company and site adapt designer, including subcontractors, on projects provided by the offeror in response to Section 00110, Factor 1. Offerors must meet the following minimum acceptability standards to receive a "GO" on this factor:

- Previous experience working on site adapt design/build contracts awarded by AED;
  - OR –
- Previous or current experience working on ANP projects;
  - OR –
- Previous experience working on host nation contracts awarded by a U.S. Department of Defense agency
  - OR –
- Previous design/build construction work same/similar to the work outlined in this RFP.

The offeror must have experience on a minimum of three (3) contracts in any one, or combination, of the three types of experience listed above.

THOSE OFFERORS/TEAMS THAT CANNOT MEET THE REQUIREMENT OF THE COMPLETION/UNDERWAY OF TWO (2) PROJECTS OF $10,000,000.00 WILL BE CONSIDERED NONRESPONSIVE AND NOT CONSIDERED FOR AWARD. To receive credit towards this requirement for work done as a subcontractor, the team member must have been responsible for at least 75% of the contract value or $10,000,000,000 in work, whichever is less.

Failure to demonstrate the minimally acceptable experience under this factor will result in a "NO GO" rating and possible elimination from further consideration for contract award.

Factor 2 – Project Management Plan. The Government will review the narrative discussion and organizational chart provided by the offeror in response to Section 00110, Factor 2. Offerors must demonstrate the following minimum acceptability standards to receive a "GO" on this factor:

- A Quality Control Program that has been implemented successfully on previous site adapt design/build projects;

  -- AND --
- The Offeror's ability and experience in managing multiple concurrent projects of same/similar size and type to the proposal work and value of this RFP.

Failure to demonstrate the minimally acceptable experience and criteria under this factor will result in a "NO GO" rating and possible elimination from further consideration for contract award.

Factor 3 – Personnel and Equipment Resources. The Government will review the resumes and equipment list provided by the offeror in response to Section 00110, Factor 3. Offerors must demonstrate the following minimum acceptability standards to receive a "GO" on this factor:

- The offeror must demonstrate in all resumes that the personnel proposed have:
  - a degree in the field of work governed by the position they are assigned to,
  - a minimum of five (5) years of professional experience, and
  - experience in site adapt design/build construction contracts working in the position they are assigned to under this contract.

  (For example, a Civil Engineer must have a degree in Civil Engineering, 5 years of professional experience, and experience with site adapt design/build construction contracts.)

  -- AND --

- The offeror must demonstrate they have the equipment resources considered adequate by the Government to complete the project schedule

for concurrent work on multiple sites under this contract. The Government will consider as part of this acceptability standard any other knowledge the Government has on other on-going projects or contractual commitments the offeror and its subcontractor(s) may have within the host nation or abroad.

Failure to demonstrate the minimally acceptable criteria under this factor will result in a "NO GO" rating and possible elimination from further consideration for contract award.

Factor 4 – Past Performance. The Government will review the letters of reference submitted by the offeror in response to Section 00110, Factor 4. Offerors must demonstrate the following minimum acceptability standards to receive a "GO" on this factor:

- A minimum of one (1) past or current reference must recommend either hiring or using the offeror again for future work. The reference must be from a project same/similar in nature to this site adapt design/build project.

Failure to demonstrate the minimally acceptable criteria under this factor will result in a "NO GO" rating and possible elimination from further consideration for contract award. Offerors with no past performance information will receive a "NO GO" rating for this factor.

D. VOLUME II – COST/PRICE PROPOSAL PREPARATION. Price or cost to the Government will be evaluated and considered, but will not receive an actual rating or be combined with other aspects of the proposal evaluation. The proposed price will be analyzed for fairness and reasonableness. It may also be evaluated to determine whether it is realistic for the work to be performed; reflects the Contractor's clear understanding of the requirements; and is consistent with the offeror's technical proposal. Additionally, the pricing schedule will be reviewed for unbalanced pricing.

E. METHOD OF PROPOSAL EVALUATION. All proposals will be reviewed to determine if they contain the required minimum procurement and technical data. Incomplete proposals may be eliminated. All forms shall be filled in and all requested data must be provided.

-- End of Section --

ADDITIONAL INSTRUCTIONS

AI 26.6 Projected Afghan and Third Country National (TCN) Employment (5 Nov 07)

Projected Afghan Employment

Collecting & Reporting Employment Statistics

The purpose of this clause is to collect data on the projected number of Afghans employed for the term of the contract. Offerors are required to identify in the space provided below the total projected number of that will be directly employed in the performance of this contract.

Employment is the total number of Afghan persons expected to be on the payroll (contractors, subcontractors, sub-subcontractors) employed full or part time who received pay for any part of the term of the contract. Temporary and intermittent employees are included, as are any workers who are on paid sick leave, on paid holiday, R&R leave or who work during only part of the pay period." Enter into spaces provided in item #1. Next enter in the spaces provided in item #2 what is the average number employed throughout the term of the contract. Item #3 An "Afghan-Based Company" is a company (including a subsidiary company) whose principal place of business is located within Afghanistan.

1. Total Afghan (Afghan Residents) Employed:

Afghan: Men _____

Afghan: Females_____

Total: _____

2. Average Afghans (Afghan Residents) Employed:

Afghan: Men _____

Afghan: Females _____

Total: _____

1. Is your company an "Afghan-Based" company? Yes ___ No ___. If no, what country is your company registered/incorporated: _____.

2. Afghan Company Certification. The offeror ____ is or ____ is not an Iraqi owned firm. If the firm is Afghan owned, the Ministry of Trade registration/license number is: _____.

(End)

CLAUSES INCORPORATED BY REFERENCE

52.203-11	Certification And Disclosure Regarding Payments To Influence Certain Federal Transactions	SEP 2007
52.222-38	Compliance With Veterans' Employment Reporting Requirements	DEC 2001
252.209-7001	Disclosure of Ownership or Control by the Government of a Terrorist Country	OCT 2006
252.225-7031	Secondary Arab Boycott Of Israel	JUN 2005
252.225-7042	Authorization to Perform	APR 2003

CLAUSES INCORPORATED BY FULL TEXT

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

(a) The offeror certifies that --

(1) The prices in this offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other offeror or competitor relating to –

(i) Those prices,

(ii) The intention to submit an offer, or

(iii) The methods of factors used to calculate the prices offered:

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

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

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

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

(2) (i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) of this provison _____ (insert full name of person(s) in the offeror's organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the offeror's organization);

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

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

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

(End of clause)

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 2006)

(a)(1) The North American Industry Classification System (NAICS) code for this acquisition is 236220.

(2) The small business size standard 31.0 Mil

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

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

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

(c) 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)

52.209-5 CERTIFICATION REGARDING DEBARMENT, SUSPENSION, PROPOSED DEBARMENT, AND OTHER RESPONSIBILITY MATTERS (DEC 2001)

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

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

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

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

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

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

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

This Certification Concerns a Matter Within the Jurisdiction of an Agency of the United States and the Making of a False, Fictitious, or Fraudulent Certification May Render the Maker Subject to Prosecution Under Section 1001, Title 18, United States Code.

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

(c) A certification that any of the items in paragraph (a) of this provision exists will not necessarily result in withholding of an award under this solicitation. However, the certification will be considered in connection with a

determination of the Offeror's responsibility. Failure of the Offeror to furnish a certification or provide such additional information as requested by the Contracting Officer may render the Offeror nonresponsible.

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

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

(End of provision)

52.222-22 PREVIOUS CONTRACTS AND COMPLIANCE REPORTS (FEB 1999)

The offeror represents that --

(a) ( ) It has, ( ) has not participated in a previous contract or subcontract subject to the Equal Opportunity clause of this solicitation;

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

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

(End of provision)

52.230-1 COST ACCOUNTING STANDARDS NOTICES AND CERTIFICATION (JUN 2000)

Note: This notice does not apply to small businesses or foreign governments. This notice is in three parts, identified by Roman numerals I through III.

Offerors shall examine each part and provide the requested information in order to determine Cost Accounting Standards (CAS) requirements applicable to any resultant contract.

If the offeror is an educational institution, Part II does not apply unless the contemplated contract will be subject to full or modified CAS coverage pursuant to 48 CFR 9903.201-2(c)(5) or 9903.201-2(c)(6), respectively.

I. DISCLOSURE STATEMENT--COST ACCOUNTING PRACTICES AND CERTIFICATION

(a) Any contract in excess of $500,000 resulting from this solicitation will be subject to the requirements of the Cost Accounting Standards Board (48 CFR Chapter 99), except for those contracts which are exempt as specified in 48 CFR 9903.201-1.

(b) Any offeror submitting a proposal which, if accepted, will result in a contract subject to the requirements of 48 CFR Chapter 99 must, as a condition of contracting, submit a Disclosure Statement as required by 48 CFR 9903.202. When required, the Disclosure Statement must be submitted as a part of the offeror's proposal under this solicitation unless the offeror has already submitted a Disclosure Statement disclosing the practices used in connection with the pricing of this proposal. If an applicable Disclosure Statement has already been submitted, the

offeror may satisfy the requirement for submission by providing the information requested in paragraph (c) of Part I of this provision.

CAUTION: In the absence of specific regulations or agreement, a practice disclosed in a Disclosure Statement shall not, by virtue of such disclosure, be deemed to be a proper, approved, or agreed-to practice for pricing proposals or accumulating and reporting contract performance cost data.

(c) Check the appropriate box below:

(1) Certificate of Concurrent Submission of Disclosure Statement.

The offeror hereby certifies that, as a part of the offer, copies of the Disclosure Statement have been submitted as follows: (i) original and one copy to the cognizant Administrative Contracting Officer (ACO) or cognizant Federal agency official authorized to act in that capacity (Federal official), as applicable, and (ii) one copy to the cognizant Federal auditor.

(Disclosure must be on Form No. CASB DS-1 or CASB DS-2, as applicable. Forms may be obtained from the cognizant ACO or Federal official and/or from the loose-leaf version of the Federal Acquisition Regulation.)

Date of Disclosure Statement: _____ Name and Address of Cognizant ACO or Federal Official Where Filed: _____

The offeror further certifies that the practices used in estimating costs in pricing this proposal are consistent with the cost accounting practices disclosed in the Disclosure Statement.

(2) Certificate of Previously Submitted Disclosure Statement.

The offeror hereby certifies that the required Disclosure Statement was filed as follows:

Date of Disclosure Statement: _____ Name and Address of Cognizant ACO or Federal Official Where Filed: _____

The offeror further certifies that the practices used in estimating costs in pricing this proposal are consistent with the cost accounting practices disclosed in the applicable Disclosure Statement.

(3) Certificate of Monetary Exemption.

The offeror hereby certifies that the offeror, together with all divisions, subsidiaries, and affiliates under common control, did not receive net awards of negotiated prime contracts and subcontracts subject to CAS totaling more than $50 million (of which at least one award exceeded $1 million) in the cost accounting period immediately preceding the period in which this proposal was submitted. The offeror further certifies that if such status changes before an award resulting from this proposal, the offeror will advise the Contracting Officer immediately.

(4) Certificate of Interim Exemption.

The offeror hereby certifies that (i) the offeror first exceeded the monetary exemption for disclosure, as defined in (3) of this subsection, in the cost accounting period immediately preceding the period in which this offer was submitted and (ii) in accordance with 48 CFR 9903.202-1, the offeror is not yet required to submit a Disclosure Statement. The offeror further certifies that if an award resulting from this proposal has not been made within 90 days after the end of that period, the offeror will immediately submit a revised certificate to the Contracting Officer, in the form specified under subparagraph (c)(1) or (c)(2) of Part I of this provision, as appropriate, to verify submission of a completed Disclosure Statement.

CAUTION: Offerors currently required to disclose because they were awarded a CAS-covered prime contract or subcontract of $50 million or more in the current cost accounting period may not claim this exemption (4).

Further, the exemption applies only in connection with proposals submitted before expiration of the 90-day period following the cost accounting period in which the monetary exemption was exceeded.

II. COST ACCOUNTING STANDARDS--ELIGIBILITY FOR MODIFIED CONTRACT COVERAGE

If the offeror is eligible to use the modified provisions of 48 CFR 9903.201-2(b) and elects to do so, the offeror shall indicate by checking the box below. Checking the box below shall mean that the resultant contract is subject to the Disclosure and Consistency of Cost Accounting Practices clause in lieu of the Cost Accounting Standards clause.

( ) The offeror hereby claims an exemption from the Cost Accounting Standards clause under the provisions of 48 CFR 9903.201-2(b) and certifies that the offeror is eligible for use of the Disclosure and Consistency of Cost Accounting Practices clause because during the cost accounting period immediately preceding the period in which this proposal was submitted, the offeror received less than $50 million in awards of CAS-covered prime contracts and subcontracts. The offeror further certifies that if such status changes before an award resulting from this proposal, the offeror will advise the Contracting Officer immediately.

CAUTION: An offeror may not claim the above eligibility for modified contract coverage if this proposal is expected to result in the award of a CAS-covered contract of $50 million or more or if, during its current cost accounting period, the offeror has been awarded a single CAS-covered prime contract or subcontract of $25 million or more.

III. ADDITIONAL COST ACCOUNTING STANDARDS APPLICABLE TO EXISTING CONTRACTS

The offeror shall indicate below whether award of the contemplated contract would, in accordance with subparagraph (a)(3) of the Cost Accounting Standards clause, require a change in established cost accounting practices affecting existing contracts and subcontracts.

( ) YES ( ) NO

(End of clause)

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)

Section 00700 - Contract Clauses

CLAUSES INCORPORATED BY REFERENCE

52.233-1	Disputes	JUL 2002
52.233-3	Protest After Award	AUG 1996
52.233-4	Applicable Law for Breach of Contract Claim	OCT 2004
52.236-2	Differing Site Conditions	APR 1984
52.236-3	Site Investigation and Conditions Affecting the Work	APR 1984
52.236-5	Material and Workmanship	APR 1984
52.236-6	Superintendence by the Contractor	APR 1984
52.236-7	Permits and Responsibilities	NOV 1991
52.236-8	Other Contracts	APR 1984
52.236-9	Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements	APR 1984
52.236-10	Operations and Storage Areas	APR 1984
52.236-11	Use and Possession Prior to Completion	APR 1984
52.236-12	Cleaning Up	APR 1984
52.236-13 Alt I	Accident Prevention (Nov 1991) - Alternate I	NOV 1991
52.236-15	Schedules for Construction Contracts	APR 1984
52.236-17	Layout of Work	APR 1984
52.236-21 Alt I	Specifications and Drawings for Construction (Feb 1997) - Alternate I	APR 1984
52.236-23	Responsibility of the Architect-Engineer Contractor	APR 1984
52.236-24	Work Oversight in Architect-Engineer Contracts	APR 1984
52.236-25	Requirements for Registration of Designers	JUN 2003
52.236-26	Preconstruction Conference	FEB 1995
52.242-13	Bankruptcy	JUL 1995
52.242-14	Suspension of Work	APR 1984
52.243-4	Changes	JUN 2007
52.243-6	Change Order Accounting	APR 1984
52.244-4	Subcontractors and Outside Associates and Consultants (Architect-Engineer Services)	AUG 1998
52.244-5	Competition In Subcontracting	DEC 1996
52.246-21	Warranty of Construction	MAR 1994
52.247-34	F.O.B. Destination	NOV 1991
52.247-63	Preference For U.S. Flag Air Carriers	JUN 2003
52.248-3	Value Engineering-Construction	SEP 2006
52.249-2 Alt I	Termination for Convenience of the Government (Fixed-Price) (May 2004) - Alternate I	SEP 1996
52.249-10	Default (Fixed-Price Construction)	APR 1984
52.253-1	Computer Generated Forms	JAN 1991
252.201-7000	Contracting Officer's Representative	DEC 1991
252.203-7001	Prohibition On Persons Convicted of Fraud or Other Defense-Contract-Related Felonies	DEC 2004
252.204-7000	Disclosure Of Information	DEC 1991
252.204-7003	Control Of Government Personnel Work Product	APR 1992
252.209-7004	Subcontracting With Firms That Are Owned or Controlled By The Government of a Terrorist Country	DEC 2006
252.215-7000	Pricing Adjustments	DEC 1991
252.215-7002	Cost Estimating System Requirements	DEC 2006
252.222-7002	Compliance With Local Labor Laws (Overseas)	JUN 1997
252.223-7002	Safety Precautions For Ammunition And Explosives	MAY 1994

252.223-7003	Changes In Place Of Performance--Ammunition And Explosives	DEC 1991
252.223-7004	Drug Free Work Force	SEP 1988
252.225-7005	Identification Of Expenditures In The United States	JUN 2005
252.225-7041	Correspondence in English	JUN 1997
252.227-7013	Rights in Technical Data--Noncommercial Items	NOV 1995
252.227-7022	Government Rights (Unlimited)	MAR 1979
252.227-7023	Drawings and Other Data to become Property of Government	MAR 1979
252.227-7030	Technical Data--Withholding Of Payment	MAR 2000
252.227-7033	Rights in Shop Drawings	APR 1966
252.231-7000	Supplemental Cost Principles	DEC 1991
252.232-7003	Electronic Submission of Payment Requests	MAR 2007
252.232-7008	Assignment of Claims (Overseas)	JUN 1997
252.232-7010	Levies on Contract Payments	DEC 2006
252.233-7001	Choice of Law (Overseas)	JUN 1997
252.236-7000	Modification Proposals-Price Breakdown	DEC 1991
252.236-7008	Contract Prices-Bidding Schedules	DEC 1991
252.243-7001	Pricing Of Contract Modifications	DEC 1991
252.243-7002	Requests for Equitable Adjustment	MAR 1998
252.247-7023	Transportation of Supplies by Sea	MAY 2002
252.247-7024	Notification Of Transportation Of Supplies By Sea	MAR 2000

CLAUSES INCORPORATED BY FULL TEXT

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 twelve (12%) 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)

52.249-5000 BASIS FOR SETTLEMENT OF PROPOSALS

Actual costs will be used to determine equipment costs for a settlement proposal submitted on the total cost basis under FAR 49.206-2(b). In evaluating a terminations settlement proposal using the total cost basis, the following principles will be applied to determine allowable equipment costs:

3. Actual costs for each piece of equipment, or groups of similar serial or series equipment, need not be available in the contractor's accounting records to determine total actual equipment costs.
4. If equipment costs have been allocated to a contract using predetermined rates , those charges will be adjusted to actual costs.

(3) Recorded job costs adjusted for unallowable expenses will be used to determine equipment operating expenses.

(4) Ownership costs (depreciation) will be determined using the contractor's depreciation schedule (subject to the provisions of FAR 31.205-11).

(5) License, taxes, storage and insurance costs are normally recovered as an indirect expense and unless the contractor charges these costs directly to contracts, they will be recovered through the indirect expense rate.

(End of Clause)

52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

http://farsite.hitl.af.mil

(End of clause)

52.252-6 AUTHORIZED DEVIATIONS IN CLAUSES (APR 1984)

(a) The use in this solicitation or contract of any Federal Acquisition Regulation (48 CFR Chapter 1) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the date of the clause.

(b) The use in this solicitation or contract of any **Defense FAR supplement (48 CFR Chapter 2)**

clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

(End of clause)

252.204-7004 CENTRAL CONTRACTOR REGISTRATION (52.204-7) ALTERNATE A (SEP 2007)

(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, to include validation of the Taxpayer Identification Number (TIN) with the Internal Revenue Service, and has marked the records ``Active.'' The Contractor will be required to provide consent for TIN validation to the Government as part of the CCR registration process.

(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)

252.222-7006 COMBATING TRAFFICKING IN PERSONS (OCT 2006)

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

Coercion means--

(1) Threats of serious harm to or physical restraint against any person;

(2) Any scheme, plan, or pattern intended to cause a person to believe that failure to perform an act would result in serious harm to or physical restraint against any person; or

(3) The abuse or threatened abuse of the legal process.

Commercial sex act means any sex act on account of which anything of value is given to or received by any person.

Construction means construction, alteration, or repair (including dredging, excavating, and painting) of buildings, structures, or other real property. For purposes of this definition, the terms ``buildings, structures, or other real property" include, but are not limited to, improvements of all types, such as bridges, dams, plants, highways, parkways, streets, subways, tunnels, sewers, mains, power lines, cemeteries, pumping stations, railways, airport facilities, terminals, docks, piers, wharves, ways, lighthouses, buoys, jetties, breakwaters, levees, canals, and channels. Construction does not include the manufacture, production, furnishing, construction, alteration, repair, processing, or assembling of vessels, aircraft, or other kinds of personal property.

Debt bondage means the status or condition of a debtor arising from a pledge by the debtor of his or her personal services or of those of a person under his or her control as a security for debt, if the value of those services as reasonably assessed is not applied toward the liquidation of the debt or the length and nature of those services are not respectively limited and defined.

Employee means an employee of a contractor directly engaged in the performance of work under a Government contract, including all direct cost employees and any other contractor employee who has other than a minimal impact or involvement in contract performance.

Individual means a contractor that has no more than one employee including the contractor.

Involuntary servitude includes a condition of servitude induced by means of--

(1) Any scheme, plan, or pattern intended to cause a person to believe that, if the person did not enter into or continue in such conditions, that person or another person would suffer serious harm or physical restraint; or

(2) The abuse or threatened abuse of the legal process (22 U.S.C. 7102(5)).

Service contract means a contract that directly engages the time and effort of a contractor whose primary purpose is to perform an identifiable task rather than to furnish an end item of supply.

Service (other than commercial) means a service that does not meet the definition of commercial item in section 2.101 of the Federal Acquisition Regulation.

Severe forms of trafficking in persons means--

(1) Sex trafficking in which a commercial sex act is induced by force, fraud, or coercion, or in which the person induced to perform such act has not attained 18 years of age; or

(2) The recruitment, harboring, transportation, provision, or obtaining of a person for labor or services, through the use of force, fraud, or coercion for the purpose of subjection to involuntary servitude, peonage, debt bondage, or slavery.

Sex trafficking means the recruitment, harboring, transportation, provision, or obtaining of a person for the purpose of a commercial sex act.

United States means the 50 States, the District of Columbia, and outlying areas.

(b) Policy. It is the policy of the Department of Defense (DoD) that trafficking in persons will not be facilitated in any way by the activities of DoD contractors or contractor personnel. DoD will not tolerate severe forms of trafficking in persons or use of forced labor by DoD contractors, DoD subcontractors, or DoD contractor or subcontractor personnel during the period of contract performance. Furthermore, DoD will not tolerate the procurement of commercial sex acts by DoD contractors, DoD subcontractors, or DoD contractor or subcontractor personnel, during the period of performance of service or construction contracts. As delineated in National Security Presidential Directive 22, the United States has adopted a zero tolerance policy regarding contractor personnel who engage in or support trafficking in persons.

(c) Contractor compliance.

(1) During the performance of this contract, the Contractor shall comply with the policy of DoD and shall not engage in or support severe forms of trafficking in persons or use forced labor. The Contractor is responsible for knowing and adhering to United States Government zero-tolerance policy and all host nation laws and regulations relating to trafficking in persons and the use of forced labor.

(2) Additionally, if this contract is a service or construction contract, the Contractor shall not engage in or support the procurement of commercial sex acts during the performance of this contract and is responsible for knowing and adhering to United States Government policy and all host nation laws and regulations relating thereto.

(d) Contractor responsibilities for employee conduct--service or construction contracts. If this contract is a service or construction contract, the Contractor, if other than an individual, shall establish policies and procedures for ensuring that during the performance of this contract, its employees do not engage in or support severe forms of trafficking in persons, procure commercial sex acts, or use forced labor. At a minimum, the Contractor shall--

(1) Publish a statement notifying its employees of the United States Government policy described in paragraph (b) of this clause and specifying the actions that will be taken against employees for violations of this policy. Such actions may include, but are not limited to, removal from the contract, reduction in benefits, termination of employment, or removal from the host country;

(2) Establish an awareness program to inform employees regarding--

(i) The Contractor's policy of ensuring that employees do not engage in severe forms of trafficking in persons, procure commercial sex acts, or use forced labor;

(ii) The actions that will be taken against employees for violation of such policy; and

(iii) Laws, regulations, and directives that apply to conduct when performance of the contract is outside the United States, including--

(A) All host country Government laws and regulations relating to severe forms of trafficking in persons, procurement of commercial sex acts, and use of forced labor;

(B) All United States laws and regulations on severe forms of trafficking in persons, procurement of commercial sex acts, and use of forced labor that may apply to its employees' conduct in the host nation, including those laws for which jurisdiction is established by the Military Extraterritorial Jurisdiction Act of 2000 (18 U.S.C. 3261-3267) and 18 U.S.C. 3271, Trafficking in persons offenses committed by persons employed by or accompanying the Federal Government outside the United States; and

(C) Directives on trafficking in persons from the Combatant Commander, or the Combatant Commander's designated representative, that apply to contractor employees, such as general orders and military listings of ``off-limits'' local establishments; and

(3) Provide all employees directly engaged in performance of the contract with--

(i) Any necessary legal guidance and interpretations regarding combating trafficking in persons policies, laws, regulations, and directives applicable to performance in the host country; and

(ii) A copy of the statement required by paragraph (d)(1) of this clause. If this contract is for services (other than commercial), the Contractor shall obtain written agreement from the employee that the employee shall abide by the terms of the statement.

(e) Employee violations--notification and action. The Contractor shall--

(1) Inform the Contracting Officer immediately of any information it receives from any source (including host country law enforcement) that alleges a contractor or subcontractor employee has engaged in conduct that violates the policy in paragraph (b) of this clause. Notification to the Contracting Officer does not alleviate the Contractor's responsibility to comply with applicable host nation laws;

(2) In accordance with its own operating procedures and applicable policies, laws, regulations, and directives, take appropriate action, up to and including removal from the host nation or dismissal, against any of its employees who violate the policy in paragraph (b) of this clause; and

(3) Inform the Contracting Officer of any actions taken against employees pursuant to this clause.

(f) Remedies. In addition to other remedies available to the Government, the Contractor's failure to comply with the requirements of paragraphs (c), (d), (e), or (g) of this clause may render the Contractor subject to--

(1) Required removal of a Contractor employee or employees from the performance of the contract;

(2) Required subcontractor termination;

(3) Suspension of contract payments;

(4) Loss of award fee, consistent with the award fee plan, for the performance period in which the Government determined Contractor non-compliance;

(5) Termination of the contract for default, in accordance with the Termination clause of this contract; or

(6) Suspension or debarment.

(g) Subcontracts.

(1)(i) The Contractor shall include the substance of this clause, including this paragraph (g), in all subcontracts performed outside the United States; and

(ii) If this contract is for services (other than commercial), the Contractor shall include the substance of this clause, including this paragraph (g), in all subcontracts performed in the United States for the acquisition of services (other than commercial).

(2) If this contract is a service or construction contract, the Contractor shall conduct periodic reviews of its service and construction subcontractors to verify compliance with their obligations pursuant to paragraph (d) of this clause.

(3) The Contractor shall--

(i) Immediately inform the Contracting Officer of any information it receives from any source (including host country law enforcement) that alleges a subcontractor has engaged in conduct that violates the policy in paragraph (b) of this clause. Notification to the Contracting Officer does not alleviate the Contractor's responsibility to comply with applicable host nation laws;

(ii) Take appropriate action, including termination of the subcontract, when the Contractor obtains sufficient evidence to determine that the subcontractor is in non-compliance with its contractual obligations pursuant to this clause; and

(iii) Inform the Contracting Officer of any actions taken against subcontractors pursuant to this clause.

(End of Clause)

252.225-7043 ANTITERRORISM/FORCE PROTECTION POLICY FOR DEFENSE CONTRACTORS OUTSIDE THE UNITED STATES (MAR 2006)

(a) Definition. United States, as used in this clause, means, the 50 States, the District of Columbia, and outlying areas.

(b) Except as provided in paragraph (c) of this clause, the Contractor and its subcontractors, if performing or traveling outside the United States under this contract, shall--

(1) Affiliate with the Overseas Security Advisory Council, if the Contractor or subcontractor is a U.S. entity;

(2) Ensure that Contractor and subcontractor personnel who are U.S. nationals and are in-country on a non-transitory basis, register with the U.S. Embassy, and that Contractor and subcontractor personnel who are third country nationals comply with any security related requirements of the Embassy of their nationality;

(3) Provide, to Contractor and subcontractor personnel, antiterrorism/force protection awareness information commensurate with that which the Department of Defense (DoD) provides to its military and civilian personnel and their families, to the extent such information can be made available prior to travel outside the United States; and

(4) Obtain and comply with the most current antiterrorism/force protection guidance for Contractor and subcontractor personnel.

(c) The requirements of this clause do not apply to any subcontractor that is--

(1) A foreign government;

(2) A representative of a foreign government; or

(3) A foreign corporation wholly owned by a foreign government.

(d) Information and guidance pertaining to DoD antiterrorism/force protection can be obtained from

Combined Security Transition Command, Afghanistan (CSTC-A) Camp Eggers, Kabul, Afghanistan

(End of clause)

252.229-7000 INVOICES EXCLUSIVE OF TAXES OR DUTIES (JUNE 1997)

Invoices submitted in accordance with the terms and conditions of this contract shall be exclusive of all taxes or duties for which relief is available.

(End of clause)

252.229-7001 TAX RELIEF (JUN 1997)

(a) Prices set forth in this contract are exclusive of all taxes and duties from which the United States Government is exempt by virtue of tax agreements between the United States Government and the Contractor's government. The following taxes or duties have been excluded from the contract price:

"Reference the exchange of diplomatic notes between the USA and Afghanistan dated September 26, 2002, December 12, 2002, and May 28, 2003; and/or successor notes or agreements as applicable."

(b) The Contractor's invoice shall list separately the gross price, amount of tax deducted, and net price charged.

(c) When items manufactured to United States Government specifications are being acquired, the Contractor shall identify the materials or components intended to be imported in order to ensure that relief from import duties is obtained. If the Contractor intends to use imported products from inventories on hand, the price of which includes a factor for import duties, the Contractor shall ensure the United States Government's exemption from these taxes. The Contractor may obtain a refund of the import duties from its government or request the duty-free import of an amount of supplies or components corresponding to that used from inventory for this contract.

(End of clause)

252.236-7001 CONTRACT DRAWINGS 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.

(See Appendix A)

(End of clause)

WORKERS COMP INSURANCE

WORKERS COMPENSATION INSURANCE (DEFENSE BASE ACT) – CONSTRUCTION (APR 2008)

(a) This clause supplements FAR Clause 52.228-3.

(b) The contractor agrees to procure Defense Base Act (DBA) insurance pursuant to the terms of the contract between the U.S. Army Corps of Engineers (USACE) and **CNA/Continental Insurance Company** unless the contractor has a DBA self-insurance program approved by the Department of Labor. The contractor shall submit a copy of the Department of Labor's approval to the contracting officer upon contract award. The current rate under the USACE contract is **$7.25 per $100 of compensation for construction.**

(c) The contractor agrees to insert a clause substantially the same as this one in all subcontracts to which DBA is applicable. Subcontractors shall be required to insert a similar clause in any of their subcontracts subject to the DBA.

(d) Should the rates for DBA insurance coverage increase or decrease during the performance of this contract, USACE shall modify the contract accordingly. However, the revised rates will not be applicable until the Contractor's or Subcontractor's DBA Insurance policy is due to be renewed.

(e) Premiums will be reimbursed only if coverage is purchased through the USACE DBA Pilot Program administered by CNA Insurance and their Managing Broker, Rutherfoord International.

DEFENSE BASE ACT INSURANCE

The provision **"Defense Base Act Insurance Rates – Limitation – Fixed-Price (Apr 2008)" shall be included in solicitations** for fixed-price contracts to be performed outside the U.S. by contractor personnel.

DEFENSE BASE ACT INSURANCE RATES – LIMITATION – FIXED-PRICE (APR 2008)

(a) The U. S. Army Corps of Engineers (USACE) has entered into a contract with **CNA/Continental Insurance Company** to provide all Defense Base Act (DBA) insurance to USACE contractors at a contracted rate. The rates for this insurance are as follows:

Services @ $3.50 per $100 of compensation;

Construction @ $7.25 per $100 of compensation;

Security @ $10.30 per $100 of compensation;

Aviation @ $17.50 per $100 of compensation.

(b) Bidders/Offerors should compute the total compensation (direct salary plus differential, but excluding per diem, housing allowance and other miscellaneous post allowances) to be paid to employees who will be covered by DBA insurance and the cost of DBA totals in the spaces provided for the base period and whatever extension there may be thereafter, if applicable.

(1) Compensation of Covered Employees: _____

(2) Defense Base Act Insurance Costs: _____

(3) Total Cost: _____

(c) Bidders/Offerors shall include a statement as to whether or not local nationals or third country nationals will be employed on the resultant contract.

(d) CNA Insurance is utilizing Rutherfoord International as their managing Broker. The primary POC is the USACE DBA Program Administrator is Ramoan Jones, (703) 813-6571 ramoan.jones@rutherfoord.com. The alternate POC is Sara Payne, Senior Vice President, (703) 813-6503 sara.payne@rutherfoord.com.

_____

ECONOMIC SURVEILLANCE

Economic Surveillance Contract Language

Contractor shall report average pay rates and employment levels, for both domestic and international employees monthly. The information will be reported by labor category (as specified by USACE) and be specific to each work active work site. In addition the contractor shall report monthly non-labor contract spending for domestic and international contract expenses. This information will be reported by category (as specified by USACE) and will be specific to each active work site.

CLAUSES INCORPORATED BY REFERENCE

52.211-13	Time Extensions	SEP 2000
52.246-12	Inspection of Construction	AUG 1996
252.232-7003	Electronic Submission of Payment Requests	MAR 2007

CLAUSES INCORPORATED BY FULL TEXT

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

The Contractor shall be required to (a) commence work under this contract within seven (7) 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 360 calendar days after receipt of the notice to proceed. * 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 of $1900.00 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)

52.232-5000 PAYMENT FOR MATERIALS DELIVERED OFF-SITE (MAR 1995)--EFARS

(a) Pursuant to FAR clause 52.232-5, Payments Under Fixed Priced Construction Contracts, materials delivered to the contractor at locations other than the site of the work may be taken into consideration in making payments if included in payment estimates and if all the conditions of the General Provisions are fulfilled. Payment for items delivered to locations other than the work site will be limited to: (1) materials required by the technical provisions; or (3) materials that have been fabricated to the point where they are identifiable to an item of work required under this contract.

(b) Such payment will be made only after receipt of paid or receipted invoices or invoices with canceled check showing title to the items in the prime contractor and including the value of material and labor incorporated into the item. In addition to petroleum products, payment for materials delivered off-site is limited to the following items: _____

(End of clause)

52.236-4 PHYSICAL DATA (APR 1984)

Data and information furnished or referred to below is 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 investigations by either surveys, core borings, and/or reconnaissance.

(b) Weather conditions. Information regarding weather conditions is available in Technical Specifications Section 01060 for examination by bidders. If additional information concerning weather is required prospective bidders should contact the U.S. Army corps of Engineers, Afghanistan Engineer District, House #1, Street #1, West Wazir Akbar Khan, (behind Amani High School); Kabul, Afghanistan.

(c) Transportation facilities. It shall be the responsibility of the Contractor to make his own investigation of available roads for transportation, of load limits of bridges on the roads, and of other road conditions, which may effect transportation of materials, equipment, and personnel to the site of the work.

(End of clause)

SPECIFICATION SECTION 01010

SCOPE OF WORK

1. GENERAL

1.1 This project consists of the design and construction of site improvements and construction of facilities to support the Afghanistan National Civil Order Police (ANCOP) Patrol Unit and Urban Units in Afghanistan. This project is defined as the management, design, material, labor, and equipment to design and construct and/or refurbish all utilities, roads, buildings, force protection measures, site security, de-mining activities, and other features as referenced herein.

1.2 The site improvement work shall include the preparation of design documents and the subsequent construction of the site improvements described within this Section, Section 01015 and the Drawings with modifications to fit the actual site selected. The facilities required for each site shall include structures as indicated in the Drawings and Specifications and contain all connections of utilities for as shown on the Drawings. All sitework and facilities may require modifications to meet site conditions and these modifications shall be designed and constructed in accordance with current U.S. and International Building Codes and standards and as described in these documents. Any standard that can be determined to be substantially equivalent to the standards specified in this document may be used, but it is the Contractor's responsibility to show the equivalency of the alternate standard and the Contracting Officer must approve its use. A partial listing of references is included within the Request for Proposal.

1.3 Site Improvement Design Work shall be executed in accordance with the requirements described in Section 01015, and the Technical Specifications, and Drawings. In case of question or ambiguity, the Contracting Officer (KO) shall make the final decision. The KO shall furnish the decision in writing if requested by the Contractor. Designs shall be approved by the Contracting Officer's Representative (COR) prior to the start of work. The Contractor shall verify all dimensions provided in the scope of work prior to the start of any construction.

1.4 All information shall be presented in English. The Contractor shall have a minimum of one English-speaking representative on site at all times when work is in progress.

1.5 Period of Performance: All work under this task order shall be completed within 360 calendar days after contract award. Liquidated damages in the amount of $1900.00 for every calendar day beyond the scheduled contract completion date will be assessed and charged to the Contractor.

1.6 Submittals and a Submittal Register are required as specified in the Basic Contract.

1.7 The location for the project site is as follows: (Awaiting Site Survey Results)

Location	Latitude	Longitude
NE Corner	68 50 05	33 08 40
SE Corner	68 49 55	33 08 41
SW Corner	68 49 54	33 08 50
NW Corner	68 50 06	33 08 50

1.8 Unless other wise directed, the facilities and utility systems shall be designed with adequate capacity for the populations shown in the following matrix for a Brigade HQ and Patrol Battalion, Patrol Battalion, or Urban Battalion.

Department	Senior	High	Middle/Ordinary	Total
Urban Battalion	5	14	156/10	185
Patrol Battalion	5	19	204/0	228
Brigade HQ & Patrol Battalion	13	34	258/0	305

1.9 CQM Training Requirement – Before project design and construction begin, the Contractor's Quality Control Manager is required to have completed the U.S. Army Corps of Engineers CQM course or equivalent. The Construction Trades Training Center (CTTC) in Jalalabad, Afghanistan provides a course that satisfies the requirement. Courses are offered at regular intervals. For enrollment and course information contact CTTC at the following:

Mhd. Haris
Email: mharis@afghanreconstruction.org
Telephone: 0700 08 0602

Pervaiz
Email: adpzmuj@yahoo.com
Telephone: 0700 61 3133

2. GENERAL REQUIREMENTS FOR THE POLICE PROGRAM

All standard construction amenities and details such as site lighting, site drainage, utility connections, etc. shall be designed and constructed to serve the facilities as indicated on the conceptual site plans and specifications. Concrete walkways are required to connect all buildings, facilities, and features such as parking lots, power plants, etc.

The Contractor shall design and construct the site improvements and facility modifications to meet site conditions as a design-build contract in accordance with the requirements stated herein. The buildings and fueling facilities have been designed and are to be constructed as indicated herein and on the Technical Specifications and Drawings.

2.1 Site Security

The Contractor shall provide perimeter force protection security during construction. Security may include but is not limited to fence and private security guards. Perimeter security shall prevent unauthorized site access and provide safety protection to the Contractor work force and government personnel for the duration of the project. The contractor is solely responsible for security however local police should be coordinated with regarding security.

2.2 Surveys and Site Planning

The Contractor shall perform a geotechnical investigation, leach field testing, water well capacity testing, a topographic survey of the site, and prepare site paving, grading, utility, and drainage plans, with existing grades, proposed grades, and building finished floor elevations based on information contained in the Request for Proposal. The finished floor elevations shall be above the 10-year flood elevation. The development of the master plan will include participation in a design charrette. The charrette shall be scheduled by the Government after contract award. A 65% and final site plan review shall be conducted after award of this

contract. Provide calculations and detailed site utility plans defining all site utilities, sanitary sewer leach field, and water well details.

Excess space within compound footprint should be conserved and reserved to allow for future expansion. Maintain building separations as indicated on the Drawings.

2.3 De-Mining Activities

The contractor shall search for, identify and clear all mines and unexploded ordnance (UXO) from the entire site. The contractor may only provide clearance/removal services via UN Mine Action Center (MAC) accredited entities, and clearance shall be accomplished to the anticipated foundation depth as indicated in the contract. Clearance/removal may only be undertaken in accordance with International Mine Action Standards (IMAS). When mines and/or UXO's are identified, the Contractor shall place them in a location in accordance with IMAS. The work shall proceed in phases, concurrently with other construction efforts as determined by the contractor. Work will not commence until in any area that has not been cleared. The contractor shall provide the Government a clearance certificate approved by the MAC indicating that the site is clear of mines and UXO's and is available for construction operations to proceed.

It is the responsibility of the Contractor to be aware of the risk of encountering UXO/mines and to take all actions necessary to assure a safe work area to perform the requirements of this contract. The Contractor assumes the risk of any and all personal injury, property damage or other liability arising out of or resulting from any Contractor action taken hereunder. The Contractor and its subcontractors may not handle, work with, move, transport, render safe, or disarm any UXO/mine, unless they have appropriate accreditations from the UNMACA MAC.

If a UXO/mine is encountered after a MAC-approved clearance certificate is provided to the Government, UXO/mine disposal shall be handled in accordance with Section 01015, Technical Requirements.

2.4 Demolition and Grading

The contractor shall demolish all existing structures and buildings at the site prior to commencement of new work. The Contractor shall remove and dispose of all debris, concrete, and foundations. The Contractor shall verify the location of debris disposal with the Contracting Officer. The Contractor shall perform complete final site grading after installation of all required drainage structures per the Drainage Plan that will be prepared as part of this project and after installation of any other buried utilities or other project components. Native crushed stone 100 mm thick shall be placed around all buildings, from the building wall or building landscaping out 2m and all areas of anticipated foot or vehicle traffic to reduce erosion and to provide dust control as indicated. Concrete walkways shall be installed between buildings and parking areas.

3. SUMMARY OF WORK

3.1 Contractor Requirements: The contractor shall construct the facilities and shall be in accordance with the requirements stated in Section 01015, the Technical Specifications and the Drawings. Refer to the following sections for more specifics for required information. The design and construction work shall include but not be limited to that shown within attached table and described herein.

3.2 General Requirements for Facilities: All requirements set forth in the Scope of Work, but not included in the Technical Requirements shall be considered as set forth in both, and vice versa. Provide heating and cooling for all facilities unless otherwise stated in Section 01010 or 01015. All Toilets shall be eastern style and shall be oriented to face north or south.

3.3 Base Requirements for Urban and Patrol Facilities

- Administration Building with Communications Room, Arms Room
- Barracks Buildings
- Logistics Building
- DFAC to include outside wood stoves
- Toilet, Ablution and Shower Building
- Laundry Building
- Training Facility
- Vehicle Parking
- Fuel Storage and Vehicle Refuel Point
- Ammunition Supply Point
- Guard Shacks
- Gate House
- Guard Towers
- Perimeter Force Protection Wall
- Well House
- Road Network
- Site Utilities
- Entry Control Points to include canopy at main ECP
- Trash Point
- 2 Flagpoles

Option Items

- Additional 30 days Fuel Storage
- Soccer Field

3.4 Water System

Design and construct a water system with chlorination, to include a ground well water source, water well pump(s), and water storage tank(s) to provide water pressure of 345-517 kPa (50-75 psi) at a flow rate of twice the daily demand. The storage tank and distribution system shall be designed to provide a minimum 276 kPa (40psi) at ground level at all points in the system. Minimum pressures of 207 kPa (30 psi) under peak domestic flow conditions can be tolerated as long as peak requirements are satisfied. Maximum water pressures in the distribution system mains and service lines shall not exceed 517 kPa (75 psi) at ground elevations. Provide an enclosed water well house as indicated. System will include a back up mechanical pump capable of pumping 25 gallons per person per day. Contractor will ensure sufficient hydrostatic pressure to provide water to DFAC and latrines without electricity. Tank capacity shall meet or exceed 1 day's storage based on a usage of 50 gallons of water per person per day.

3.5 Sanitary Sewer System

Design and construct a sanitary sewer system sized for the entire compound, consisting of piping, clean outs, man holes, and septic tank with a leach field (with drain fields or holding tanks, as appropriated, servicing, all facilities with water service). The leach field shall not be located under a building or parking lot. System capacity shall be calculated based on the Required Daily Demand for the water system of 50 gallons per person per day. Sewage treatment shall be a traditional septic tank absorption field effluent disposal system, facultative pond system or other low maintenance, cost system.

Contractor shall furnish and install portable latrines units during construction in locations as required by Section 01015. Portable latrines shall be a mix of western and eastern style units. Mix shall be determined by the contracting officer.

Portable lavatories: Contractor shall furnish and install hand wash units in locations as required on attached drawings and within Section 01015. Hand wash units shall include four (4) wash units. Each wash unit shall consist of a basin, hand soap dispenser, and towel dispenser.

3.6 Site Electrical Distribution System

The contractor shall modify the site electrical distribution system as required to safely accommodate additional length of conductors that may be required. The contractor shall provide fuel storage capacity for 30 days and an option bid for an additional 30 days storage and supply of fuel.

GENERATOR FUEL STORAGE: The Contractor shall provide generator fuel storage as shown on the Drawings and Specifications. As part of this contract, the Contractor shall provide a full supply of fuel to the tanks at the time of turnover to the Government. The Contractor will provide capability for fuel delivery from two locations – one from outside the wall surrounding the compound and one directly into the fuel tanks. The delivery point outside the compound wall shall be lockable and securable from tampering or sabotage.

3.7 Force Protection Measures

The Contractor shall construct perimeter walls from masonry or native stone if available as indicated. Wall length and configuration may vary but additional guard towers are required at change in direction of walls to maintain line of sight from guard towers to all perimeter wall surface

The Primary Entry Control Point (ECP) will include a manually operated, sliding steel gate at the perimeter wall as indicated on the Drawings. The ECP will include one gate house, two guard shacks with entry canopy, two vehicle drop arm barriers, and strategically placed vehicle barriers to prevent high speed vehicle entry into compound. Modification designs for access roadway at ECP to accommodate Cougar H-series vehicle, 4m wide x 6m high.

The Secondary Entry Control Point (ECP) includes a manually operated, sliding steel gate, a vehicle drop arm barrier within the compound, strategically placed vehicle barriers to prevent high speed vehicle entry into compound, and trash point. The Gate shall consist of a heavy duty galvanized steel frame with painted steel panels blocking view. Gate shall have a high security slide bolt lock operable only from inside. Inside the gate, an active barrier shall be installed in accordance with criteria herein. The gate shall meet requirements of UL 752.

Force Protection measures also include the requirements of UFC 4-010-01, Design: Minimum DoD Antiterrorism Standards for Buildings, 8 Oct 2003, revised 22 Jan 2007; and UFC 4-010-02, DoD Minimum Antiterrorism Standoff Distances for Buildings, 8 Oct 2003, revised 19 Jan 2007, where the site design permits.

3.8 Vehicle Re-fueling Point

The Contractor shall provide a full supply of fuel to the vehicle refueling tanks at the time of turnover to the Government.

3.9 Vehicle Parking

The Contractor shall design and construct a paved parking area(s) to accommodate 99 vehicles and 27 trailers. Provisions shall be included for 3 visitor vehicles. The parking areas shall be of stone aggregate construction. There must also be a separate parking area for privately owned vehicles and bikes, sufficient parking for 15% of the personnel. The types of vehicles to be parked consist of LTVs, large ton trucks, ATVs, a C4 and wreckers. In the following table are

the number and size of parking spaces to be used for all ANVOP Urban, Patrol, and Brigade HQ and Patrol Battalion facility layouts.

Vehicle Type	Number	Parking Space Size m x m
LTV	27	4 x 5.5
Large Ton Truck	42	4 x 11
ATV	27	2.4 x 4.9
C4	1	4 x 11
Wrecker	2	4 x 11
Trailer	27	4 x 18

3.10 Road Network

The Contractor shall design and construct the entire road network within the compound. A storm drainage system will also be included. The road layout shall provide easy access to all fuel tanks, the sewage holding tank, and the trash collection point.

3.11 Trash Point

The Contractor shall design, in a location convenient for easy removal, a trash collection point. It shall be located outside Secondary Entry Control Point. The facility will include a large trash container for the facility with rollers that can be moved outside to the trash point.

3.12 Flag Poles

Two Flagpoles will be installed in front of the Administration Building as indicated on the Drawings and Specifications.

3.13 Soccer Field (Optional Bid Item)

Design and construct a soccer field, to be used as a training field. Field such be as large as possible to regulation size but within the space available. Provide two goals and netting. Field shall be constructed to freely drain and be have 150 mm of soil at the surface.

4. SUBMITTAL SCHEDULE

Description:	Required by Specification Section:	Due by:
Preconstruction Conference Meeting Minutes		
Area Use Plan		
Requests for Digging Permits		
AHA		
Accident Prevention Plan		
O&M Manuals		
Preliminary Planning, Scheduling, and Coordination of Training		
RMS Implementation Plan		
Proposed Training Program		
Security Plan		
CQC Reports		
DQC Plan		
CQC Plan		
As-Builts		

SECTION 01015

TECHNICAL REQUIREMENTS

1. GENERAL

1.1 The Contractor's design and construction must comply with technical requirements contained herein. The Contractor shall provide design and construction using the best blend of cost, construction efficiency, system durability, ease of maintenance and environmental compatibility.

1.2 These design and product requirements are minimum requirements. The Contractor is encouraged to propose alternate design or products (equipment and material) that are more commonly used in the region; will be equally or more cost effective or allow for more timely completion, but furnish the same system durability, ease of maintenance and environmental compatibility. The Contractor will be required to submit information as requested by the Contracting Officer to make a comparison of the proposed alternate. All variations must be approved by the Contracting Officer.

1.3 Asbestos Containing Materials

Asbestos containing material (ACM) shall not be used in the design and construction of this project. If no other material is available which will perform the required function or where the use of other material would be cost prohibitive, a waiver for the use of asbestos containing materials must be obtained from the Contracting Officer.

1.4 Safety

1.4.1 UNEXPLODED ORDNANCE (UXO)

It is the responsibility of the Contractor to be aware of the risk of encountering UXO/mines and to take all actions necessary to assure a safe work area to perform the requirements of this contract. If during construction, the contractor becomes aware of or encounters UXO/mines or potential UXO/mines, the contractor shall immediately notify the COR, mitigate any delays to scheduled or unscheduled contract work, and clear/remove the UXO/mines. The contractor may only provide clearance/removal services via UN MAC accredited entities. Clearance/removal may only be undertaken in accordance with IMAS. The Contractor assumes the risk of any and all personal injury, property damage or other liability arising out of or resulting from any Contractor action taken hereunder.

Scrap metal shall be the property of the Host Government. The scrap metal on site shall be moved to an area away from the site perimeter as directed by the Contracting Officer's Representative and left for the Host Government to remove and/or salvage.

NOTE: For previous UXO/mine information, the following points of contact from the UN Mine Action Center of Afghanistan are provided:

Mohammad Sediq, Chief of Operations,
Email: sediq@unmaca.org
Cell: +93 070 295207

Hansie Heymans, Chief Information Officer,
Email: hansie@unmaca.org
Cell: +93 070 294286

1.4.1.1 Explosives Safety

1.4.1.1.1 General Safety Considerations

General safety considerations applicable to personnel, both essential and non-essential, at project sites where UXO may be encountered include:

a. Do not carry fire or spark-producing devices.
b. Do not conduct explosive or explosive-related operations without approved procedures and
proper supervision and UXO safety support.
c. Do not become careless by reason of familiarity with UXO or the reported probability level of
UXO contamination.
d. Do not conduct explosive or potentially explosive operations during inclement weather.
e. Avoid contact with UXO except during UXO clearance operations.
f. Conduct UXO-related operations during daylight hours only.
g. Employ the "buddy system" at all times.

1.4.1.1.2 Activity Hazard Analysis (AHA) briefings

a. Activity Hazard Analysis's shall be prepared in accordance with the Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1.
b. Hazard analyses will be prepared and briefed by personnel that are knowledgeable in UXO and explosives safety standards and requirements. These personnel should understand the specific operational requirement and hazard analysis methodologies. A hazard analysis will be performed for each activity to determine the significance of any potential explosive-related hazards. Explosive residues may be discovered or exposed during UXO operations in the form of powder or various granular and powder based pellets. These contaminants can enter the body through the skin or by ingestion if proper personal hygiene practices are not followed. Explosive fillers such as white phosphorus are dangerously reactive in air and acute exposure can result in serious injury to the skin, eyes, and mucous membranes. They are also a fire hazard.

Safety requirements (or alternatives) that will either eliminate the identified hazards, mitigate or control them to reduce the associated risks to an acceptable level will be developed. The adequacy of the operational and support procedures that will be implemented to eliminate, control, or abate identified hazards or risks will then be evaluated and a second risk assessment completed to verify that a satisfactory safety level has been achieved.

1.4.1.2 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. The Contractor shall make no part of the time lost due to such stop orders the subject of claim for extension of time or for excess costs or damages.

1.5 Limitation of Working Space

The Contractor shall, except where required for service connections or other special reason(s), confine his operations strictly within the boundaries of the site. Workmen will not be permitted to trespass on adjoining property. Any operations or use of space outside the boundaries of the

site shall be by arrangement with all interested parties. It must be emphasized that the Contractor must take all practical steps to prevent his workmen from entering adjoining property and in the event of trespass occurring the Contractor will be held entirely responsible.

Areas located immediately outside the construction area are known to contain mines and unexploded ordnance (UXO). Contractors assume all risks when venturing in or out of the designated work area.

1.6 Temporary Structures

The Contractor shall erect suitable temporary fences, lighting, and necessary structures to safeguard the site, materials and plant against damage or theft and for the protection of the general public and shall adequately maintain the same throughout the course of the contract.

1.7 Subcontractors

Compliance with the provisions of this section by subcontractors will be the responsibility of the contractor.

1.8 List of Codes and Technical Criteria

The following codes and technical criteria and those referenced therein shall be required for this project. References within each reference below shall be required and adhered to. This list is not exhaustive and is not necessarily complete.

AABC - Associated Air Balance Council (National Standards for total System Balance)
ACI 318 Building Code Requirements for Structural Concrete (latest edition), American Concrete Institute
Air Force Manual 32-1071, Security Engineering, volumes 1-4, 1 May 1994
American Water Works Association, ANSI/AWWA C651-99 standard
ARI - Air Conditioning and Refrigeration Institute
ASCE 7-02, Minimum Design Loads for Buildings and Other Structures, 2002
ASHRAE - American Society of Heating, Refrigeration and Air-Conditioning Engineers
ASHRAE Standard 55-2004, Thermal Environmental Conditions for Human Occupancy
ASHRAE Standard 62.1-2004, Ventilation for Acceptable Indoor Air Quality
ASHRAE Standard 62.2-2004, Ventilation and Acceptable Indoor Air Quality for Low-Rise Residential
ASHRAE Standard 90.1-2001, Energy Standard for Buildings Except Low-Rise Residential Buildings
ASHRAE Standard 90.2-2004 with 2006 supplement, Energy-Efficient Design of Low-Rise Residential Buildings
ASME - American Society for Mechanical Engineering
ASTM - American Society for Testing and Materials
AWS - American Welding Society
DCID 6/9 Physical Security Standards for Sensitive Compartmented Information Facilities
DCID 1/21, Manual for Physical Security Standards For Sensitive Compartmented Information Facilities (SCIF).
EIA ANSI/TIA/EIA-607: (1994) Commercial Building Grounding/Bonding Requirement Standard.
Factory Mutual (FM) Approval Guide-Fire Protection (2002).
IBC - International Building Codes, 2003 (and its referenced codes including those inset below)
IFGC – International Fuel Gas Code
IMC – International Mechanical Code
IPC – International Plumbing Code
Lighting Handbook, IESNA, latest edition
MIL-HDBK-1190, Facility Planning and Design Guide Codes and Standards of the National Fire Protection Association (NFPA) [as applicable and enacted in 2002 or later, unless otherwise

noted].
National Electrical Safety Code (NESC), Institute of Electrical and Electronic Engineers (IEEE C2), 2002 edition
NFPA 10, Portable Fire Extinguishers, 2002 edition
NFPA 54, National Fuel Gas Code, 2002
NFPA 58, Liquefied Petroleum Gas Code, 2004
NFPA 70, National Electrical Code, 2005 edition
NFPA 72, National Fire Alarm Code, 2002 edition
NFPA 75, Standard for the Protection of Information Technology Equipment
NFPA 90A, Air Conditioning and Ventilating Systems, 2002 edition
NFPA 101, Life Safety Code, 2003 edition
NFPA 110, Standard for Emergency and Standby Power Systems, 2005 edition Plumbing and Drainage Institute (PDI-WH-201) water hammer arrestors
SMACNA - Sheet Metal and Air Conditioning Contractors' National Association, Standards and Guides, latest editions International Mine Action Standards, latest edition; (see http://www.mineactionstandards.org for copy of standards)
TM 5-785 Weather Data
TM 5-802-1 Economic Studies
TM 5-805-4 Noise and Vibration
UFC 1-200-01, Design: General Building Requirements, 20 June 2005
UFC 1-300-07A Design Build Technical Requirements
UFC 3-230-03a, Water Supply, 16 Jan 2004
UFC 3-230-04a, Water Distribution, 16 Jan 2004
UFC 3-230-06a, Subsurface Drainage, 16 Jan 2004
UFC 3-230-07a, Water Supply: Sources and General Considerations, 16 Jan 2004
UFC 3-230-08a, Water Supply: Water Treatment, 16 Jan 2004
UFC 3-230-09a, Water Supply: Water Storage, 16 Jan 2004
UFC 3-230-10a, Water Supply: Water Distribution, 16 Jan 2004
UFC 3-230-13a, Water Supply: Pumping Stations, 16 Jan 2004
UFC 3-230-17FA, Drainage in Areas Other than Airfields, 16 Jan 2004
UFC 3-240-03N, Operation and Maintenance: Wastewater Treatment System Augmenting Handbook, 16 Jan 2004
UFC 3-240-04a, Wastewater Collection, 16 Jan 2004
UFC 3-240-07FA, Sanitary and Industrial Wastewater Collection-Gravity Sewers and Appurtenances
UFC 3-240-02N Wastewater Treatment Systems Augmenting Handbook
UFC 3-250-01FA, Pavement Design For Roads, Streets, Walks, and Open Storage Areas
UFC 3-250-18FA, General Provisions and Geometric Design for Roads, Streets, Walks and Open Storage Areas
UFC 3-240-09FA, Domestic Wastewater Treatment
UFC 3-260-01, Airfield and Heliport Planning and Design, 1 Nov 2001 with changes dated 19 May 2006
UFC 3-260-02, Pavement Design for Airfields, 30 June 2001
UFC 1-300-09N, Design Procedures, 25 May 2005
UFC 3-310-01, Structural Load Data, 25 May 2005
UFC 3-400-01, Design: Energy Conservation, 5 July 2002
UFC 3-410-01FA Heating, Ventilating and Air Conditioning, Change 1, 15 May 2003
UFC 3-410-02A, HVAC Control Systems. 15 May 2003
UFC 3-430-01FA, Heating and Cooling Distribution Systems, 27 Jy 2003
UFC 3-501-03N, Electrical Engineering Preliminary Considerations, 16 Jan 2004
UFC 3-520-01, Interior Electrical Systems, 10 June 2002
UFC 3-530-01AN, Design: Interior and Exterior Lighting and Controls, 19 Aug 2005
UFC 3-540-04N Design: Diesel Electric Generating Plants, 16 Jan 2004
UFC 3-550-03FA Design: Electrical Power Supply and Distribution Systems, 1 Mar 2005
UFC 3-600-01, Design: Fire Protection Engineering for Facilities, 26 Sept 2006
UFC 4-010-01, Design: Minimum DoD Antiterrorism Standards for Buildings, 22 Jan 2007

UFC 4-010-02, DoD Minimum Antiterrorism Standoff Distances for Buildings, 19 Jan 2007
UFC 4-020-01FA, Security Engineering: Project Development, 1 Mar 2005
UFC 4-020-02FA, Security Engineering: Concept Design, 1 Mar 2005
UFC 4-020-03FA, Security Engineering: Final Design, 1 Mar 2005
UFC 4-020-04FA, Electronic Security Systems: Security Engineering, 1 Mar 2005
UFC 4-021-01, Design and O&M: Mass Notification Systems, draft 1 May 2006
Underwriters' Laboratories (UL) Fire Protection Equipment Directory (2002)
UL Standards (as applicable)
UL 710, Exhaust Hood for Commercial Cooking Equipment, latest edition
UL 737, Fireplace Stoves, latest edition
UL 752, Bullet Resisting Equipment, 2000 or later
USCINCCENT OPORD 97-1

The publications to be taken into consideration shall be those of the most recent editions. Standards other than those mentioned above may be accepted if the standards chosen are internationally recognized and meet the minimum requirements of the specified standards. The Contractor shall be prepared to submit proof of this if requested by the Contracting Officer.

2. SITE DEVELOPMENT:

2.1 General

The project includes site adapting designs and furnishing all materials, equipment and labor for constructing roads, parking lots, site grading, utilities, barriers, site lighting and buildings as applicable to complete the site layout.

2.2 Environmental Protection

2.2.1 APPLICABLE REGULATIONS

The Contractor shall comply with all Host Nation laws, rules, regulations or standards concerning environmental pollution control and abatement with regard to discharge of liquid waste into natural streams or manmade channels. The contractor shall review host nation and U.S. Government environmental regulations with the contracting officer prior to design and discharge of any liquid wastes into natural streams or manmade channels.

2.2.2 NOTIFICATION

The Contracting Officer will notify the Contractor in writing of any observed non-compliance with the foregoing provisions. 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. No extension of time or damages will be awarded to the Contractor unless it was later determined that the Contractor was in compliance.

2.2.3 SPILLAGES

Measures shall be taken to prevent chemicals, fuels, oils, greases, bituminous materials, waste washings, herbicides and insecticides, and construction materials from polluting the construction site and surrounding area.

2.2.4 DISPOSAL

Disposal of any materials, wastes, effluents, trash, garbage, oil, grease, chemicals, etc., shall be taken to a dumpsite off site and subject to the approval of the Contracting Officer. Burning at the

project site for the disposal of refuse and debris will not be permitted.

2.3 Civil Site Development

2.3.1 SITE PLAN

The contractor shall locate the facilities in general agreement with the drawings included and any requirements in the Scope of Work 01010. All buildings, roads, parking areas, entry control points, guard towers, wall, fence, utility structures, and other site features shall be clearly defined and dimensioned on the site plan. Buildings shall be located to provide access for emergency vehicles and fire fighting. Roads and parking areas shall be designed for turning radius of the largest vehicle entering the compound. The site plan shall show geometric design of the site, including applicable dimensions of all exterior facilities, mechanical equipment, pavements, utilities, etc. Required facilities are described in the following sections of this specification. All roads and areas where tractor-trailer vehicles will travel shall be designed for the worst case turning radius. Design and construction of roads and pavements shall be based on recommendations from geotechnical investigation required herein.

All site plans and master plans shall be drawn in the following projection and datum for incorporation into the U.S. Army Corps of Engineers GIS system:

WGS 1984 UTM Zone 42 N

2.3.2 DEMOLITION

Demolition shall include removal of all structures, foundations, pavements, and utilities, and clear and grubbing where specified. All refuse and debris shall be disposed of off site. Holes and depressions shall be backfilled. Fill materials shall be composed of satisfactory soils or aggregates defined in ASTM D 2487 as GW, GP, GM, SP, SM, SW, CL-ML. Minimum soil compaction shall be 95 percent of maximum dry density as defined in ASTM D 1557.

2.3.3 GRADING AND DRAINAGE

The contractor will provide all necessary site grading to insure adequate drainage so that no areas will be flooded due to a rainfall of a 10-year frequency. Drainage of the area should be compatible with the existing terrain. Building floor elevation shall be a minimum 150mm above grade and slope away from the building on all sides at a minimum of 5% for 3 meters. All drainage is intended to drain through the Primary and Secondary ECP. Other drainage options will require design to ensure that security is maintained and controlled from the guard towers and that any other discharge be clearly visible from the guard towers.

2.3.4 PAVING

2.3.4.1 Roads

Paved roads are required within the base camp area. All pre-existing conditions are undeveloped land with gentle slopes, without substantial vegetation and with natural drainage channels of moderate size and spacing that are dry most of the time. All roads shall be of wearing surface 7.3 meters (24 feet) wide, unless otherwise noted, graded for proper drainage, provided with necessary drainage structures and completed with prescribed surfaces in accordance with applicable sections of UFC 3-250-18FA and UFC 3-250-01FA standards. The compound (containment area) roads sections shall have the subgrade scarified and compacted to 95% maximum laboratory dry density for a minimum 300mm (12 inches). The roads sections shall have minimum 200 mm (8 inch) base course compacted to 100% of maximum dry density and shall be surfaced with minimum 50 mm (2 inch) hot mix asphalt concrete, unless otherwise noted. Degree of compaction shall be expressed as a percentage of the maximum dry density

obtained by the test procedure presented in ASTM D 1557or equivalent DIN, BS, or EN standards, unless otherwise noted. Contractor shall notify the Contracting Officer immediately if initial site survey determines that area hydrology requires major drainage structures or bridges. Also, the Contracting Officer shall be immediately notified if the required lengths of road or preexisting conditions are determined to be substantially or materially different than the above-described conditions/estimates.

2.3.4.2 Bridges and Site Grading Plan

The Contractor shall notify the Contracting Officer immediately if initial site survey determines that area hydrology requires major drainage structures or bridges. The contractor shall design a site grading plan that provides positive drainage and minimizes the requirement for major structures in a cost effective manner.

2.3.4.3 Parking Areas and Motor Pools

Contractor shall construct parking and storage areas using aggregate surface. Subgrade shall be 150mm (6 inches) minimum in depth scarified and compacted to 95% proctor dry density. Aggregate base shall be 150mm (6 inches). Aggregate Base Course (ABC) material must be well graded, durable aggregate uniformly moistened and mechanically stabilized by compaction. Degree of compaction shall be expressed as a percentage of the maximum dry density obtained by the test procedure presented in ASTM D 1557or equivalent DIN, BS, or EN standards.

2.3.4.4 Sidewalks

Contractor shall provide sidewalks to connect parking areas with buildings and adjoining buildings where foot traffic is anticipated. Sidewalks shall be constructed of Portland cement concrete and be at least 1.5 meters wide and 100 mm thick. Sidewalks used subject to vehicular traffic shall be 150mm thick. The sidewalk concrete strength shall be 210 kg/sq cm (20 MPa or 2890 psi). Aggregate sidewalks are permitted for low traffic areas as indicated in Drawings.

2.3.5 Entry Control Point –

See Section 01010 for Primary and Secondary ECP requirements to include guard towers, gate house and guard shacks.

2.3.5.1 Exterior Compound Wall

Design and construct a Force Protection Perimeter Stone Wall per Scope of Work Section 01010 and RFP. Provide detail/elevation at wall indicating how wall will transition from level to slope and over ridges. The stone walls are reinforced to resist wind and seismic loads. The footing must be sized to resist sliding and overturning from the design loads for changes to the design indicated.

2.3.6 CIVIL UTILITIES

2.3.6.1 General

The design of the water and sanitary systems shall be sized to provide flow and discharge based on a fixture unit basis. The design drawings shall show all utility lines, line sizes, valves, manholes, disinfection systems, and applicable details associated with water and sanitary system designs. Specifications covering water lines, valves, pumps, controls, sanitary sewers and storm sewers shall be submitted as part of the design and shall require standard materials that are available in-country. Contractor shall install and connect exterior sanitary sewer collection and water supply piping to service connection points of each facility requiring such.

No Holding Tanks allowed.

2.3.6.2 Water

2.3.6.2.1 General Water

Infrastructure design and construction shall serve the demand. The Contractor shall install water distribution mains, branches, laterals, lines and service connections to include all pipe, valves, fittings and appurtenances. Exterior water line construction shall include service to all buildings as described in the Scope of Work Section 01010. The required Average Daily Demand (ADD) approximation is derived from 190 liters per capita per day (lpcd) or 50 gallons per capita per day (gpcd). In the event potable or non-potable use water is required prior to completion of the water facilities infrastructure the Contractor may be issued a Request for Proposal to provide nonpotable (tank truck) and potable (bottled or other reliable source) consumption. Provide a minimum of one (1) outside water hydrant (hose spigot) for any building or facility for which a water supply is provided for landscaping purposes.

2.3.6.2.2 Water Quality Sampling and Analysis

The Contractor shall perform water quality sampling and testing at the source. The Contractor shall utilize well-qualified and equipped testing capability in the project site area, if available. If professional testing services are not available in the area, the Contractor will submit an alternative practical testing source for approval. Raw water quality criteria for Water Quality and Criteria Standards, and shall address the following: PH, turbidity, conductivity, oxidation reduction potential, total dissolved solids, color, odor, total coliform/fecal coliform (bacteria) an indicator of the presence of E. coli. These baseline parameters are a partial list as presented in UFC 3-240-09FA.

2.3.6.2.3 Well House

At new wells or springs, construct a permanent well house with concrete slab floor. The floor of the well house shall slope away from the casing approximately 3 mm per 300 mm (1/8” per foot) and drain to the outside. Floor of well house shall be above flood plain. The well house design should be such that the well pump, motor and drop pipe could be removed readily and accessible via an insulated and lockable roof hatch above. Provide a small window for natural light located high up on the room. The entry door shall be lockable and insulated and made of metal with a metal frame. The well house shall protect valves and pumping equipment plus provide freeze protection for the pump discharge piping beyond the check valve. The well house shall be insulated and a heating unit installed.

2.3.6.2.4 Raw Water Disinfection

Contractor shall perform disinfection of the well water in accordance with AWWA A 100 or equivalent. Bacteriological samples shall be collected and examined in accordance with Standard Methods for the Examination of Water and Wastewater by a qualified lab as approved by the Contracting Officer.

2.3.6.2.5 Water Filtration

Not Used

2.3.6.2.6 Well Water Pumps (for Hydro-pneumatic system)

An electric submersible well pump will pressurize the system by supplying water to a hydro-pneumatic tank and be capable of providing output for twice the average daily demand of 50 gallons per capita per day and provide hydro-pneumatic tank pressure of 50 psi to 75 psi. A

mechanical hand pump capable of providing a flow equal to 25 gallons per capita per day is required as a backup. The hand pump will be connected directly to the electric well pump effluent piping thereby allowing the system to be pressurized by either pump, although the mechanical pump shall provide discharge pressure of 40 psi when the system is supplied by the hand pump alone. The pumps and controls shall be designed to supply and maintain acceptable system pressure throughout the distribution network given the full range of flow conditions (low flow to peak). The pump discharge shall have a gate valve, check valve, pressure gage, and air relief valve.

2.3.6.2.7 Hydro-pneumatic Water Storage Tank

The Contractor shall provide horizontally mounted and insulated above ground hydro-pneumatic tank(s) containing water and compressed air located adjacent to the well house to maintain system pressures between 344 kPa and 517 kPa (50 psi and 75 psi). A compressor is required to occasionally add air to the tank. A typical hydro-pneumatic system loses pressure very quickly when the power and influent water supply are interrupted. The design for this project is intended to provide a water system less susceptible to rapid pressure loss during periods without power. The tanks were selected from standard available sizes based on a minimum volume required to maintain system pressure for a period of over 12 hours without power or pumping. Storage may be divided between duplicate units in cases where a single tank would be too long to easily transport to the site. Volume of the tank shall be a minimum storage volume of a full days demand. The Contractor shall verify storage volume requirements based on final design population. The storage facility shall be located above drainage areas and locations subject to flooding as approved by the Contracting Officer.

2.3.6.2.8 Disinfection & Chlorination System

Use calcium hypochlorite for disinfection. A chlorinator shall be used to feed a calcium hypochlorite solution of 5-15% available chlorine into the system. The chlorination system shall consist of a mixing/eroding chamber, solution tank for hypochlorite, power supply, water pump, pressure switch, water supply line, and discharge lines. The hydro-pneumatic tank shall provide contact time. The pump shall feed a hypochlorite solution in proportion to the water demand. The hypo-chlorinator shall have a pumping rate, liters per day (lpd) (gallons per day (gpd)) adequate to deliver 5 percent (%) available hypochlorite solution adjustable to the quantity of water being produced from the source. Dosage rate will vary somewhat depending on actual pump production rate and available residual chlorine in the system. Contractor shall determine the required dosage rate milligrams per liter (mg/l) to maintain the required chlorine residual (usually 0.2-0.4mg/l) in the distribution system. The hypochlorite shall be stored in a cool dry place. Contractor shall verify required minimum residual chlorine in accordance with local requirements verified and approved by the Contracting Officer. The chlorination system shall have the capability for manually adjusting the dosage rate and be installed in such a manner that the system can be easily disconnected and bypassed in the event of health safety or routine maintenance and repair. Disinfection of water mains shall be in accordance with AWWA standard C651-86 and disinfection of storage facilities in accordance with AWWA standard C652 86.

2.3.6.2.9 Chlorine Shelter

The chlorination equipment shall be installed at the well head and within the well house. If required, the contractor shall furnish a shelter as per chlorine manufacturer's installation requirements. The Contractor shall provide manufacturers catalog information and shop drawing to the Contracting Officer for approval.

2.3.6.3 Water Distribution System

2.3.6.3.1 General

The Contractor shall provide a water distribution system described as follows: Pipe diameters used in the network shall be 300mm (12 inch), 250mm (10 inch), 200mm (8 inch), 150mm (6 inch) and 100mm (4 inch), as calculated, and indicated in the Specifications. All pipes and joints shall be capable of at least 1.03 Mpa (150 psi) and 1.38 (200psi) hydrostatic test pressure unless otherwise specified. Pipes should be adequate to carry the maximum quantity of water at acceptable velocities 0.9 to 1.5m/sec (3 to 5 ft/sec) at maximum flows not to exceed 2.8m/sec (9.2ft/sec) with working pressures of 240kPa (35psi) to 350kPa (50psi). **Minimum pressure shall be 207 kPa (30psi) to** all points of the distribution system and **maximum pressure shall be 517kPa (75psi)**. If high pressures (greater than 517kPa) cannot be avoided, pressure-reducing valves shall be used. Water service connections to buildings shall vary from 19mm, 25mm or 38mm to 75mm, as calculated, depending on the usage requirement. Pipe service connections from the distribution main to the building shall be either Polyvinyl Chloride (PVC) plastic Schedule 80 ASTM D 1785 or copper tubing conforming to ASTM B 88M, Type K, annealed. After choosing piping material type, use similar piping materials for all buildings for efficiency of future maintenance activities. The distribution network shall be laid out in a combination grid and looped pattern with dead ends not exceeding 30m (99 feet). Dead end sections shall not be less than 150mm (6 inch) diameter and shall either have blow off valves or fire hydrants (flushing valves) installed for periodic flushing of the line. Any pipe with a fire hydrant on the line shall be at least 150mm (6 inch) in diameter. Water supply distribution shall connect to a building service at a point approximately 1.5m (5 feet) outside the building or structure to which the service is required. Adequate cover must be provided for frost protection. A minimum cover of 800mm (2'-8") is required to protect the water distribution system against freezing. Water lines less than 1.25 meters (4 feet) deep under road crossings shall have a reinforced concrete cover of at least 150 mm (6 inch) thickness around the pipe.

2.3.6.3.2 Pipe

Not used.

2.3.6.3.3 Hydrostatic, Leakage and Disinfection tests

The Contracting Officer will be notified not less than 48 hours in advance of any water piping test and will be given full access for monitoring testing procedures and results. Where any section of water line is provided with concrete thrust blocking for fittings or hydrants tests shall not be made until at least 5 days after installation of the concrete thrust blocking, unless otherwise approved.

2.3.6.3.4 Pressure Test

After the pipe is laid, the joints completed, and the trench partially backfilled leaving the joints exposed for examination, the newly laid piping or any valved section of piping shall, unless otherwise specified, be subjected for 1 hour to a hydrostatic pressure test of 1.03 MPa (150 psi). Each valve shall be opened and closed several times during the test. Exposed pipe, joints, fittings, hydrants and valves shall be carefully examined during the partially opened trench test. Joints showing visible leakage shall be replaced or remade as necessary. Cracked or defective pipe, joints, fittings, hydrants and valves discovered following this pressure test shall be removed and replaced and retested until the test results are satisfactory.

2.3.6.3.5 Leakage Test

Leakage test shall be conducted after the pressure tests have been satisfactorily completed. The duration of each leakage test shall be at least 2 hours and during the test the water line shall be subjected to not less than 1.03 MPa (150psi). Leakage is defined as the quantity of water to be supplied into the newly laid pipe, or any valved or approved section, necessary to maintain pressure to within 34.5kPa (5 psi) of the specified leakage test pressure after the pipe

has been filled with water and the air expelled. Pipe installation will not be accepted if leakage exceeds the allowable leakage, which is determined by the following formula:

L = 0.0001351ND (P raised to 0.5 power) L = Allowable leakage in gallons per hour N = Number of joints in the length of pipeline tested D = Nominal diameter of the pipe in inches P = Average test pressure during the leakage test, in psi gauge

Should any test of pipe disclose leakage greater than that calculated by the above formula, the defective joints shall be located and repaired until the leakage is within the specified allowance, without additional cost to the government.

2.3.6.3.6 Bacteriological Disinfection

2.3.6.3.6.1 Disinfection Procedure

Before acceptance of potable water operation, each unit of completed waterline shall be disinfected as prescribed by AWWA C651. After pressure tests have been completed, the unit to be disinfected shall be thoroughly flushed with water until all entrained dirt and mud have been removed before introducing the chlorinating material. Flushing will be performed in a manner and sequence that will prevent recontamination of pipe that has previously been disinfected. The chlorinating material shall be liquid chlorine, calcium hypochlorite, or sodium hypochlorite. The chlorinating material shall provide a dosage of not less than 50 ppm and shall be introduced into the water lines in an approved manner. Polyvinyl Chloride (PVC) pipelines shall be chlorinated using only the above-specified chlorinating material in solution. The agent shall not be introduced into the line in a dry solid state. The treated water shall be retained in the pipe long enough to destroy all non-spore forming bacteria. Except where a shorter period is approved, the retention time shall be at least 24 hours and shall produce not less than 25 ppm of free chlorine residual throughout the line at the end of the retention period. Valves on the lines being disinfected shall be opened and closed several times during the contact period. The line shall then be flushed with clean water until the residual chlorine is reduced to less than 1.0 ppm. During the flushing period, each fire hydrant on the line shall be opened and closed several times.

2.3.6.3.6.2 Sampling

For each building connected to the water system, personnel from the Contractor's commercial laboratory shall take at least 3 water samples from different points, approved by the Contracting Officer, in proper sterilized containers and perform a bacterial examination in accordance with approved methods. The commercial laboratory shall be verified to be qualified by the appropriate authority for examination of potable water.

2.3.6.3.6.3 Acceptance Requirements

The 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 bacteriological results have been obtained.

2.3.6.3.7 Time for making Tests

Except for joint material setting or where concrete thrust blocks necessitate a 5-day delay, pipeline jointed with rubber gaskets, mechanical or push-on joints, or couplings may be subjected to hydrostatic pressure, inspected and tested for leakage at any time after partial completion of backfill.

2.3.6.3.8 Concurrent Tests

The Contractor may elect to conduct the hydrostatic tests using either or both of the following

procedures. Regardless of the sequence of tests employed, the results of pressure tests, leakage tests, and disinfection shall be recorded for submission and approval. Replacement, repair or retesting required shall be accomplished by the Contractor at no additional cost to the Government. a. Pressure test and leakage test may be conducted concurrently, b. Hydrostatic tests and disinfection may be conducted concurrently, using water treated for disinfection to accomplish the hydrostatic tests. If water is lost when treated for disinfection and air is admitted to the unit being tested, or if any repair procedure results in contamination of the unit, disinfection shall be re-accomplished.

2.3.6.3.9 Thrust Blocking

Contractor shall provide concrete thrust blocking at any point where the layout of the system changes the direction of the flow, increases the velocity, or decreases or stops the flow. At these points, the pipes and fittings must be anchored and kept from moving or pulling apart by the use of thrust blocks installed against undisturbed earth.

2.3.6.4 Sanitary Sewer

2.3.6.4.1 General

There are no functional or salvageable sanitary sewer collection, treatment or disposal facilities at this site. The Contractor shall obtain topographic information or other maps that show vegetation, drainage channels and other land surface features such as underground utilities and related structures that may influence the design and layout of the collection system. If maps are not available, or do not provide satisfactory information or sufficient detail of the site, field surveys shall be performed. Sanitary sewers less than 1.25 meters (4 feet) under road crossings shall have reinforced concrete cover at least 150 mm (6 inch) thick around the pipe.

Exterior sanitary sewer line construction shall include service to all buildings as described in the Scope of Work Section 01010. Contractor shall design sanitary sewer collection system using approved field survey data and finished floor elevations. Depending upon the topography and building location, the most practical location of sanitary sewer lines is along one side of the street. In other cases they may be located behind buildings midway between streets. Main collection sewers will follow the most feasible route to the point of discharge. The sewer collection system shall be designed to accommodate the anticipated occupancy. All sewers shall be located outside of the roadways as much as practical, and minimize the number of roadway crossings. To the extent practical, a sewer from one building shall not be constructed under another building, or remain in service where a building is subsequently constructed over it. Construction required shall include appurtenant structures and building sewers to points of connection with building drains 1.5m (5 feet) outside the building to which the sewer collection system is to be connected.

The Contractor shall use the following criteria where possible to provide a layout which is practical, economical and meets hydraulic requirements: 1) Follow slopes of natural topography, 2) avoid routing sewers through areas which require extensive restoration or underground demolition, 3) Avoid areas of high groundwater and placement of sewer below the groundwater table, 4) locate manholes at change in direction, size or slope of gravity sewers, 5) use straight sections between manholes, curved alignment shall not be permitted, 6) locate manholes at intersections of streets where possible, 7) avoid placing manholes where the tops will be submerged or subject to surface water inflow, 8) evaluate alternative sewer routes where applicable, 9) verify that final routing selected is the most cost effective alternative that meets service requirements. In the event facilities to be provided under the contract must be occupied prior to completion of permanent wastewater infrastructure, the Contractor will be responsible for providing temporary portable shower and bathroom facilities.

2.3.6.4.2 Protection of Water Supplies

The Contractor shall ensure that the sewer design meets the following criteria:

2.3.6.4.3 Sanitary sewers shall be located no closer than 15m (50 feet) horizontally to water wells or reservoirs to be used for potable water supply.

2.3.6.4.4 Sanitary sewers shall be no closer than 3 m (10 feet) horizontally to potable water lines; where the bottom of the water pipe will be at least 300mm (12 inches) above the top of the sanitary sewer, horizontal spacing shall be a minimum of 1.8 m (6 feet).

2.3.6.4.5 Sanitary sewers crossing above potable water lines shall be constructed of suitable pressure pipe or fully encased in concrete for a distance of 2.7m (9 feet) on each side of the crossing. Pressure pipe will be as required for force mains in accordance with local standards and shall have no joint closer than 1 meter (3 feet) horizontally to the crossing, unless the joint is encased in concrete.

2.3.6.4.6 Quantity of Wastewater

The Contractor shall verify the average daily flow considering the resident (full occupancy) population. The average daily flow will represent the total waste volume generated over a 24-hour period, and shall be based on the total population of the facility and usage rate of 189 liters per capita per day (lpcd) or 50 gallons per capita day (gpcd) (water usage).

Design criteria guideline shall be based on average influent wastewater characteristics as BOD of 400mg/l, SS of 400mg/l, BOD load of 750ppd, and SS load of 750ppd.

2.3.6.4.7 Gravity Sewer

Sanitary sewers shall be designed to flow at 90 to 95 percent full. Sanitary sewer velocities shall be designed to provide a minimum velocity of 0.6 meters per second (mps) or 2.0 feet per second (fps) at the ADD flow rate and a minimum velocity of 0.8 to 1.05 mps (2.5-3.5fps) at the peak diurnal flow rate. In no case shall the velocity drop below 0.3 mps, (1.0 fps) to prevent settlement of organic solids suspended in the wastewater. Pipe slopes shall be sufficient to provide the required minimum velocities and depths of cover on the pipe. Unless otherwise indicated (see Building Connections and Service Lines), gravity sewer pipe shall be installed in straight and true runs in between manholes with constant slope and direction. Adequate cover must be provided for frost protection. A minimum cover of 800 mm (2’-8”) will be required to protect the sewer against freezing.

2.3.6.4.8 Grease Interceptor

All Dining Facilities (DFACs) shall incorporate preliminary treatment with use of grease interceptor prior to the sewer collection system. Grease interceptor shall be as indicated in the Specifications.

2.3.6.4.9 Manholes

The Contractor shall provide standard depth manholes (MH), (depth may vary) an inside dimension of 1.2 meters (4 feet) as indicated in the Specifications.

2.3.6.4.9.1 Manhole Design Requirements

Manholes are required at junctions of gravity sewers and at each change in pipe direction, size or slope, except as noted hereinafter for building connections.

2.3.6.4.9.2 Spacing

The distance between manholes must not exceed 120 m (400 ft) in sewers of less than 460 mm (18 inches) in diameter. For sewers 460 mm (18 inches) and larger, and for outfalls from wastewater treatment facilities, a spacing of up to 180 m (600 ft) is allowed provided the velocity is sufficient to prevent the sedimentation of solids.

2.3.6.4.10 Pipe

Pipe shall conform to the respective specifications and other requirements as follows

2.3.6.4.10.1 The minimum depth of the cover over the pipe crown shall be 0.8m (2'-8").

2.3.6.4.10.2 The minimum depth of the cover over the pipe crown shall be 0.8m (2'-8").

2.3.6.4.11 Building Connections and Service Lines

Building connections and service lines will be planned to eliminate as many bends as practical and provide convenience in rodding. Bends greater than 45 degrees made with one fitting should be avoided; combinations of elbows such as 45-45 degrees should be used with a cleanout provided. Connections to other sewers will be made directly to the pipe with standard fittings rather than through manholes. However, a manhole must be used if the connection is more than 31m from the building cleanout. Cleanouts shall be provided outside of the building. Service connection lines will be a minimum of 100 mm (4 inch) diameter and laid at a minimum 1% grade, but up to 2% as design parameters dictate. Service laterals shall be 150 mm (6 inch) and sloped to maintain the minimum velocity as described in paragraph "Gravity Sewer."

2.3.6.4.12 Cleanouts

Cleanouts must be installed on all sewer-building connections to provide a means for inserting cleaning rods into the underground pipe. Install manufactured wye fittings. In lieu of a wye fitting, an inspection chamber may be installed. The inspection chamber shall be of the same construction as a manhole. Preferably the cleanout will be of the same diameter as the building sewer, and never be smaller than 100 mm (4 inch).

2.3.6.4.13 Field Quality Control

2.3.6.4.13.1 Field Tests and Inspections

The Contracting Officer will conduct field inspections and witness field tests specified in this section. The Contractor shall perform field tests and provide labor, equipment and incidentals required for testing.

Check each straight run of pipeline for gross deficiencies by holding a light in a manhole; it shall show a practically a full circle of light through the pipeline when viewed from the adjoining end of the line. When pressure piping is used in a non-pressure line for non-pressure use, test this piping as specified for non-pressure pipe.

Test lines for leakage by either infiltration tests or exfiltration tests. Prior to testing for leakage, backfill trench up to at least lower half of the pipe. When necessary to prevent pipeline movement during testing, place additional backfill around pipe to prevent movement during testing, but leaving joints uncovered to permit inspection. When leakage or pressure drop exceeds the allowable amount specified, make satisfactory correction and retest pipeline section in the same manner. Correct visible leaks regardless of leakage test results.

Infiltration tests and ex-filtration tests: Perform these tests for sewer lines made of specified material, not only concrete, in accordance with ASTM C 969M, ASTM C 969. Make calculations

in accordance with the Appendix to ASTM C 969M, ASTM 969.

Low-pressure air tests: Perform tests as follows: 1) Concrete pipe: Test in accordance with ASTM C 924M, ASTM C 924. Allowable pressure drop shall be given in ASTM C 924M ASTM C 924. Make calculations in accordance with the Appendix to ASTM C 924M, ASTM C 924; 2) Ductileiron pipe: Test in accordance with the applicable requirements of ASTM C 924M, ASTM C 924. Allowable pressure drop shall be as given in ASTM C 924M, ASTM C 924. Make calculations in accordance with the Appendix to ASTM C 924M, ASTM C 924; 3) PVC Plastic pipe: Test in accordance with applicable requirements of UBPPA UNI-B-6. Allowable pressure drop shall be as given in UBPPA UNI-B-6. Make calculations in accordance with the Appendix to UBPPA UNI-B-6.

2.3.6.4.14 Deflection Testing

Deflection testing will not be required, however, field quality control shall ensure that all piping is installed in accordance with deflection requirements established by the manufacturer.

2.3.6.4.15 Wastewater Treatment System

The wastewater treatment system and effluent disposal shall be designed to accommodate the compound's anticipated demand, as specified in the section entitled "QUANTITY OF WASTEWATER" . The Contractor shall use a wastewater treatment system, such as, a traditional subsurface absorption field or package plant, whenever possible. Design requirements and criteria for treatment systems shall be in accordance with guidelines outlined in UFC 3-240-09FA Domestic Wastewater Treatment and UFC 3-240-02N Wastewater Treatment Systems Augmenting Handbook. Minimum acceptable percolation rates for absorption field and mound systems are categorized as slow permeable 60 to 120min/in (24-48min/cm). The sewage treatment system shall be sited the maximum distance possible from the living quarters, working areas, public use areas and proposed facilities. Septic systems shall be designed and installed in accordance with UFC 3-240-03. Storm water flow shall not be considered in the wastewater treatment system.

2.3.6.5 Storm Sewer Systems

2.3.6.5.1 Design Storm Return Period (baseline frequency)

Developed portions of the site installation such as administration, industrial and barracks areas, shall be based on a rainfall of 10-year frequency. Basic system design shall be in accordance with UFC 3-230-17A, Chapter 2. Potential damage or operational requirements may warrant a more severe criterion or in certain areas a lessor criterion may be appropriate. The design of roadway culverts and other on-site storm drainage features & structures will normally be based on 10-year rainfall event. Protection of installations against flood flows originating from areas exterior to the base installation shall be based on a 25-year or greater rainfall depending on cost vs. benefit considerations.

2.3.6.5.2 Storm Drainage System Design

The Contractor shall be responsible for the complete design of the storm drainage system. Drainage of runoff from turf areas onto pavements shall be minimized. If storm drain piping is required it shall comply with the requirements in this section. Where storm drain pipes are of different diameters, the pipe crown elevations should be matched at the drainage structure. Storm drain lines shall be located outside of paved areas to the extent possible. Under no circumstance shall storm drain lines be located beneath buildings. Erosion control shall be provided for all storm drain structures during construction. Water from roof down spouts shall be drained off building site. All storm drain pipe and structures shall comply with the requirements specified in Section 33 40 01 STORM-DRAINAGE.

2.3.6.5.3 Hydraulic Design

New storm drain pipes shall be designed for gravity flow during the design storm baseline unless otherwise approved by the Government. The hydraulic grade line shall be calculated for the storm drain system and all energy losses accounted for. Design computations shall adhere to procedures contained in UFC 3-230-17A. Storm drain systems shall be designed to provide a minimum flow velocity of .75 meters per second when the drains are one-third or more full.

2.3.6.5.4 Area Inlets

Area inlets shall be properly sized and designed to accommodate the design flows. All grates shall be of a “bicycle safe” design.

2.3.6.5.5 Concrete Pipe

Reinforced concrete pipe shall be a minimum Class III. Type I cement may be used only when sulfates in the soil are 0.1 percent or less and dissolved sulfates in the effluent are 150 ppm or less. Type II cement may be used only when sulfates in the soil are 0.2 percent or less and dissolved sulfates in the effluent are 1,500 ppm or less. Only Type V cement may be used if sulfates in the soil exceed 0.2 percent or dissolved sulfates in the effluent exceed 1,500 ppm. Concrete pipe shall be assumed to have a minimum design service life of 50 years unless the Contractor determines that conditions at the site will reduce the service life. Concrete culverts and storm drains shall be protected by a minimum of 1 meter of cover during construction to prevent damage by heavy construction equipment.

2.3.6.5.6 Corrugated Metal Pipe

Corrugated Metal Pipe shall not be used.

2.3.6.5.7 Plastic Pipe

Stiffness of the plastic pipe and soil envelope shall be such that the predicted long-term deflection shall not exceed 7.5 percent. Plastic culverts and storm drains shall be protected by a minimum of 1 meter of cover during construction to prevent damage by heavy construction equipment. Split couplers shall not be allowed for corrugated high-density polyethylene pipe. Plastic pipe shall be assumed to have a minimum design service life of 50 years unless the Contractor determines that conditions at the site will reduce the service life (Then plastic pipe shall not be used).

3. ARCHITECTURAL REQUIREMENTS

3.1 General

All material approved shall become standardized material to be used throughout the facilities under contract. Different sub-contractors shall not use different material or standards under the contract. Intent of the project is to use locally procured materials (unless specified otherwise) and labor to the maximum extent possible while satisfying seismic building code. Conflicts between criteria shall be brought to the attention of the Contracting Officer for resolution. In such instances, the Contractor shall furnish all available information with justification to the Contracting Officer.

3.2 Design Criteria

The Codes, Standards, and Regulations listed herein shall be used in the construction of this

project. The publications shall be the most recent editions. Standards other than those mentioned may be accepted provided they meet the minimum requirements and the contractor shall submit proof of equivalency to the Contracting Officer for approval.

IBC- International Building Code NFPA-101- National Fire Protection Association, Life Safety Code.

3.3 Life Safety / Fire Protection / Handicapped Accessibility

To the extent possible, all facilities are designed in accordance with recognized industry standards for life safety and building egress. In keeping with the intended function of these facilities, handicapped accessibility will not be incorporated into this project. Due to the war contingency requirement, it is assumed that only able-bodied military and civilian personnel will use the facilities listed herein.

3.4 Anti-Terrorism / Force Protection

Force protection/anti-terrorism measures have been incorporated into this design in accordance with the referenced DoD Regulations as indicated on the Drawings and Specifications. Not all requirements have been incorporated. Information regarding force protection may be found herein and at the following link: www.tisp.org/files/pdf/dodstandards.pdf

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3.5 Excavation

Trench excavation shall be made for concrete footings. Trenches shall be a minimum of .8 meter deep. Trenches deeper than 1.5 meters shall have protective shoring to protect workers or have the sides of the trench sloped back at a slope of 1.5:1. Care shall be taken when backfilling of foundation trenches to avoid damage to walls. Any excess dirt shall become the property of the Contractor and shall be removed from the site to a location approved by the Contracting Officer.

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3.6 Specialties

3.6.1 REFRIGERATION EQUIPMENT

Refrigeration equipment has not been designed for these facilities. Coordinate final requirements with Contracting Officer before constructing Dining Facility.

4. STRUCTURAL

4.1 General

The project consists of various structures. The new buildings shall be provided with a reinforced concrete slab foundation that is properly placed on suitable compacted ground area and shall be in accordance with the recommendations from the geotechnical investigation. Footings have been designed for 96 kPA (2000 psf) Allowable Soil Bearing Pressure. Contractor shall include modifications to foundations to accommodate site slopes and lower bearing pressures.

4.2 Design

Design shall be performed and design documents signed by a registered professional engineer. Calculations shall be in SI (metric) or English units of measurements. All components of the building shall be designed and constructed to support safely all loads as indicated on the Drawings without exceeding the allowable stress for the materials of construction in the structural members and connections.

4.3 Dead and Live Loads

Dead loads consist of the weight of all materials of construction incorporated in the buildings. Dead loads and Live loads used for design are indicated on the Drawings.

4.4 Wind Loads

Wind loads shall be calculated using a "3-second gust" wind speed of 135 km/hr.

4.5 Seismic

The building and all parts thereof shall be designed for the seismic requirements as defined by the International Building Code referenced herein. Spectral ordinates shall be S_s = 1.28g and S_1 = 0.51g.

4.6 Foundations

Foundations shall be in accordance with the Geotechnical requirements of this RFP.

5. GEOTECHNICAL

Existing geotechnical information is not available at the project site. Any site-specific geotechnical data required to develop foundations, materials, earthwork, and other geotechnical related design and construction activities for this project shall be the Contractor's responsibility. The Contractor shall develop all pertinent geotechnical design and construction parameters by appropriate field and laboratory investigations and analyses. The geotechnical information shall include, but not limited to, boring locations on site plan, particle size & distribution, liquid & plastic limit test, moisture & density test, and allowable soil bearing capacity & foundation recommendation, etc.

6. MECHANICAL

6.1 Propane Cooking Stove and Exhaust Hood

The contractor shall design and construct two (2) new propane stoves for the DFAC. The propane stoves shall be provided with burners rated at a minimum of 90,000 BTU/hr. per stove, and be capable of supporting fully-loaded cauldrons 1000 mm in diameter and 800 mm deep. The Contractor is encouraged to use innovative design techniques and construction practices in designing and constructing the new propane stoves. The contractor shall comply with Corps of Engineers safety manual EM-385-1-1.

The Contractor shall provide a canopy type exhaust only kitchen hood directly above the propane cooking appliances as indicated on the Drawings and Specifications. The Contractor shall determine if the exhaust hood needs to be lowered and/or modified to adequately capture the smoke and vapors from the cooking surface.

New propane stoves shall be installed with consideration to ease of cooking operation and daily cleanup. The new propane stoves shall be set into a formed concrete opening such that it can easily be removed for replacement, maintenance and cleaning. The lower half of the interior wall shall be terrazzo and the upper half shall be stainless steel sheet flashing. Each propane stove shall be provided with three burners. The propane stoves shall be of commercial quality and be capable of producing the highest BTU heat output with all three burners on. The center burner is

low heat, center and middle burner is medium heat and all three burners is high heat. A shut off valve for each burner shall be provided at the face of the propane appliance.

The Contractor shall provide submittals SD-02 (Shop Drawings), SD-03 (Test Reports), SD-05 (Design Data), SD-07 (Certificates), SD-08 (Manufacturer's Instructions), and SD-10 (Operation and Maintenance Data) for the propane stoves and exhaust hood. The SD-10 submittal shall be in accordance with Section 01 78 23 of the specifications, "Operation and Maintenance Data", "Data Package 2".

7. PLUMBING

7.1 Special Plumbing Systems-

7.1.1 DINING FACILITY PROPANE COOKING SYSTEM

Propane storage tanks shall be provided and installed in accordance with NFPA 58. Propane tanks installed in the propane storage room, shall not exceed a total of 300 lbs, the tanks shall be strapped to the wall using uni-strut secured to the wall and pipe straps. Straps shall be connected to the uni-strut and wrap around tank with a bolted connection at the front of the tank for ease of transfer. The Contractor shall coordinate with the User and the Contracting officer in determining the capacity of propane fuel required for each DFAC. The propane fuel capacity shall be based on frequency of cooking, consumption of fuel every cooking cycle, frequency and availability of replacement fuel tanks and spare capacity. This project will require that the Contractor provide the agreed to amount of fuel tanks filled with propane fuel at time of completion.

Piping from the propane tanks to the respective propane stoves shall be wrought iron, ASTM B36.10M or steel (black or galvanized), ASTM A53. The steel piping shall terminate in front of the propane stoves with a shut off valve and quick disconnect nipple. A stainless steel flexible hose shall connect from the propane stove to the steel piping. Each end of the flexible hose shall be provided with quick disconnect fittings. The propane piping shall be installed under floor and in sleeves that are vented to the outside.

The Contractor shall provide submittals SD-02 (Shop Drawings), SD-03 (Test Reports), SD-05 (Design Data), SD-07 (Certificates), SD-08 (Manufacturer's Instructions), and SD-10 (Operation and Maintenance Data) for the propane piping and racks. The SD-10 submittal shall be in accordance with Section 01 78 23 of the specifications, "Operation and Maintenance Data", "Data Package 2".

8. ELECTRICAL

8.1 General

Voltage Drop for branch circuits shall be limited to no more than 3%; voltage drop for branch and feeder circuits combined shall be limited to no more than 5%.

All circuit breakers shall use down-stream coordination to ensure the breaker nearest a fault or overload is the first to trip.

SECTION 01060

SPECIAL CLAUSES

PART 1 GENERAL

1.1 PRECONSTRUCTION CONFERENCE

1.1.1 Schedule of Meeting

At the earliest practicable time, prior to commencement of the work, the Contractor and any Subcontractors whose presence is necessary or requested, shall meet in conference with representatives of the Contracting Officer to discuss and develop a mutual understanding relative to the details of the administration and execution of this contract. This will include but not necessarily be limited to the Contractor's Quality Control (CQC) Program, the Contractors Accident Prevention Program, submittals, correspondence, schedule, access to the work site, security requirements, interface requirements, temporary facilities and services, hazards and risks, working after normal hours or on weekends or holidays, assignment of inspectors, representations, special requirements, phasing, and other aspects of this project that warrant clarification and understanding.

1.1.2 Meeting Minutes

It shall be the responsibility of the Contractors CQC System Manager to prepare detailed minutes of this meeting and submit those minutes to the Contracting Officer for approval within three (3) workdays. Any corrections deemed necessary by the Contracting Officer shall be incorporated and resubmitted within two (2) calendar days after receipt. Upon approval of the minutes by the Contracting Officer, the Contractor shall distribute the minutes to all parties present or concerned.

1.2 AREA USE PLAN

The Contractor shall submit to the Contracting Officer, within ten (10) calendar days after award of this contract, an Area Use Plan designating intended use of all areas within the project boundaries. This plan shall include, but not necessarily be limited to the following: the proposed location and dimensions of any area to be fenced and used by the Contractor; construction plant and building installations/the number of trailers and facilities to be used; avenues of ingress/egress to the fenced areas and details of the fence installation; drawings showing temporary electrical installations; temporary water and sewage disposal installations; material storage areas; hazardous storage areas. Any areas that may have to be graveled shall also be identified. The plan shall also include a narrative description of the building structural system, the site utility system and the office or administration facilities. The Contractor shall also indicate if the use of a supplemental or other staging area is desired. The Contractor shall not begin construction of the mobilization facilities prior to approval by the Contracting Officer of the Area Use Plan described herein.

1.3 CONTRACTOR'S MOBILIZATION AREA

The Contractor will be permitted to use an area approved and/or designated by the Contracting Officer within the contract limits for operation of his construction equipment and plants, shops, warehouses, and offices. The Contractor is responsible for obtaining any required additional mobilization area above that designated. The construction site shall be cleared of construction debris and other materials and the

area restored to its final grade.

1.3.1 Contractor's Temporary Facilities

1.3.1.1 General

All facilities within the Contractor's mobilization area shall be of substantial construction suitable for the local weather conditions. Sanitary facilities shall meet the requirements of Corps of Engineers, Safety and Health Requirements Manual EM 385-1-1. Local nationals will not be granted any privileges under this contract.

1.3.1.2 Administrative Field Offices

The Contractor may provide and maintain administrative field office facilities within the mobilization area at the designated site. Government office and warehouse facilities will not be available to the Contractor's personnel.

1.3.1.3 Storage Area

The Contractor shall construct a temporary 1.8 meter (6 foot) high chain link fence around trailers and materials. The fence shall include plastic strip inserts, colored green or brown, so that visibility through the fence is obstructed. 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 approved in writing by the Contracting Officer.

1.3.1.4 Plant Communication

Whenever the Contractor has the individual elements of its plant so located that operation by normal voice between these elements is not satisfactory, the Contractor shall install a satisfactory means of communication, such as telephone or other suitable devices. If radio communication is approved by Contracting Officer / installation security office, frequency selection shall be approved by Contracting Officer to prevent interference with installation operations. Such devices shall be made available for use by Government personnel.

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1.3.1.5 Appearance of Mobilization Site Facilities and/or Trailers

Mobilization Site Facilities and/or 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 or other transportable structures which, in the opinion of the Contracting Officer, require exterior painting or maintenance will not be allowed on the construction site until such work or maintenance has been performed to the satisfaction of the Contracting Officer.

1.3.1.6 Maintenance of Storage Area

Fencing shall be kept in a state of good repair and proper alignment. Should the Contractor elect to traverse unpaved areas which are not established roadways with construction equipment or other vehicles, such areas shall be covered with a layer of gravel as necessary to prevent rutting and the tracking of soil onto paved or established roadways; gravel gradation shall be at the Contractor's discretion.

1.3.1.7 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 facilities and equipment.

1.3.1.8 Sanitation

a. Sanitary Facilities: The Contractor shall provide portable sanitation facilities for the Contractor's use. The Contractor shall be responsible for maintaining such facilities at no expense to the Government. b. Trash Disposal: The Contractor shall be responsible for collection and disposal of trash from the work areas and from the mobilization area. General construction debris and demolition debris shall be collected and transported by the Contractor to a location designated by the Government. Construction debris, waste materials, packaging material and the like shall be removed from the work site daily. Loose debris capable of being windblown, shall be immediately placed in sealed or covered containers to prevent it from being blown onto taxiways or runways. Any dirt or soil that is tracked onto paved or surfaced roadways shall be cleaned daily. Materials resulting from demolition activities that are salvageable shall be stored within the fenced area described above. Stored material not indoors, whether new or salvaged, shall be neatly stacked when stored.

1.3.1.9 Telephone

The Contractor shall make arrangements to install and pay all costs for telephone facilities desired.

1.3.1.10 Restoration of Storage Area

Upon completion of the project and after removal of mobilization facilities, 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 unpaved areas shall be removed and all such areas restored to their original conditions.

1.3.2 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 Host Nation and base 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 base 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.

1.3.3 Temporary Project Safety Fencing and Barricades

The Contractor shall impose all measures necessary to limit public access to hazardous areas and to ensure the restriction of workers to the immediate area of the construction and mobilization site. The Contracting Officer may require in writing that the Contractor remove from the work any employee found to be in violation of this requirement.

1.3.3.1 Barricades

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, clearly visible with adequate illumination to provide sufficient visual warning of the hazard during both day and night. Travel to and from the project site shall be restricted to a route approved by the Contracting Officer.

1.3.4 Host Nation Authorizations, Permits and Licenses

It shall be the Contractor's responsibility to obtain such local authorizations, permits and licenses necessary to establish his quarry operations, batching operations and haul routes (See Special Clause entitled: COMPLIANCE WITH HOST COUNTRY RULES AND CUSTOMS).

1.4 RESPONSIBILITY FOR PHYSICAL SECURITY

Prior to mobilization, the Contractor shall submit his proposed means of providing project security to prevent unauthorized access to equipment, facilities, materials and documents, and to safeguard them against sabotage, damage, and theft. The Contractor shall be responsible for physical security of all materials, supplies, and equipment of every description, including property which may be Government-furnished or owned, for all areas occupied jointly by the Contractor and the Government, as well as for all work performed.

1.5 DUST CONTROL

The Contractor shall be required to control objectionable dust in the work areas, access roadways, and haul roads by means of controlled vehicle speeds or dust palliatives. Vehicles transporting sand, cement, gravel or other materials creating a dust problem shall be covered, as directed by the Contracting Officer, or in accordance with local Laws, codes, and regulations.

1.6 DIGGING PERMITS

1.6.1 Requests for Digging Permits

Requests for Digging Permits shall be submitted to Contracting Officer a minimum of seven (7) days prior to the start of the work activity covered by the permit. The request for a Digging Permit shall include a narrative description of the work to be performed and a detailed map of the area of the excavation clearly marking the location of all known utilities or other obstructions. If the work activity covered by the Digging Permit request also requires a utility outage, a separate request for the outage shall be submitted in accordance with the paragraph entitled CONNECTIONS TO EXISTING UTILITIES.

1.6.2 Preparation of Requests for Digging Permits

Prior to submitting a request for a Digging Permit, the Contractor shall carefully review the area to be excavated to determine the location of existing utilities and other obstructions. The Contractor will review available drawings and will conduct a visual inspection of the site. The Contractor will utilize underground utility detecting devices such as metal and cable detectors to determine the location of existing utilities. All utility lines found shall be clearly flagged or marked and the location of the utility shall be shown on the drawing to be submitted with the request for Digging Permit.

1.6.3 Existing Underground Utilities

The Contractor shall exercise utmost care in researching locations of existing utilities and reducing damage to existing utilities. Any utilities damaged by the Contractor shall be promptly repaired by the Contractor. The Contracting Officer will review and approve any proposed repairs. Any damage to existing utilities will be immediately reported to the Contracting Officer and the Base Commander.

1.7 CONNECTIONS TO EXISTING UTILITIES

1.7.1 General

Any outage involving disruption of electrical service beyond the site area shall be requested in writing at least ten (10) days in advance of the date requested for the commencement of the outage. The Contractor shall provide a request, detailing the type of outage needed (water, sewer, electrical, steam, etc.), the time needed to perform the work, the reason for the outage, and the known affected facilities.

The Contracting Officer shall be contacted prior to the outage to confirm the time and date. If the Contractor fails to initiate work at the approved time, the Contracting Officer may cancel the approved outage and may direct the Contractor to resubmit a new request. No part of the time lost due to the Contractors failure to properly schedule an outage shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

1.7.1.1 Exterior Night Lighting

Exterior night lighting shall be provided in conformance with EM-385-1-1 entitled Safety and Health Requirements Manual.

1.7.2 Existing Underground Utilities

The Contractor is provided notice that existing utilities may be present in the construction area. The Contractor shall exercise the utmost care in researching locations of existing utility lines by implementing control measures to eliminate, or reduce to a level acceptable to the Contracting Officer, the chance of damaging or destroying existing utilities.

1.7.2.1 Use of Underground Utility Detecting Device

Prior to any excavation, a metal and/or cable-detecting device shall be used along the route of the excavation. All underground utilities discovered by this method will be flagged a minimum distance of one-half (1/2) meter on each side of the location.

1.7.2.2 Hand Excavation

Hand excavation methods and special supervisory care shall be used between any flagged markers, in areas of known or suspected hazards, and in areas known or suspected to have multiple and/or concentrated utility lines or connections.

1.7.3 Repair of Damaged Utilities

The Contractor shall be responsible to repair any utilities damaged by him. The method of repair and schedule for performance of the repair shall be coordinated with, and subject to the approval of, the Contracting Officer. The repair work and any temporary work required to keep the system operational while repairs are being completed, shall be performed at no cost to the Government.

1.8 WATER

The Contractor shall install and maintain necessary supply connections and piping for same, but only at such locations and in such manner as may be approved by the Contracting Officer. Water required for final testing, adjusting and balancing of HVAC systems will be furnished by the Government. Before final acceptance of systems, or facilities, all temporary connections and piping installed by the Contractor shall be removed at his expense in a manner satisfactory to the Contracting Officer.

1.9 ELECTRICITY (CONTRACTOR PROVIDED)

Electrical service is not available for use under this contract; therefore all electric current required by the Contractor shall be the responsibility of the Contractor, furnished at his own expense. The Contractor shall provide diesel generators to meet his demand requirements. Electricity required for final testing systems will be furnished by the Government. [The Government will provide permanent high voltage electricity to a point indicated by the Contracting Officer for use by the Contractor in the performance of final testing of systems.] The means of doing so, such as by temporary distribution systems, shall be the responsibility of the Contractor. All temporary connections for electricity shall be subject to the approval of the Contracting Officer and shall comply with Corps of Engineers manual EM 385-1-1 entitled Safety and Health Requirements Manual. All temporary lines shall be furnished, installed,

connected and maintained by the Contractor in a workmanlike manner satisfactory to the Contracting Officer. Before final acceptance of systems, or facilities, all temporary connections installed by the Contractor shall be removed at his expense in a manner satisfactory to the Contracting Officer.

1.10 WORK OUTSIDE REGULAR HOURS

If the Contractor desires to carry on work outside regular base duty hours, or on holidays, including the following U.S. holidays: New Year's Day, Martin Luther King Jr Birthday, President's Day, Memorial Day, Independence Day, Labor Day, Columbus Day, Veteran's Day, Thanksgiving and Christmas. the Contractor shall submit an application to the Contracting Officer. The Contractor shall allow ample time to enable satisfactory arrangements to be made by the Government for inspecting the work in progress. At night, exterior lighting shall be provided in conformance with EM-385-1-1 entitled "Safety and Health Requirements Manual".

1.11 SCHEDULING OF WORK IN EXISTING FACILITIES

As soon as practicable, but in any event not later than thirty (30) calendar days after award of this contract, the Contractor shall meet in conference with the Contracting Officer, or his duly authorized representatives, to discuss and develop mutual understanding relative to the scheduling of work in and access to the existing facilities where work has to be performed under this contract, so that the Contractor's proposed construction schedule is coordinated with the operating and security requirements of the installation.

1.12 PREPARATION OF AS-BUILT DRAWINGS (CONTRACTOR)

1.12.1 As-Built Drawing Submittals

a. Government approval is required for As-Built drawings as below in accordance with Section 01335, SUBMITTAL PROCEDURES.

b. Drawings showing final as-built conditions of the project. The local language of Afghanistan shall be added to project As-Built drawings. The final CADD as-built drawings shall consist of 4 sets of electronic CADD drawing files in the specified format, and four half-size and 4 full-size paper copies of the approved as-built drawings.

1.12.2 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.

1.12.2.1 Government Furnished Materials

One set of electronic CADD files in the specified software and 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.

1.12.2.2 Working As-Built and Final As-Built Drawings

a. 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:

b. 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.

c. The location and dimensions of any changes within the building structure.

d. Correct grade, elevations, cross section, or alignment of roads, earthwork, structures or utilities if any changes were made from contract plans.

e. 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.

f. The topography, invert elevations and grades of drainage installed or affected as part of the project construction.

g. Changes or modifications which result from the final inspection.

h. Where contract drawings or specifications present options, only the option selected for construction shall be shown on the final as-built prints.

i. 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.

j. Systems designed or enhanced by the Contractor, such as HVAC controls, fire alarm, fire sprinkler, and irrigation systems.

k. 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 Circle shall be placed at the location of each deletion.

(3) For new details or sections which are added to a drawing, a Modification Circle shall be placed by the detail or section title.

(4) For minor changes, a Modification Circle shall be placed by the area changed on the drawing (each location).

(5) For major changes to a drawing, a Modification Circle 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 Circle shall be placed either by the schedule heading or by the change in the schedule.

(7) The Modification Circle size shall be 12.7 mm 1/2 inch diameter unless the area where the circle is to be placed is crowded. Smaller size circle shall be used for crowded areas.

1.12.3 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.

1.12.4 Computer Aided Design and Drafting (CADD) Drawings

a. 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 2007 or Microstation V8 format compatible with a Windows XP operating system. 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.

b. Prior to submittal of the first design submittal involving CADD drawings, the Contractor shall prepare one typical CADD drawing for the project and furnish, via ENG Form 4025, the electronic CADD drawing file for review and approval by the Contracting Officer. All Government comments involving changes to this single drawing shall be accomplished and resubmittal(s) made until the Government is satisfied that all CADD Standards are being followed and all subsequent drawings will also be in compliance with these Standards.

c. CADD colors shall be the "base" colors of red, green, and blue. Color code for changes shall be as follows:

(1) Deletions (red) - Deleted graphic items (lines) shall be colored red with red lettering in notes and leaders.

(2) Additions (Green) - Added items shall be drawn in green with green lettering in notes and leaders.

(3) Special (Blue) - Items requiring special information, coordination, or special detailing or detailing notes shall be in blue.

d. 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.

e. When final revisions have been completed, the cover sheet drawing shall show the wording "RECORD DRAWING AS-BUILT" followed by the name of the Contractor in letters at least 5 mm 3/16 inch high. All other contract drawings shall be marked either "As-Built" drawing denoting no revisions on the sheet or "Revised As-Built" denoting one or more revisions. Original contract drawings shall be dated in the revision block.

f. After Government approval of all of the working as-built drawings for a phase of work, the Contractor shall prepare the final CADD as-built drawings for that phase of work and submit two sets of full size paper copy prints of these drawings for Government review, comparison with approved red-line marked up drawings, and approval. The Government will promptly return one set of prints annotated with any necessary corrections to the CADD file(s) if corrections are required prior to approval. Within 20 days of substantial completion of all phases of work, the Contractor shall submit the final as-built drawing package for the entire project. The submittal shall consist of one set of electronic files on compact disc, read-only memory (CD-ROM), one set of full size paper prints and one set of the approved working as-built drawings. They shall be complete in all details and identical in form and function to the contract drawing files supplied by the Government. Any transactions or adjustments necessary to accomplish this is the responsibility of the Contractor. The Government reserves the right to reject any drawing files it deems incompatible with the CADD system. Upon approval by the Government of the final as-built drawing package for the entire project, the Contractor shall provide the number of as-built copies noted in Paragraph 1.1 of this Section.

g. Paper prints, drawing files and storage media submitted will become the property of the Government upon final approval. Failure to submit final as-built drawing files and marked prints as specified shall be cause for withholding any payment due the Contractor under this contract. Approval and acceptance of final as-built drawings shall be accomplished before final payment is made to the Contractor.

1.12.5 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.

1.15 [Not used.] [CERTIFICATES OF COMPLIANCE

Any certificates required for demonstrating proof of compliance of materials with specification requirements shall be executed in accordance with Section 01335 SUBMITTAL PROCEDURES FOR DESIGN/BUILD. Each certificate shall be signed by an official authorized to certify in behalf of the manufacturing company involved and shall contain the name and address of the Contractor, the project name and location, description and the quantity of the items involved, 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.

1.16 ACCIDENT PREVENTION

The Contractor shall comply with all applicable Host Country laws and with such additional measures as the Contracting Officer may find necessary in accordance with CONTRACT CLAUSE 52.236-13 entitled ACCIDENT PREVENTION (NOV1991)-ALTERNATE 1 (APR 1984). Applicable provisions of the Corps of Engineers manual entitled Safety and Health Requirements Manual EM 385-1-1 will be applied to all work under this contract. The referenced manual may be obtained from the Contracting Officer at the jobsite or from the Afghanistan Engineer District at Kabul, Afghanistan.

1.16.1 Accident Prevention Program

Within fifteen (15) days after award of this contract, and at least ten (10) days prior to the accident

prevention pre-work conference, four (4) copies of the Accident Prevention Plan required by the CONTRACT CLAUSE 52.236-13 entitled ACCIDENT PREVENTION (NOV 1991)- ALTERNATE I shall be submitted for review by the Contracting Officer. The Contractor shall not commence physical work at the site until the Accident Prevention Plan (APP) has been reviewed and accepted by the Contracting Officer. The APP shall meet the requirements listed in Appendix "A" of EM385-1-1. The program shall include the following: TAC Form 61 " Accident Prevention Program Hazard Analysis (Activity Hazard Analysis)" fully completed and signed by an executive officer of the company in block No. 13. The Activity Hazard Analysis is a method in which those hazards likely to cause a serious injury or fatality are analyzed for each phase of operations. Corrective action is planned in advance, which will eliminate the hazards. An analysis is required for each new phase of work. On large or complex jobs the first phase may be presented in detail with the submittal of the Accident Prevention Plan rather than presenting the complete analysis. If the plan is to be presented in phases, a proposed outline for future phases must be submitted as a part of the initial Accident Prevention Plan submittal. Accident Prevention Plans will be reviewed for timeliness and adequacy at least monthly with a signature sheet signed and dated documenting that these reviews took place. Copy of company policy statement of Accident Prevention and any other guidance as required by EM 385-1-1, Appendix A.

1.16.2 Ground Fault Circuit Interrupter (GFCI) Requirement – Overseas Construction

The Corps of Engineers Health and Safety Manual, EM 385-1-1, section 11.C.05.a. states: "The GFCI device shall be calibrated to trip within the threshold values of 5 ma +/- 1 ma as specified in Underwriters Laboratory (UL) Standard 943." A variance from USACE has been granted allowing 10 ma, in lieu of 5 ma, for overseas activities that use 220 Volts (V)/50 hertz (Hz) electrical power.

1.16.3 Temporary Power - Electrical Distribution Boxes

EM 385-1-1 section 11.A.01.a. states, "All electrical wiring and equipment shall be a type listed by a nationally recognized testing laboratory for the specific application for which it is to be used." This includes temporary electrical distribution boxes. Locally manufactured electrical boxes will not be allowed. Only manufactured electrical distribution boxes that meet the European CE requirements, with 10 ma CE type GFCIs installed shall be allowed.

Contractors shall:

a. Make no modifications that might void any CE or manufacturer certification.

b. Test the installed systems to demonstrate that they operate properly and provide the 10 ma earth leakage protection.

c. Ensure GFCIs will have an integral push-to-test function. The testing shall be performed on a regular basis.

d. Check that proper grounding is checked regularly and flexible cords, connectors, and sockets inspected before each use.

1.17 HAZARDOUS MATERIALS

Should the Contractor encounter asbestos or other hazardous materials, during the construction period of this contract, he shall immediately stop all work activities in the area where the hazardous material is discovered. The Contractor shall then notify the Contracting Officer; identify the area of danger; and not proceed with work in that area until given approval from the Contracting Officer to continue work activities. Hazardous material is considered to be asbestos, explosive devices, toxic waste, or material hazardous to health and safety. The Contractor shall secure the area from daily traffic until it is safe to resume normal activities.

1.18 SPARE PARTS

1.18.1 General

The requirements of this clause are in addition to any requirements for the provision of specific spare parts to be provided by the Contractor included in Technical Provisions. The Contractor shall furnish spare parts as directed by the Contracting Officer under the provisions of this clause for all equipment for which O&M data is to be provided under Clause OPERATION AND MAINTENANCE (O&M) DATA of this contract. The term "spare parts" as used herein shall include spare parts, special tools and test equipment.

1.18.2 Selection of Spare Parts to be Furnished

The Contractor shall provide master parts lists, recommended spare parts lists and lists of special tools and test equipment as a part of the equipment O&M data required by Clause OPERATION AND MAINTENANCE (O&M) DATA. The master parts list shall include the supplier's price for each part. After review of the lists, the Contracting Officer will select spare parts and furnish written direction to the Contractor indicating quantities and types of spare parts to be furnished by the Contractor. Written directions for spare parts orders may be provided on an incremental basis as reviews of O&M data submitted by the Contractor are completed but will not necessarily be issued in the sequence in which the Contractor submitted the equipment O&M data.

1.18.3 Procurement and Delivery of Spare Parts

The Contractor shall procure and be responsible for delivery, receipt, handling, placing in storage, inventory, and turnover to the Contracting Officer all spare parts selected by the Contracting Officer. In addition to the recommended spare parts list required in paragraph SELECTION OF SPARE PARTS TO BE FURNISHED above, the Contractor is responsible to have one (1) year supply of manufacturer's recommended spare parts on site ready to turn over to the Contracting Officer at the time of acceptance of the facility.

1.18.3.1 Shipment and Delivery

The Contractor shall be responsible for the shipment and delivery of spare parts to the location on or near the site in Afghanistan as selected by the Contracting Officer. The Contractor shall provide all manpower and equipment required to receive and place into designated storage areas all spare parts purchased under this clause. The Contractor shall give the Contracting Officer thirty (30) calendar days notice of arrival at the site of the first shipment.

1.18.3.2 Turnover of Spare Parts

The Contractor shall notify the Contracting Officer seventy-two (72) hours prior to delivery of spare parts to the designated storage area. The Contractor and the Contracting Officer will perform a joint inventory of the spare parts and the spare parts will be turned over to the Contracting Officer. Spare parts purchased under this clause shall not be used by the Contractor.

1.18.3.3 Parts and Package Identification

Prior to shipment from point of purchase, each spare part shall be tagged or otherwise marked or labeled. Such labeling may be placed or affixed to the container, box or packaging in which spare parts are located when it is not feasible to place or affix such labeling directly on each spare part. Tags or labels shall include, but not necessarily be limited to; part number, description, parent equipment name and number location, project and/or other data as directed by the Contracting Officer.

1.18.3.4 Preservation and Packaging Instruction

a. Items ordered under this contract shall be preserved and packed for a minimum of three (3) years

shelf life storage. All items shall be individually packaged except when the manufacturer specifies that the items are to be used in sets. Appropriate identification labels must be affixed to the items protective box or package. After the spare parts are packaged, the manufacturer shall weigh the spare parts and packaging and place the weight and size of the packaged container on the label with other information as outlined herein. Each item, not normally identified with manufacturer's name and part number, shall have an appropriate label affixed to it with manufacturer's name and part number.

b. Machined spare parts shall be lubricated or coated in order to withstand extensive periods of storage in a highly corrosive atmosphere.

c. Large items (greater than 22.7 kg (50 lbs.), or larger than 0.03 CM (one cubic foot) shall be packaged in waterproof wooden boxes and properly braced. Cushioning shall be used to prevent damage to the item and to the packaging material.

d. Solid state components, such as diodes, transistors, integrated circuits or equipment consisting of such parts that can be damaged as a result of static electricity and other stray electro-magnetic fields shall be packaged in heat-sealed, aluminum foil, laminated, flexible packages.

e. All other spare parts shall be packaged in heat sealed plastic bags or wrap. Delicate and more fragile items such as test equipment shall be cushioned or wrapped with transparent bubble wrap material prior to being inserted into the plastic package.

1.18.4 Warranty

All spare parts provided by the Contractor under this clause are subject to the general warranty clauses of this contract.

1.18.5 Payments for Spare Parts

Payments for spare parts ordered under the paragraph entitled "Selection of Spare Parts To Be Furnished" will be made under the work item of the Work Breakdown Sheet entitled "Spare Parts". Payments for spare parts specifically required elsewhere in this contract shall be considered as part of those equipment costs and shall be included in other payment items as appropriate. Payments for spare parts ordered under this clause shall be based on the invoice price (FOB supplier) plus certified invoice price of surface shipment to the site in Afghanistan. The invoice price (FOB supplier) shall include the separately listed cost for preservation and packaging by the manufacturer as specified herein. The Contractor shall provide invoices and any additional backup, which may be required to demonstrate that the invoices presented represent the cost of spare parts, preservation and packaging, and cost of surface shipment to the site. Payment for handling, delivery, inventory, turnover, customs, overhead or profit shall not be paid or allowed under this Contract Provision, and shall be included in the cost for installation of this equipment under the other appropriate payment items of this contract. Price increases over prices furnished under paragraph SELECTION OF SPARE PARTS TO BE FURNISHED shall be fully substantiated. Payment for spare parts will be made after the spare parts have been accepted at the site by the Contracting Officer. If the total payments under the work item entitled "Spare Parts" does not reduce the balance of this work item to zero, the remaining balance will be deducted from the final contract amount. If orders exceed the work item entitled "Spare Parts", a modification for equitable adjustment will be issued in accordance with Contract Clause 52.243-4 entitled CHANGES. Payments for spare parts ordered under this clause shall constitute full payment for all cost of the spare parts and associated cost of preservation and packaging, and cost of surface shipment to the site. Other ancillary costs shall be included by the Contractor under the other appropriate work items of this contract and no additional cost except as provided herein will be allowed.

1.19 OPERATION AND MAINTENANCE (O&M) DATA

1.19.1 General

The requirements contained herein are in addition to all shop drawings submission requirements stated in other sections of the specifications. The Contractor shall include the provisions for all items required under this clause in all purchase orders and sub-contract agreements. Submittals required hereinafter will not relieve the Contractor of any responsibilities under the Warranty of Construction Provisions of this contract or under the various Guarantee Clauses of the Technical Provisions.

1.19.2 Submittals

The Contractor shall submit all items requiring submission of O&M data under this and other sections of these specifications in accordance with Section 01335 SUBMITTAL PROCEDURES FOR DESIGN/BUILD of the specifications.

1.19.3 Operation and Maintenance (O&M) Data

The Contractor shall furnish operation and maintenance manuals for all facilities constructed under this contract. The manuals shall be loose leaf, indexed and shall consist of manufacturer's brochures, manufacturer's operation and maintenance manuals, service and repair manuals, catalogs, service bulletins, instruction charts, diagrams, other information as necessary to support the operation and maintenance of the end items of equipment, assemblies and systems. Each type of facility (housing, barracks, mosque, etc.) shall be covered by a separate manual (or manuals) consisting of all data pertaining to the equipment and/or systems within that facility. Identical equipment within a single major system shall require only one submittal of data. The Contractor shall furnish all O&M manuals to the Contracting Officer not less than thirty (30) calendar days prior to contract completion. Required number of submittals (number of sets) shall be as specified in Section 01335 SUBMITTAL PROCEDURES FOR DESIGN/BUILD.

1.19.4 Recommended Spare Parts List

The Contractor shall furnish a recommended spare parts list containing equipment manufacturers' recommendations for five (5) years; two (2) years and one (1) year spare parts stock levels in Afghanistan. Current unit price and effective date, lead time, shelf life for each individual part, and total cost of all recommended parts shall be furnished.

1.19.5 Supplemental Submittals of Data

After initial submittal of O&M manuals and until final acceptance of all equipment, the Contractor shall prepare and deliver to the Contracting Officer supplemental technical data as previously described for all changes, modifications, revisions and substitutions to equipment and components. For equipment or systems introduced into the contract under change order, or modified by change order, supplemental data shall be furnished within forty-five (45) calendar days after issuance of the change order. The supplemental data furnished shall be properly prepared and identified for insertion into the O&M manuals.

1.19.6 Framed Instructions for Systems

Approved wiring and control diagrams showing the complete layout of the entire system, including equipment, piping, valves and control sequence, framed under glass or in approved laminated plastic, shall be posted, where applicable, in all mechanical equipment rooms. In addition, detailed operating instructions explaining safe starting and stopping procedures for all systems shall be prepared in typed form along with the inspections required to insure normal safe operations. The instructions shall be framed as specified above for the wiring and control diagrams and posted beside the diagram. Proposed diagrams, instructions, and other sheets shall be submitted for approval prior to posting. Operating instructions shall be posted before acceptance testing of the systems and verified during acceptance testing.

1.19.7 Additional Submittals/Re-submittals

The Contracting Officer reserves the right to determine whether the above specified information, as furnished by the Contractor, is adequate and complete and to require such additional submittals by the Contractor as necessary to insure that adequate information has been furnished to provide the satisfactory operation and maintenance of the various items of equipment and to fulfill the intent of the specifications. Additional submittals or resubmittals supplementing incorrect or incomplete data shall be made within thirty (30) calendar days after receiving notice by the Contracting Officer. All costs arising from these resubmissions shall be borne by the Contractor.

1.20 INSTRUCTIONS AND TRAINING FOR OPERATION AND MAINTENANCE

1.20.1 General

The Contractor shall be responsible for the instruction and training of operating and maintenance personnel as specified below and in the Technical Provisions of the specifications. Unless otherwise indicated in the Technical Provisions, operating and maintenance instructions shall be given for a minimum period as follows:

Title	Duration of Training
Mechanical Systems	10 Days
Electrical Systems	10 Days

1.20.2 Operation and Maintenance Training

The Contractor shall provide competent instructors for training of personnel designated by the Contracting Officer to operate mechanical and electrical building systems and equipment, perform the required preventive maintenance to minimize breakdown, and to perform necessary repairs when malfunction or breakdown of equipment occurs. Such training shall consist of classroom and on-the-equipment training for the period specified, which shall be completed prior to acceptance of a system or equipment, as applicable. The instructor(s) shall have no other duties during the period of training. Classroom instruction shall not exceed fifty percent (50%) of the total training time, with the balance devoted to on-the-equipment demonstration and familiarization. Emphasis will be given to both electrical and mechanical features, in accordance with approved training plans.

1.20.3 Arrangements

The training shall be for not less than the periods of time specified, five (5) days per week, and eight (8) hours per day, subject to review and approval by the Contracting Officer. Each individual training session shall be presented one time only, shall be video taped in a television system compatible with the local area, and be scheduled in a manner acceptable to the Contracting Officer. At the completion of training, the videotapes shall become the property of the Government. In addition to the Contractor's requirements to video tape each training section, the Government reserves the right to record, in any manner, the subject training material, or training sessions given by the Contractor, without additional cost to the Government.
Recordings obtained will be used in future training by the Government. The operating and maintenance manual data, as specified to be furnished in these Special Clauses, shall be used as the base material for training.

1.20.4 Scheduling

The Contractor shall contact the Contracting Officer for the purpose of preliminary planning, scheduling, and coordination of training, to maximize effectiveness of the training program for available operating and maintenance personnel. The Contractor shall initiate and make arrangements for such contact within thirty (30) calendar days after receipt of notification of award of contract; and shall include all significant times in scheduling and completing training in his PROJECT SCHEDULE. The Contractor shall provide a draft outline of training outline in sufficient detail to provide a broad indication of the type

of scope of training to be given. It shall include but not be limited to; (a) a list of subjects to be presented; (b) estimated amounts of classroom and on-the-equipment instruction for each subject; (c) a list of minimum qualifications for instructors; and (d) discussions concerning the types and amounts of visual aids, reference materials, tools and test equipment, mock-up and other training materials that will be employed during training.

1.20.5 Preliminary Plan

The Contractor shall submit seven (7) copies of an outline of his proposed training plan to the Contracting Officer for review and approval not later than 60 calendar days after award of this contract. The plan will be reviewed and coordinated with the content of the O&M manuals.

1.20.6 Plan

The Contractor shall submit seven (7) copies of his proposed training plan to the Contracting Officer for approval not later than ninety (90) calendar days prior to start of any training. The plan shall include the following; (a) a weekly outline showing overall form and design of training presentation; (b) a day-by-day schedule showing time intervals, the major and subordinate subjects to be covered in each, the name of the instructor(s) and qualification summary of each, and identification of related handouts; (c) summary of the number of hours of classroom and on-the-equipment training; (d) a list of reference materials to be provided by the Contractor to the trainees; and (e) a list and description of the training materials to be used, such as text, visual aids, mock-up, tools, etc. The Contractor shall be responsible for furnishing all training materials except the following: The Government will provide space, chairs, and tables for classroom training, and three (3) sets of the five (5) sets of O&M Manuals required by the Contractor per Section 01335 SUBMITTAL PROCEDURES FOR DESIGN/BUILD of the specifications. Provision of these manuals is solely for reference purposes, and in no way relieves the Contractor from providing all instruction and materials necessary for training personnel designated by the Government. All costs for resubmission of training plans, training materials, etc., as requested by the Contracting Officer shall be borne by the Contractor. Resubmittals shall be made within twenty (20) days of notice from the Contracting Officer.

1.20.7 Attendance Roster/TAC Form 356

The Contractor shall develop an attendance roster or a similar document indicating each student’s attendance, prior to the start of each class, subject and/or topic. This includes both "Hands-On" and classroom training. It is strongly recommended that each student trained be required to sign this document at the beginning of each class day for each and every class, subject and/or topic taught on that day. The Contractor's failure to have student attendance verified in writing may be cause for the Government to order the Contractor to repeat schooling where evidence of attendance cannot be verified. No part of the time lost due to such repeat instruction shall be made the subject of claim for extension of time or for excess costs or damage by the Contractor. Within ten (10) working days after completion of Operation and Maintenance Training conducted in accordance with this clause and/or applicable Technical Provision section, the Contractor shall complete and submit TAC Form 356 "Operation and Maintenance Training Validation Certificate". The attendance roster shall be included as an attachment to TAC Form 356.

1.21 CONTRACTOR FURNISHED EQUIPMENT LISTS

The Contractor shall furnish a list of all items, other than integral construction type items, furnished under the contract. Items such as furniture, drapes, rugs, vehicles, office machines, appliances, etc., shall fall under this category. The Contractor's list shall describe the item; give the unit price and total quantities of each. Model and serial numbers for equipment shall be provided when applicable. The Contractor shall keep an up-to-date register of all covered items and make this information available to the Contracting Officer at all times. Prior to acceptance, the Contractor shall submit the complete register to the Contracting Officer.

1.22 TIME EXTENSIONS

1.22.1 General

This provision specifies the procedure for determination of time extensions for unusually severe weather in accordance with the Contract Clause 52.249-10 entitled DEFAULT (FIXED-PRICE CONSTRUCTION) APR 1984. The listing below defines the anticipated monthly unusually severe weather for the contract period and is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the geographic location of the project. The schedule of anticipated unusually severe weather will constitute the baseline for determining monthly weather time evaluations. Upon award of this contract and continuing throughout the contract each month, actual unusually severe weather days will be recorded on a calendar day basis (including weekends and holidays) and compared to the monthly anticipated unusually severe weather in the schedule below. The term "actual unusually severe weather days" shall include days actually impacted by unusually severe weather. The Contractor's schedule must reflect the anticipated unusually severe weather days on all weather dependent activities.

MONTHLY ANTICIPATED UNUSUALLY SEVERE WEATHER CALENDAR DAYS

January	4 Days
February	2 Days
March	2 Days
April thru December	0 Days

1.22.2 Time Extensions

The number of actual unusually severe weather days shall be calculated chronologically from the first to the last day in each month. Unusually severe weather days must prevent work for fifty percent (50%) or more of the Contractor's workday and delay work critical to the timely completion of the project. If the number of actual unusually severe weather days exceeds the number of days anticipated in the paragraph above, the Contracting Officer will determine whether the Contractor is entitled to a time extension. The Contracting Officer will convert any qualifying delays to calendar days and issue a modification in accordance with the Contract Clause 52.249-10 entitled DEFAULT (FIXED-PRICE CONSTRUCTION) APR 1984.

1.22.3 Other Delays

Construction delays due to full or partial base closures due to incidents such as demonstrations, civil unrest and outright attacks will be examined on an individual basis for consideration of time extensions.

1.23 STANDARDIZATION

Where two or more items of the same type or class of product, system or equipment furnished in this project are required, the units shall be products of the same manufacturer and shall be interchangeable when of the same size, capacity, performance characteristics, and rating. The only exception to this requirement is where the items are interchangeable due to conformance with industry standards (valves, fittings, etc.); they need not be by the same manufacturer. This requirement applies to all manufactured items in the project that normally require repair or replacement during the life of the equipment.

1.24 COMPLIANCE WITH HOST COUNTRY RULES AND CUSTOMS

The laws of Host Country may prohibit access to certain areas of the country that are under military control. The Contractor shall furnish the Contracting Officer the names of personnel, type, and amounts of equipment, dates and length of time required at the site, and the purpose of entering the host country. It is understood that areas to which rights of entry are provided by the Host Government are to be used

only for work carried out under the contract and no destruction or damages shall be caused, except through normal usage, without concurrence of the Host Government.

1.24.1 Contractor's Responsibilities

The following items are the sole responsibility of the Contractor to investigate, estimate as to cost, and assume the risk, as normally encountered by Contractors. The Contractor shall be responsible for determining the effect of the following on his own cost of performance of the contract and for including sufficient amount in the contract price:

a. Official language and type of accounts required to satisfy the officials of the Local Government.

b. Entry and exit visas, residence permits, and residence laws applicable to aliens. This includes any special requirements of the Host Government, including those required by local Labor Offices, which the Contractor may have to fulfill before an application for a regular block of visas will be accepted.

c. Passports, health and immunization certificates, and quarantine clearance.

d. Compliance with local labor and insurance laws, including payment of employer's share of contribution, collecting balance from employee and paying into insurance funds.

e. Strikes, demonstrations and work stoppage.

f. Collection through withholding and payment to local Government, of any Host Country income tax on employees subject to tax.

g. Arranging to perform work in the Host Country, to import personnel, to employ non-indigenous labor, to receive payments and to remove such funds from the country.

h. Operating under local laws, practices, customs and controls, and with local unions, in connection with hiring and firing, mandatory wage scales, vacation pay, severance pay, overtime, holiday pay, 7th day of rest, legal notice or pay in lieu thereof for dismissal of employees, slowdown and curtailed schedules during religious holidays and ratio of local labor employed in comparison to others.

i. Possibility of claims in local bureaus, litigation in local courts, or attachment of local bank accounts.

j. Compliance with workmen's compensation laws and contributions into funds. Provisions of necessary medical service for Contractor employees.

k. Special license required by the local Government for setting up and operating any manufacturing plant in the Host Country, e.g. concrete batching, precast concrete, concrete blocks, etc.

l. Sales within the host country of Contractor-owned materials, and equipment.

m. Special licenses for physicians, mechanics, tradesmen, drivers, etc.

n. Identification and/or registration with local police of imported personnel.

o. Stamp tax on documents, payments and payrolls.

p. Base passes for permanent staff, day laborers, motor vehicles, etc.

q. Compliance with all customs and import rules, regulations and restrictions, including, but not limited to, local purchase requirements.

1.25.1 Employee Identification

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.

1.25.1.1 Preparation of Identification Badges

The Contractor shall be required to prepare a written application inclusive color photographs and provide all materials and labor necessary to prepare an identification badge, laminated in plastic, containing the employee's name, badge number, color photo, height and weight, the name of the Contractor's organization and for requiring each employee engaged on the work to display this identification as directed by the Contracting Officer. The Contractor shall submit each application and draft badge through the Contracting Officer to the Base Security Office. A minimum of thirty-five workdays shall be allowed for Government review and certification of badges. The Base Security Office will certify each draft badge by signature, stamp, seal or any combination thereof. Upon certification by the Base Security Office, the badges will be returned to the Contractor for final preparation, lamination, and issuance. Badges shall not be taken out of country during periods of travel or absence. During such periods, the Contractor may be permitted to issue temporary identification badges.

1.25.1.2 Employee Background and Historical Information

The Contractor shall be required to prepare and maintain personal background and historical information forms on each employee. These forms may be reviewed by the Base Security Office. The required information shall include but not necessarily be limited to the following:

a. Full name.
b. Place and date of birth.
c. Three (3) current color photographs.
d. Copy of Citizenship/Nationality identification.
e. Copy of Passport.
f. Copy of drivers license.
g. Police Background Check.
h. Work History.
i. Personal background information.
j. Copy of Work Permit and/or Visa.
k. Permanent home of record and in-country address.
l. Other information mandated by local law, the Base Security Regulations or that may be required to coordinate and process the necessary documentation with the government offices responsible for the approval.
n. Registration, insurance company, policy number and expiration date for each vehicle.

1.25.2 Identification of Contractor Vehicles

The Contractor shall be responsible for requiring each vehicle engaged in the work to display permanent vehicular identification as approved and directed by the Contracting Officer. If acceptable to the Base Security Office and approved by the Contracting Officer, the Contractor may institute a system of non-permanent temporary identification for one-time delivery and transit vehicles. Each Contractor vehicle, machine, piece of equipment, or towed trailers, shall show the Contractor's name such that it is clearly visible on both front doors of the vehicle and both sides of a towed trailer. A valid license plate shall be displayed at all times. Contractor vehicles operated on Government property shall be maintained in a good state of repair, shall be insured, and shall be registered in accordance with Afghan Law.

1.25.3 Security Plan

The Contractor shall submit to the Contracting Officer, within ten (10) calendar days after award of this contract, his proposed personnel and vehicular access plan. This plan shall cover all elements for issuance of the access passes, safeguarding of passes not issued, construction security operations, lost passes, temporary vehicle passes, and collection of passes for employee's and vehicles on 1)- temporary absence; 2)- termination or release; and 3)- termination or completion of contract. The plan shall address in detail the contractors proposed procedures, and organization necessary to produce and maintain effective security within the contract limits twenty-four (24) hours a day seven (7) days a week.

1.26 RADIO TRANSMITTER RESTRICTIONS

To preclude accidental actuation of sensitive electronic equipment, the Contractor shall not use radio-transmitting equipment without prior approval of the Contracting Officer.

1.28 PUBLIC RELEASE OF INFORMATION

1.28.1 Prohibition

There shall be no public release of information or photographs concerning any aspect of the materials or services relating to this bid, contract, purchase order, or other documents resulting there from without the prior written approval of the Contracting Officer.

1.28.2 Subcontract and Purchase Orders

The Contractor agrees to insert the substance of this clause in all purchase orders and subcontract agreements issued under this contract.

1.29 ATTACHMENTS

TAC FORM 61 - Accident Prevention Program Hazard Analysis

TAC FORM 356 - Operation and Maintenance Training Validation Certificate

PART 2 LOCAL CLAUSES

2.1 APPLICATION OF US CRIMINAL JURISDICTION

Reference DODI 5525.11. The contractor is directed to provide all of its personnel working under this contract, and to require all of its subcontractors to provide their personnel, with written notification that - with the exception of nationals of Afghanistan and those ordinarily resident in Afghanistan - contractor and subcontractor personnel, and the dependents of contractor and subcontractor personnel who are residing with such personnel, may be subject to US criminal jurisdiction as provided for in the Military Extraterritorial Jurisdiction Act, 18 USC 3261-3267; see Section 3267(1)(A)(iii)(I) and (2)(A)(iii). A copy of the notice ***shall be furnished to the contracting officer upon award of the contract***, along with a certification by an authorized company representative attesting to the provision of the notification to contractor personnel.

2.2 ATTACKS FROM HOSTILE ENTITIES

This contract is firm fixed-price. Costs incurred in the performance of project execution that arise from the attacks of hostile entities, such as costs arising from damage to or destruction of contractor equipment and facilities, and damage to or destruction of the project prior to Government acceptance, are the sole responsibility of the contractor. The Government makes no guarantee to provide the contractor with security, and bears no obligation to reimburse the contractor for costs arising from the

attacks of hostile entities. When appropriate, the Contracting Officer may provide the contractor with an equitable adjustment with respect to time – but not cost – in accordance with clause 52.249-10; see 52.249-10(b)(1)(i) and (2).

2.3 INSTALLATION ACCESS AND BADGING

This contract is firm fixed-price. It is the responsibility of the contractor to be knowledgeable of and to abide by any and all applicable installation access procedures and requirements, to include any and all badging procedures and requirements, that may be necessary for contractor access to the project site. Such procedures and requirements may change over the course of contract performance; it is the responsibility of the contractor to plan accordingly in order to meet its existing obligations under this contract. The US Army Corps of Engineers, Afghanistan Engineer District, neither controls nor is responsible for any such installation access procedures, requirements or changes thereto.

2.4 CUSTOMS CLEARANCE

Reference clauses 52.229-6 and 52.225-13. This contract is firm fixed-price. It is the responsibility of the contractor to be knowledgeable of and to abide by any and all applicable customs clearance procedures and requirements that may be necessary for the transportation of supplies and equipment into Afghanistan. Such procedures and requirements may change over the course of contract performance; it is the responsibility of the contractor to plan accordingly in order to meet its existing obligations under this contract. The US Army Corps of Engineers, Afghanistan Engineer District, neither controls nor is responsible for any such customs clearance procedures, requirements or changes thereto.

2.5 TRAVEL WARNINGS

The contractor shall provide all personnel working under this contract, and shall require subcontractors to provide their personnel, with a written notification advising such personnel to be aware of US State Department Travel Warnings with respect to Afghanistan, available at http://travel.state.gov, in the event they wish to consider bringing their dependants into Afghanistan. A copy of the notice ***shall be furnished to the contracting officer upon award of the contract***, along with a certification by an authorized company representative attesting to the provision of the notification to contractor personnel. At no time, subject to the written approval of the contracting officer, may the contractor allow such dependants, or any other unauthorized individuals, to be present on the project site grounds, whether in transit or otherwise.

2.6 DRUG-FREE WORKFORCE

Documentation of the contractor's drug-free workforce program as required by clause 252.223-7004(b) ***shall be furnished to the contracting officer upon award of the contract***.

2.7 COMBATING TRAFFICKING IN PERSONS, COMMERCIAL SEX ACTS, FORCED LABOR

A copy of the employee notification statement as required by clause 252.222-7006(d) ***shall be furnished to the contracting officer upon award of the contract***, along with a certification by an authorized company representative attesting to the provision of the notification to contractor personnel.

2.8 AGENT'S FEE AND COMMISSION

The contractor certifies that the contract price (including any subcontracts awarded hereunder) does not include any direct or indirect costs of sales commissions or fees for contractor sales representatives for the solicitation or promotion or otherwise to secure the conclusion of the sale of any of the supplies or services called for by this contract to the Government of Afghanistan.

-- End of Section --

SECTION 01312

SECTION 01312

QUALITY CONTROL SYSTEM (QCS)

PART 1: GENERAL

1.1 GENERAL

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. The Contractor module, user manuals, updates, and training information can be downloaded from the RMS web site: the Contractor can obtain the current address from the Government. 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 specifications “SUBMITTAL PROCEDURES”, “CONTRACTOR QUALITY CONTROL”, "PROJECT SCHEDULE", and Contract Clause, "Payments", 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. 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. Any program updates of QCS will be made available to the Contractor via the Government RMS Website as they become available. It shall be the responsibility of the contractor to maintain the QCS software and install updates 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. No separate payment shall be made for updating or maintaining the necessary hardware configurations necessary to run QCS:

Hardware

IBM-compatible PC with 1000 MHz Pentium or higher processor
256+ MB RAM for workstation / 512+ MB RAM for server
1 GB hard drive disk space for sole use by the QCS system
Digital Video Disk (DVD)-Compact Disk (CD) Reader-Writer (RW/ROM)
Monitor with a resolution of AT LEAST 1024x768, 16bit colors
Mouse or other pointing device
Windows compatible printer. (Laser printer must have 4 MB+ of RAM)
Connection to the Internet, minimum 56k BPS

Software

MS Windows 2000 or higher
QAS-Word Processing software: MS Word 2000 or newer
Internet browser supporting HTML 4.0 or higher
Electronic mail (E-mail) MAPI compatible
Virus protection software regularly upgraded with all issued manufacturer's updates

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. The government will provide QCS training if requested by the contractor.

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 or via CD-ROM. 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. Data updates to the Government shall be submitted via either E-mail or electronic media with printed/file attachments, e.g., daily reports, schedule updates, payment requests. If permitted by the Contracting Officer. 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. 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 will automatically output to the QCS generated daily report.

1.6.3.1 Daily Contractor Quality Control (CQC) Reports.

QCS includes the means to produce the Daily CQC Report. 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 specification 01451 “CONTRACTOR QUALITY CONTROL”.

1.6.3.2 Deficiency Tracking.

The Contractor shall use QCS to track deficiencies. Deficiencies identified by the Contractor will 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.

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 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 Specification Section Project Schedule. This schedule shall be input and maintained in the QCS database either manually or by using the Standard Data Exchange Format (SDEF). The updated schedule data shall be included with each pay request submitted by the Contractor.

1.6.6 Requests for Information (RFI)

The Contractor shall use the two-way RFI system contained in QCS for tracking all RFI’s generated during the contract. Hard copies of all RFI’s shall be provided to the government, and will govern in the event of a discrepancy between electronic and printed mediums.

1.6.7 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.

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.

-- End of Section --

SECTION 01321

PROJECT SCHEDULE

PART 1 GENERAL

1.1 SUBMITTALS

The following shall be submitted for Government approval in accordance with Section 01335 SUBMITTAL PROCEDURES: SD-07 Schedules Project Schedule; Horizontal Bar Chart and Periodic Payment Request Updates; and Projected Earnings Curve and Periodic Payment Request Updates. Revisions to the Project Schedule and Projected Earnings Curve for Modifications Issued to this Contract shall be coordinated with the Contracting Officer.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 GENERAL

The Contractor shall furnish a Project Schedule as described below. 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 should 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 shall result in an inability of the Contracting Officer to evaluate Contractor 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, then 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

3.3.1 Schedule of Construction

Within seven (7) calendar days after notice to proceed, the Contractor shall prepare and submit a Construction Schedule to the Contracting Officer for approval. This schedule shall address each payment line item and/or sub-line item listed in the Proposal Schedule separately.

3.3.2 Non-Compliance

Failure of the Contractor to comply with the requirements of the Contracting Officer shall be grounds for 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.

3.3.3 Horizontal Bar Chart

The required schedule shall utilize an automated scheduling program and shall be in the form of a horizontal bar chart. The line or sub-line item schedule of activities shall be listed down the left side of the page. A time scale shall run across the bottom of the page. Each work item shall be represented by a bar starting with the schedule start date and running continuously to the completion date.

3.3.4 Cost

Listed with each work item shall be a corresponding cost representing the total cost, such as material, labor, equipment, and overhead associated with that item. The total cost of the work items shall be equal to the Bid Price for that sub-line item of the Proposal Schedule.

3.3.5 Scheduled Project Completion

The schedule interval shall extend from Notice-To-Proceed to the contract completion date.

3.3.6 Projected Earning Curve

Submitted with the Construction Schedule shall be a Projected Earning Curve. The Projected Earning Curve is a plot of the Contractor's earnings on the vertical axis and the contract duration on the horizontal axis. The earnings figure shall relate to the complete value of the contract and need not reflect each facility separately.

3.3.7 Construction Schedule

The Construction Schedule shall be on one page with a maximum dimension of 90 cm by 120 cm. The Contractor shall submit the Projected Earnings Curve on the same page. The initial submittal shall include one (1) reproducible and four (4) copies, one (1) copy of which will be returned to the Contractor when approved.

3.3.8 Submission With Partial Payment Estimate

Each time the Contractor submits a payment request under this contract he shall also submit three (3) copies of the Bar Chart. The Bar Chart shall be annotated by indicating the percent complete for each activity directly on the bar. The Projected Earnings Curve shall be annotated by plotting actual earnings versus time on the same graph. Those work items reflecting performance which is behind schedule by fifteen (15) calendar days or more shall be fully explained in detail giving the reason for delay and the Contractor's plan for timely completion within the schedule.

3.3.9 Modifications

The Construction Schedule and Projected Earning Curve shall be revised to reflect any and all modifications issued to this contract as they are issued. Format and numbers of copies as defined in paragraph CONSTRUCTION SCHEDULE shall be submitted for approval by the Contracting Officer.

3.4 PERIODIC PROGRESS MEETINGS

Progress meetings to discuss payment shall include a monthly on-site meeting or shall be conducted at 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 approve activity progress, proposed revisions, and adjustments as appropriate.

3.4.1 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 four (4) working days after the monthly progress meeting.

3.4.2 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.

3.4.3 Earnings Report

A compilation of the Contractor's Total Earnings on the project from the Notice-to-Proceed until the most recent Monthly Progress Meeting shall be recorded. This report shall reflect the Earnings of specific activities based on the agreements made in the field and approved between the Contractor and the 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. This report shall: sum all activities and provide a percent complete by individual activity and total project percent complete. The report shall contain, for each activity: activity identification, activity description, original budgeted amount, total quantity, quantity to date, percent complete (based on cost), and earnings to date.

3.4.4 Cost Completion

The earnings for each activity started shall be reviewed. Payment shall be based on earnings for each in-progress or completed activity. Payment for individual activities shall not be made for work that contains quality defects. A portion of the overall project amount may be retained based on delays of activities.

3.4.5 Network Analysis System

The Contractor may, as an option, submit to the Contracting Officer for approval, a time related network analysis in lieu of the previously specified bar chart.

-- End of Section --

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 ☐ FIO ☐ GOV'T. APPROVAL

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)

Contractor - Furnished Design Documents Submittal Register	Contract Title & Location:	
	Contractor:	Contract Number:

Submittal Identification Nº.	NAS Activity Code	Description of Document (s)	Contractor Submittal Date	Government Action	
				Receipt Date	Construction Clearance Date

TAC Form 122-E
September 2003(R)

SUBMITTAL REGISTER

(ER 415 1-10)

CONTRACT NO.

TITLE AND LOCATION

CONTRACTOR

SPECIFICATION SECTION

ACTIVITY NO a.	TRANS-MITTAL NO. b.	ITEM NO c.	SPECIFICATION PARAGRAPH NUMBER d.	DESCRIPTION OF ITEM SUBMITTED e.	TYPE OF SUBMITTAL								CLASSI-FICATION		REVIEWER q.	CONTRACTOR SCHEDULE DATES			CONTRACTOR ACTION			GOVERNMENT ACTION		REMARKS z.
					DATA f.	DRAWINGS g.	INSTRUCTIONS h.	SCHEDULES i.	STATEMENTS j.	REPORTS k.	CERTIFICATES l.	SAMPLES m.	RECORDS n.	INFORMATION ONLY o.	GOVERNMENT APPROVED p.		SUBMIT r.	APPROVAL NEEDED BY s.	MATERIAL NEEDED BY t.	CODE u.	DATE v.	SUBMIT TO GOVERN-MENT w.	CODE x.	DATE y.	

ENG FORM 4288-R, MAR 95 EDITION OF SEP 93 IS OBSOLETE.

(Proponent: CEMP-CE)

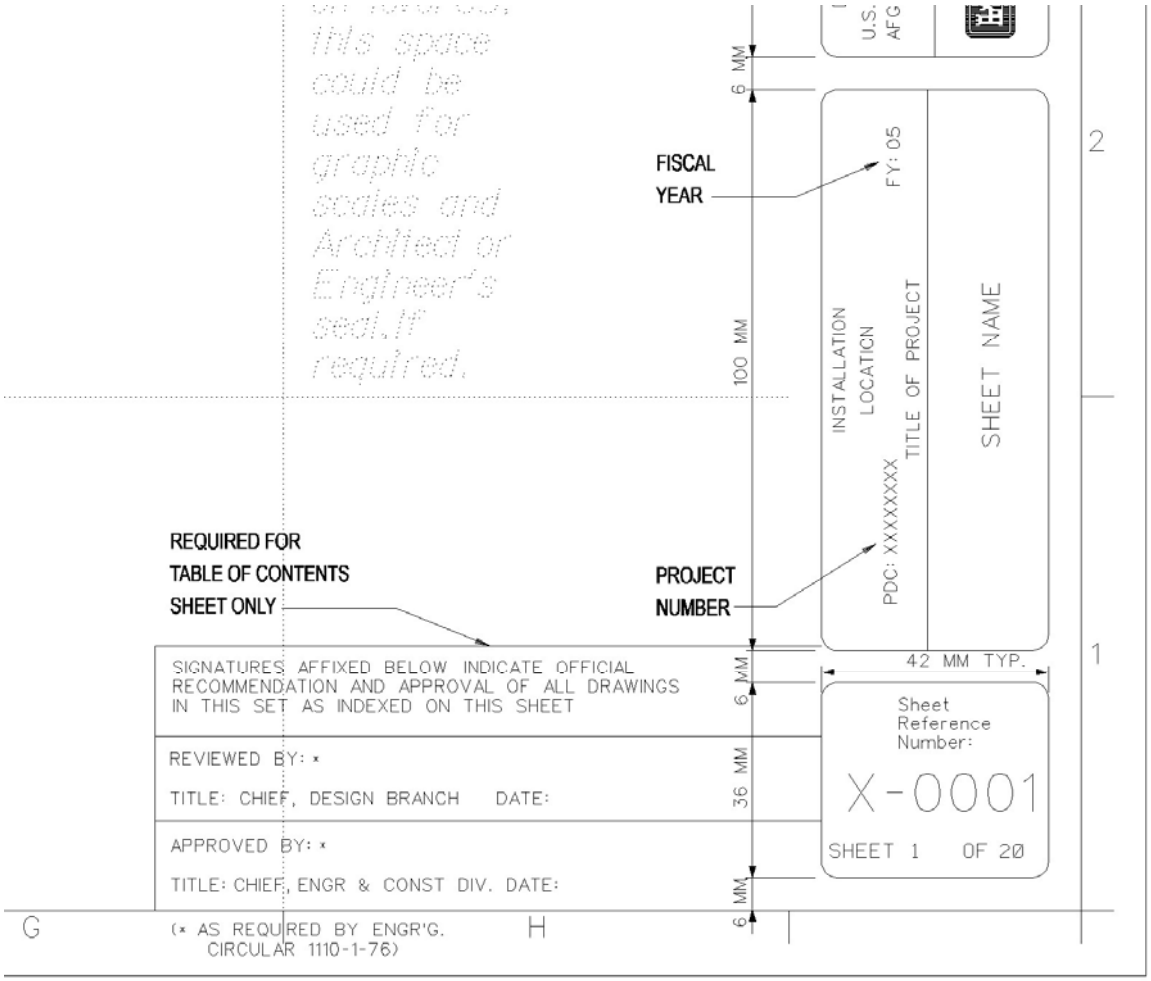


Figure 1 – sheet number/description; AED title block

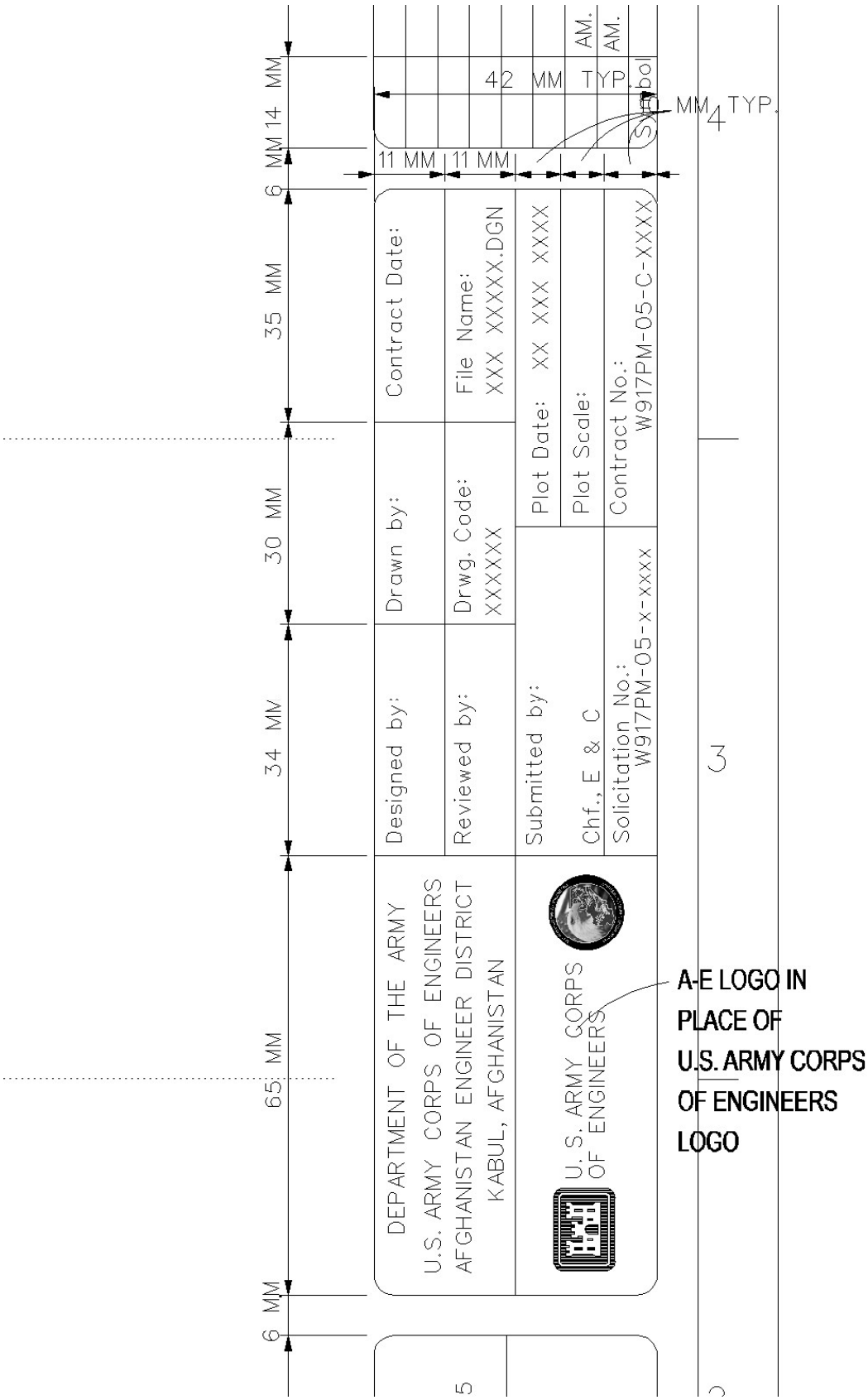


Figure 2 – A-E logo/designed by/reviewed by; AED title block

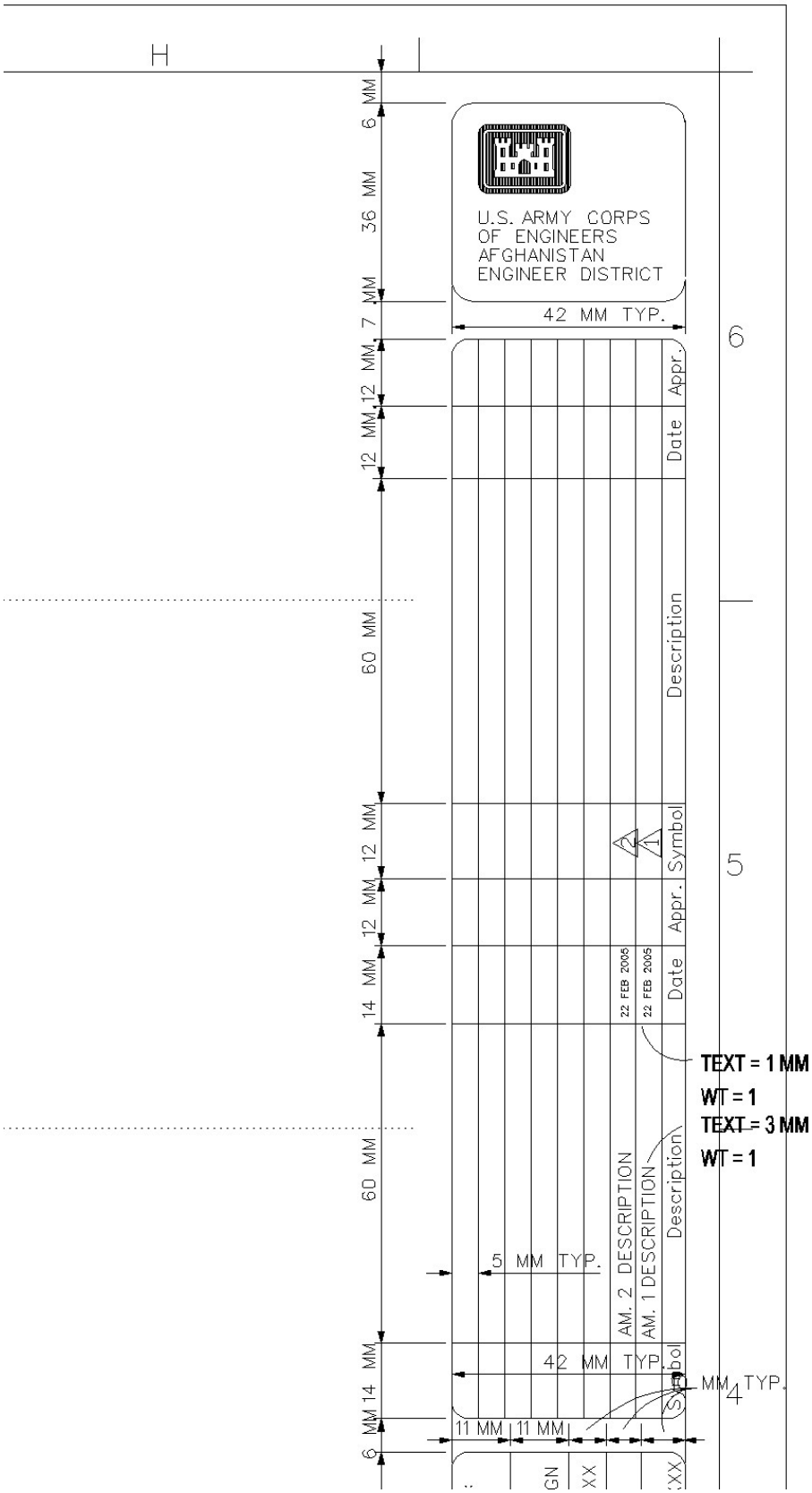
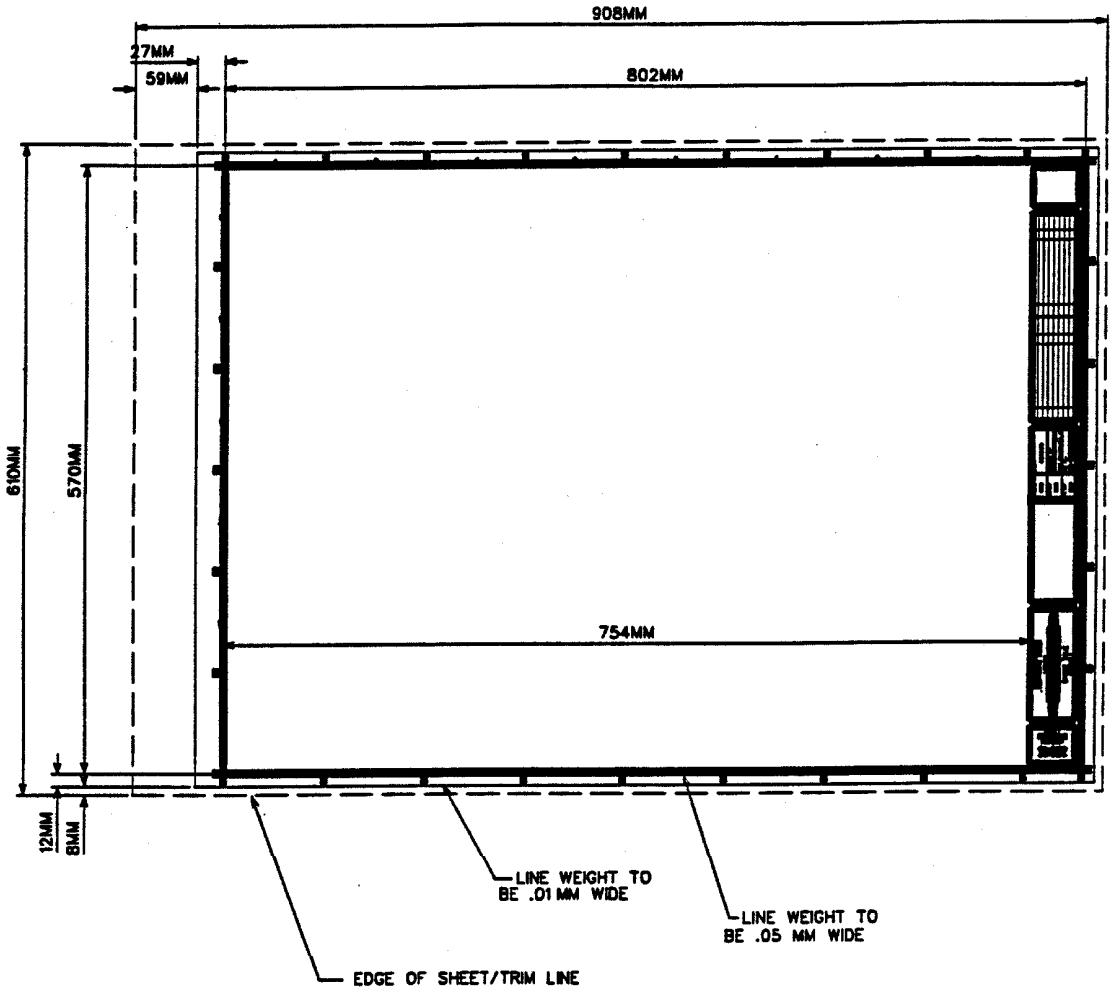


Figure 3 - revision block; AED title block

FINISHED FORMAT SIZE



NOTES:

1. SEE FIGURES 6 THRU 9 FOR TITLE BLOCK DEFINITIONS.

Figure 5

SECTION 01415

METRIC MEASUREMENTS

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.

ASTM INTERNATIONAL (ASTM)

ASTM E 621	(1994; R 1999e1) Use of Metric (SI) Units in Building Design and Construction (Committee E-6 Supplement to E380)
ASTM SI 10	(2002) American National Standard for Use of the International System of Units (SI): The Modern Metric System

1.2 GENERAL

This project includes metric units of measurements. The metric units used are the International System of Units (SI) developed and maintained by the General Conference on Weights and Measures (CGPM); the name International System of Units and the international abbreviation SI were adopted by the11th CGPM in 1960. A number of circumstances require that both metric SI units and English inch-pound (I-P) units be included in a section of the specifications. When both metric and I-P measurements are included, the section may contain measurements for products that are manufactured to I-P dimensions and then expressed in mathematically converted metric value(soft metric) or, it may contain measurements for products that are manufactured to an industry recognized rounded metric (hard metric)dimensions but are allowed to be substituted by I-P products to comply with the law. Dual measurements are also included to indicate industry and/or Government standards, test values or other controlling factors, such as the code requirements where I-P values are needed for clarity or to trace back to the referenced standards, test values or codes.

1.3 USE OF MEASUREMENTS IN SPECIFICATIONS

Measurements in specifications shall be either in SI or I-P units as indicated, except for soft metric measurements or as otherwise authorized. When only SI or I-P measurements are specified for a product, the product shall be procured in the specified units (SI or I-P) unless otherwise authorized by the Contracting Officer. The Contractor shall be responsible for all associated labor and materials when authorized to substitute one system of units for another and for the final assembly and performance of the specified work and/or products.

1.3.1 Hard Metric

A hard metric measurement is indicated by an SI value with no expressed correlation to an I-P value. Hard metric measurements are often used for field data such as distance from one point to another or distance above the floor. Products are considered to be hard metric when they are manufactured to metric dimensions or have an industry recognized metric designation.

1.3.2 Soft Metric

5. A soft metric measurement is indicated by an SI value which is a mathematical conversion of the I-P value shown in parentheses (e.g. 38.1 mm (1-1/2 inches)). Soft metric measurements are used for measurements pertaining to products, test values, and other situations where the I-P units are the standard for manufacture, verification, or other controlling factor. The I-P value shall govern while the metric measurement is provided for information.

6. A soft metric measurement is also indicated for products that are manufactured in industry designated metric dimensions but are required by law to allow substitute I-P products. These measurements are indicated by a manufacturing hard metric product dimension followed by the substitute I-P equivalent value in parentheses (e.g., 190 x 190 x 390 mm (7-5/8 x 7-5/8 x 15-5/8inches)).

1.3.3 Neutral

A neutral measurement is indicated by an identifier which has no expressed relation to either an SI or an I-P value (e.g., American Wire Gage (AWG) which indicates thickness but in itself is neither SI nor I-P).

1.4 COORDINATION

Discrepancies, such as mismatches or product unavailability, arising from use of both metric and non-metric measurements and discrepancies between the measurements in the specifications and the measurements in the drawings shall be brought to the attention of the Contracting Officer for resolution.

1.5 RELATIONSHIP TO SUBMITTALS

Submittals for Government approval or for information only shall cover the SI or I-P products actually being furnished for the project. The Contractor shall submit the required drawings and calculations in the same units used in the contract documents describing the product or requirement unless otherwise instructed or approved. The Contractor shall use ASTM SI 10 and ASTM E 621 as the basis for establishing metric measurements required to be used in submittals.

-- End of Section --

SPECIFICATION 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 within the text by the basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

ER 1110-1-12 (1993)	Quality Management
EM 385-1-1	Safety and Health Requirements Manual

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 Bidding Schedule.

PART 2 PRODUCTS (Not Applicable)

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 Clauses and this specification section. 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 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 and is subject to removal by the Contracting Officer for non-compliance with the quality requirements specified in the 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, and shall be responsible for all construction and construction related activities at the site.

3.2 CQM TRAINING REQUIREMENT

Before project design and construction begin, the Contractor's Quality Control Manager is required to have completed the U.S. Army Corps of Engineers CQM course, or equivalent. The Construction Trades Training Center (CTTC) in Jalalabad, Afghanistan provides a course that satisfies the requirement. Courses are offered at regular intervals. For enrollment and course information contact CTTC at the following:

Mhd. Haris
e-mail: mharis@afghanreconstruction.org
Telephone: 0700 08 0602

Pervaiz
e-mail: adpzmuj@yahoo.com
Telephone: 0700 61 3133

3.3 QUALITY CONTROL PLAN

The Contractor shall furnish for review by the Government, not later than five (5) days after receipt of Notice-to-Proceed (NTP) the proposed Contractor Quality Control (CQC) Plan. The plan shall identify personnel, procedures, control, instructions, records, and forms to be used.

3.2.1 Content of the CQC Plan

The CQC Plan shall include, as a minimum, the following to cover all construction operations, both on site and off-site, including work by subcontractors, fabricators, suppliers and purchasing agents:

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 superintendent.

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 subcontractors, offsite fabricators, suppliers, consultants, and purchasing agents. These procedures shall be in accordance with Specification 01335 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.

f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.

g. Procedures for tracking construction 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 Additional Requirements for Design Quality Control (DQC) Plan

The following additional requirements apply to the Design Quality Control

(DQC) plan:

(1) The Contractor shall provide and maintain a Design Quality Control (DQC) Plan as an effective quality control program which will assure that all services required by this design contract are performed and provided in a manner that meets professional architectural and engineering quality standards. As a minimum, all documents shall be technically reviewed by competent, independent reviewers identified in the DQC Plan. The same element that produced the product shall not perform the independent technical review (ITR). The Contractor shall correct errors and deficiencies in the design documents prior to submitting them to the Government.

(2) The Contractor shall include the design schedule in the master project schedule, showing the sequence of events involved in carrying out the project design tasks within the specific contract period. This should be at a detailed level of scheduling sufficient to identify all major design tasks, including those that control the flow of work. The schedule shall include review and correction periods associated with each item. This should be a forward planning as well as a project monitoring tool. The schedule reflects calendar days and not dates for each activity. If the schedule is changed, the Contractor shall submit a revised schedule reflecting the change within 7 calendar days. The Contractor shall include in the DQC Plan the discipline-specific checklists to be used during the design and quality control of each submittal. These completed checklists shall be submitted at each design phase as part of the project documentation. Example checklists can be found in ER 1110-1-12.

(3) The DQC Plan shall be implemented by an Design Quality Control Manager who has the responsibility of being cognizant of and assuring that all documents on the project have been coordinated. This individual shall be a person who has verifiable engineering or architectural design experience and is a registered professional engineer or architect. The Contractor shall notify the Contracting Officer, in writing, of the name of the individual, and the name of an alternate person assigned to the position.

The Contracting Officer will notify the Contractor in writing of the acceptance of the DQC

Plan. After acceptance, any changes proposed by the Contractor are subject to the acceptance of the Contracting Officer.

3.2.3 Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Government reserves the right to require the Contractor to make changes in the CQC plan and operations including removal of personnel, as necessary, to obtain the quality specified.

3.2.4 Notification of Changes

Notification of Changes. After acceptance of the QC plan, the Contractor shall notify the Contracting Officer in writing a minimum of seven calendar days prior to any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

3.3 COORDINATION MEETING

After the Pre-construction Conference, before start of construction, and prior to acceptance by the Government of the Quality Control 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 5 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 operations, control activities, testing, administration of the system for both on-site and off-site 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 Government 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 CQC System Manager, 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 an individual within his organization at the site of the work who shall be responsible for overall management of the CQC and have the authority to act in all CQC matters for the Contractor. The CQC system manager shall be a graduate engineer, graduate architect, or a graduate construction manager, with experience on construction projects similar in type to this contract OR a construction person with a minimum of ten (10) years in related work. The CQC System Manager shall be on the site at all times during construction and shall be employed by the Contractor. The CQC System Manager shall be assigned no other duties. An alternate for the CQC System Manager will be identified in the plan to serve in the event of the CQC system manager's absence. The requirements for the alternate will be the same as for the designated CQC manager.

3.4.3 Not Used.

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 by the government, and inquiries as to the next course offering may be directed to the local construction field office.

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 the STR titled 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 documents and 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. A copy of those sections of referenced codes and standards, in the English language unless specifically approved otherwise by the Contracting Officer, applicable to that portion of the work to be accomplished in the field shall be made available by the Contractor at the preparatory inspection. These copies shall be

maintained in the field and available for use by Government personnel until final acceptance of the work.

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. A check to assure that provisions 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 verify that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.

g. Reviews of the appropriate activity hazard analysis to ensure safety requirements are met.

h. Discussion of procedures for constructing the work including repetitive deficiencies, construction tolerances and workmanship standards for that feature of work.

i. A check to ensure that the Contracting Officer has accepted the portion of the plan for the work to be performed.

j. Discussion of the initial control phase.

k. The Government shall be notified at least 24 hours in advance of beginning any of the required action of the preparatory 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 QC 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 preliminary work to ensure that it is in compliance with contract requirements. Review minutes of the preparatory meeting.

b. Verification of 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 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 24 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 QC 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 on-site, or any time acceptable specified quality standards are not being met.

3.6.3 Follow-up Phase.

Daily checks shall be performed to assure continuing compliance with contract requirements, including control testing, 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 noted deficiencies corrected, prior to the start of additional features of work that 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 may be required by the Contracting Officer on the same definable features of work if the quality of on-going work is unacceptable; if there are changes in the applicable QC staff or in the on-site 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 tests specified or required to verify that control measures are adequate to provide a product that conforms to contract requirements. Upon request, the Contractor shall furnish to the Government duplicate samples of test specimens for possible testing by the Government. Costs incidental to the transportation of samples or materials shall be borne by the Contractor.

Testing includes operation and/or acceptance tests when specified. A list of tests to be performed shall be furnished as a part of the CQC plan. The list shall give the test name, frequency, specification paragraph containing the test requirements, the personnel and laboratory responsible for each type of test, and an estimate of the 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 Quality Control report for the date taken. Specification paragraph/item reference, location where tests were taken, and the sequential control number identifying the test will be given. Actual test reports may be submitted later, if approved by the Contracting Officer, with a reference to the test number and date taken. An information copy of tests performed by an off-site or commercial test facility will 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.

3.8 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.

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 Government daily within forty-eight (48) hours after the date 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

In accordance with Specification 01312 QUALITY CONTROL SYSTEM, the contractor shall use the forms produced by and printed from QCS. Samples of any forms required to meet the requirements of this section which are not produced by that system shall be included in the contractors Quality Control Plan.

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.

-- End of Section --

SECTION 01525

SAFETY AND OCCUPATIONAL HEALTH REQUIREMENTS

PART 1 GENERAL

For contractor safety on projects associated with this program, compliance with EM 385-1-1 safety requirements will be the long-term goal reached by growing a safety culture. This compliance will, by necessity, be achieved through a phased-in process. In the Commander's letter at the preface of the EM 385-1-1, he acknowledges that in OCONUS locations, strict compliance with the manual may not be possible – and through the hazard analysis process, safety measures can be developed to attain the same degree of safety.

This specification consists of two parts:

1) Sections 1.1 through 3.12.1, which are the standard safety specifications for work in Europe District and;

2) Appendix A, Phasing approach for safety in emerging countries where there is little or no national safety standards.

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 A10.32	Personal Fall Protection - Safety Requirements for Construction and Demolition Operations
ANSI Z359.1(1992; R 1999)	Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components
ANSI/ASSE A10.34(2001)	Protection of the Public on or Adjacent to Construction Sites
ASME B30.3(1996)	Construction Tower Cranes

ASME INTERNATIONAL (ASME)

ASME B30.22(2000)	Articulating Boom Cranes
ASME B30.5(2004)	Mobile and Locomotive Cranes

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 10(2002)	Portable Fire Extinguishers
NFPA 241(2000)	Safeguarding Construction, Alteration, and Demolition Operations

NFPA 51B(2003)	Fire Prevention During Welding, Cutting, and Other Hot Work
NFPA 70(2005)	National Electrical Code
NFPA 70E(2004)	Electrical Safety in the Workplace

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1(2003) Safety	Safety and Health Requirements

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910	Occupational Safety and Health Standards (OSHA)
29 CFR 1910.146	Permit-required Confined Spaces
29 CFR 1915	Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment
29 CFR 1919	Gear Certification
29 CFR 1926	Safety and Health Regulations for Construction
29 CFR 1926.500	Fall Protection

1.2 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 SR SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Accident Prevention Plan (APP); G, ACC

Activity Hazard Analysis (AHA); G, ACC

Crane Critical Lift Plan; G, ACC

Proof of qualification for Crane Operators; G, ACC

SD-06 Test Reports

Reports: Submit reports as their incidence occurs, in accordance with the requirements of the paragraph entitled, "Reports."

Accident Reports

Monthly Exposure Reports

Crane Reports

Regulatory Citations and Violations

SD-07 Certificates

Confined Space Entry Permit

Contractor Safety Self-Evaluation Checklist; G, ACC

Submit one copy of each permit/certificate attached to each Daily Quality Control Report.

1.3 DEFINITIONS

a. Competent Person for Fall Protection. A person who is capable of identifying hazardous or dangerous conditions in the personal fall arrest system or any component thereof, as well as their application and use with related equipment, and has the authority to take prompt corrective measures to eliminate the hazards of falling.

b. High Visibility Accident. Any mishap which may generate publicity and/or high visibility.

c. 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.

d. Qualified Person for Fall Protection. A person with a recognized degree or professional certificate, extensive knowledge, training and experience in the field of fall protection who is capable of performing design, analysis, and evaluation of fall protection systems and equipment.

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 (any time lost after day of injury/illness onset);

(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. "USACE" property and equipment specified in USACE EM 385-1-1 should be interpreted as Government property and equipment.

1.4 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.

1.5 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 in particular, the requirements of the European Union Council Directive 92/57/EEC of 24 June 1992 on the implementation of minimum safety and health requirements at temporary or mobile construction sites. 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.

1.6 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. The Contractor Quality Control (QC) person can only be the SSHO on this project if approved by the Contracting Officer. Any project exceeding 1 Million US dollars in value shall have a full time SSHO. The SSHO shall meet the following requirements: A minimum of 5 years safety work on similar projects; 30-hour OSHA construction safety class or European Union equivalent within the last 5 years; an average of at least 24 hours of formal safety training each year for the past 5 years. Competent person training as needed.

1.6.1.2 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 Government Designated Authority (GDA) 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 Section 06.I of EM 385-1-1;

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.

1.6.1.3 Crane Operators

Crane operators shall meet the requirements in USACE EM 385-1-1, Section 16 and Appendix G. In addition, crane operators shall be designated as qualified by a source that qualifies crane operators (i.e., union, a government agency, or and organization that tests and qualifies crane operators). Proof of current qualification shall be provided.

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 an accident/injury log such as the OSHA Form 300 or host nation equivalent, 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. 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 Activity Hazard Analyses (AHAs) and special plans, program and procedures associated with it).

b. The Contractor shall discuss the details of the submitted APP to include incorporated plans, programs, procedures and a listing of anticipated 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.

c. 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.

d. The functions of a Preconstruction conference may take place at the Post-Award Kickoff meeting for Design Build Contracts.

1.6.3.2 Safety Meetings

Shall be conducted and documented as required by EM 385-1-1. Minutes showing contract title, signatures of attendees and a list of topics discussed shall be attached to the Contractors' daily quality control report.

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

1.8 ACCIDENT PREVENTION PLAN (APP)

The Contractor shall use a qualified person to prepare the written site-specific APP in both English and in the host nation language. 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 Accident Prevention Plan". Specific requirements for some of the APP elements are described below. 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.

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.

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 hazard become evident, stop work in the area, secure the area, and develop a plan to remove the hazard. Notify the Contracting Officer within 24 hours of discovery. In the interim, all necessary action shall be taken 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 Contracting Officer'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. 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, Section 06.I, 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. Crane Critical Lift Plan. Prepare and sign weight handling critical lift plans for lifts over 75 percent of the capacity of the crane or hoist (or lifts over 50 percent of the capacity of a barge mounted mobile crane's hoists) at any radius of lift; lifts involving more than one crane or hoist; lifts of personnel; and lifts involving non-routine rigging or operation, sensitive equipment, or unusual safety risks. The plan shall be submitted 15 calendar days prior to on-site work and include the requirements of USACE EM 385-1-1, paragraph 16.C.18. and the following:

   (1) For lifts of personnel, the plan shall demonstrate compliance with the requirements of EM 385-1-1, Section 22.F.

   (2) For barge mounted mobile cranes, barge stability calculations identifying barge list and trim based on anticipated loading; and load charts based on calculated list and trim. The amount of list and trim shall be within the crane manufacturer's requirements.

e. 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 for fall protection 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, assisted rescue, self-rescue and evacuation procedures, 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. The Fall Protection and Prevention Plan shall be included in the Accident Prevention Plan (APP).

1.9 ACTIVITY HAZARD ANALYSIS (AHA)

The Activity Hazard Analysis (AHA) format shall be in accordance with USACE EM 385-1-1, and shall be written in both English and the host nation language. Submit the AHA for review at least 15 calendar days prior to the start of each phase. Format subsequent AHAs as amendments to the APP. 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.

The activity hazard analyses shall be developed using the project schedule as the basis for the activities performed. Any activities listed on the project schedule will require an AHA. The AHAs will be developed by the contractor, supplier or subcontractor and provided to the prime contractor for submittal to the Contracting Officer.

1.10 DISPLAY OF SAFETY INFORMATION

Within 1 calendar day after commencement of work, erect a safety bulletin board at the job site. The safety bulletin board shall include information and be maintained as required by EM 385-1-1, section 01.A.06.

1.11 SITE SAFETY REFERENCE MATERIALS

Maintain safety-related references applicable to the project. Maintain applicable equipment manufacturer's manuals.

1.12 EMERGENCY MEDICAL TREATMENT

Contractors will arrange for their own emergency medical treatment. The Government has no responsibility to provide emergency medical treatment. Military medical clinics may provide emergency treatment for serious injuries; the contractor is responsible for coordination with the local military medical clinic prior to mobilization.

1.13 REPORTS

1.13.1 Accident Reports

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 5 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. 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 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, cutting, etc.) or operating other flame-producing/spark producing devices, a written permit shall be requested from the Installation. CONTRACTORS ARE REQUIRED TO MEET ALL CRITERIA BEFORE A PERMIT IS ISSUED. The Contractor will provide at least two (2) six kilogram ABC 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. The Fire Watch shall be trained in fire fighting techniques and remain on-site for a minimum of 120 minutes after completion of the task or as specified on the hot work permit.

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 phone numbers. ANY FIRE, NO MATTER HOW SMALL, SHALL BE REPORTED TO THE RESPONSIBLE FIRE DIVISION/DEPARTMENT IMMEDIATELY.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 CONSTRUCTION AND/OR OTHER WORK

Before initiation of work at the job site, an accident prevention plan, written by the Contractor for the specific work and hazards of the contract and implementing in detail the pertinent requirements of EM 385-1-1, will be reviewed and found acceptable by designated Government personnel. Specific requirements for development of the accident prevention plan are found in sections 01.A and Appendix A of EM 385-1-1.

Before beginning each activity involving a type of work presenting hazards not experienced in previous project operations or where a new work crew or subcontractor is to perform the work, activity hazard analysis (AHA) shall be prepared by the Contractor performing the work activity. See paragraph 01.A.09 of EM 385-1-1.

The Contractor shall require subcontractors to submit their plan of operations showing methods they propose to use in accomplishing major phases of work.

The Contractor shall be prepared to discuss the plans in conferences convened by the Contracting Officer prior to starting work on each major phase of operation. Plans shall include all pertinent information such as layout of haul roads, access roads, storage areas, electrical distribution lines,

methods of providing minimum exposure to overhead loads, and methods of access to work areas. The plan for accomplishing the initial work phase shall be submitted within 15 calendar days after award of the contract. Plans for subsequent major phases of work shall be submitted not later than 15 calendar days prior to initiation of work on each major phase.

All areas where construction, demolition, alteration, building, or similarly related activities take place, all workers shall have the following minimum personal protective clothing and equipment:

1. Short sleeve shirt.
2. Long trousers.
3. Steel-toed safety boots.
4. Hard hat.

3.1.1 Falling Object Protection

All areas must be barricaded to safeguard employees. When working overhead, barricade the area below to prevent entry by unauthorized employees. Construction warning tape and signs shall be posted so they are clearly visible from all possible access points. When employees are working overhead all tools and equipment shall be secured so that they will not fall. When using guardrail as falling object protection, all openings shall be small enough to prevent passage of potential falling objects.

3.1.2 Hazardous Material Use

Each hazardous material must receive approval prior to being brought onto the job site or prior to any other use in connection with this contract. Allow a minimum of 10 working days for processing of the request for use of a hazardous material. 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.

3.1.3 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 USACE 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.

3.1.4 Unforeseen Hazardous Material

The design should have identified materials such as PCB, lead paint, and friable and non-friable asbestos. If 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 FALL HAZARD PROTECTION AND PREVENTION PROGRAM

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 evacuation procedures.

3.2.1 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. A competent person for fall protection shall provide the training. Training requirements shall be in accordance with USACE EM 385-1-1, section 21.A.16.

3.2.2 Fall Protection Equipment and Systems

The Contractor shall enforce use of the fall protection equipment and systems designated for each specific work activity in the Fall Protection and Prevention Plan and/or AHA at all times when an employee is exposed to a fall hazard. Employees shall be protected from fall hazards as specified in EM 385-1-1, section 21. 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.H. and 05.I. 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 are required when operating other equipment such as scissor lifts if the work platform is capable of being positioned outside the wheelbase. The need for tying-off in such equipment is to prevent ejection of the employee from the equipment during raising, lowering, or travel. Fall protection must comply with USACE EM 385-1-1 and host nation requirements, whichever is more stringent.

3.2.2.1 Personal Fall Arrest Equipment

Personal fall arrest equipment, systems, subsystems, and components shall meet ANSI Z359.1 or European Union equivalent. Only a full-body harness with a shock-absorbing lanyard or self-retracting lanyard is an acceptable personal fall arrest body support 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 and any swinging of the worker (pendulum-like motion) that can occur during a fall shall always be taken into consideration when attaching a person to a fall arrest system.

3.2.3 Fall Protection for Roofing Work

Fall protection controls shall be implemented based on the type of roof being constructed and work being performed. The roof area to be accessed shall be evaluated for its structural integrity including weight-bearing capabilities for the projected loading.

a. Low Sloped Roofs:

(1) For work within 1.8 m (6 feet) of an edge, on low-slope roofs, personnel shall be protected from falling by use of personal fall arrest systems, guardrails, or safety nets. A safety monitoring system is not adequate fall protection and is not authorized.

(2) For work greater than 1.8 m (6 feet) from an edge, warning lines shall be erected and installed in accordance with USACE EM 385-1-1.

b. Steep-Sloped Roofs: Work on steep-sloped roofs requires a personal fall arrest system, guardrails with toe-boards, or safety nets. This requirement also includes residential or housing type construction.

3.2.4 Existing Anchorage

Existing anchorages, to be used for attachment of personal fall arrest equipment, shall be certified (or re-certified) by a qualified person for fall protection in accordance with ANSI Z359.1 or European Union equivalent. Exiting horizontal lifeline anchorages shall be certified (or re-certified) by a registered professional engineer with experience in designing horizontal lifeline systems.

3.2.5 Horizontal Lifelines

Horizontal lifelines shall be designed, installed, certified and used under the supervision of a qualified person for fall protection as part of a complete fall arrest system which maintains a safety factor of 2.

3.2.6 Guardrails and Safety Nets

Guardrails and safety nets shall be designed, installed and used in accordance with EM 385-1-1 or Host Nation requirements, whichever is more stringent.

3.2.7 Rescue and Evacuation Procedures

When personal fall arrest systems are used, the contractor must ensure that the mishap victim can self-rescue or can be rescued promptly should a fall occur. A Rescue and Evacuation Plan shall be prepared by the contractor and include a detailed discussion of the following: methods of rescue; methods of self-rescue; equipment used; training requirement; specialized training for the rescuers; procedures for requesting rescue and medical assistance; and transportation routes to a medical facility. The Rescue and Evacuation Plan shall be included in the Activity Hazard Analysis (AHA) for the phase of work, in the Fall Protection and Prevention (FP&P) Plan, and the Accident Prevention Plan (APP).

3.3 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 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 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.

3.4 EQUIPMENT

3.4.1 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 trained/licensed in accordance with Host Nation requirements.

3.4.2 Weight Handling Equipment

a. Cranes and derricks shall be equipped as specified in EM-385-1-1 section 16.

b. 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.

c. 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. All testing shall be performed in accordance with the manufacturer's recommended procedures.

d. Under no circumstance shall a Contractor make a lift at or above 90% of the cranes rated capacity in any configuration.

e. 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.

f. Crane suspended personnel work platforms (baskets) shall not be used unless the Contractor proves to the satisfaction of the Contracting Officer 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.

g. Portable fire extinguishers shall be inspected, maintained, and recharged.

h. All employees shall be kept clear of loads about to be lifted and of suspended loads.

i. The Contractor shall use cribbing when performing lifts on outriggers.

j. The crane hook/block must be positioned directly over the load. Side loading of the crane is prohibited.

k. A physical barricade must be positioned to prevent personnel from entering the counterweight swing (tail swing) area of the crane.

l. 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.

m. 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.

n. Certify that all crane operators have been trained in proper use of all safety devices (e.g. anti-two block devices).

o. Take steps to ensure that wind speed does not contribute to loss of control of the load during lifting operations. Prior to conducting lifting operations the contractor shall set a maximum wind speed at which a crane can be safely operated based on the equipment being used, the load being lifted, experience of operators and riggers, and hazards on the work site. This maximum wind speed determination shall be included as part of the activity hazard analysis plan for that operation.

3.5 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.

3.5.1 Utility Locations

Prior to any excavation, all underground utilities in the work area must be positively identified by the contractor utilizing a) a private utility locating service in addition to any station locating service, and/or b) a metal and/or cable-detecting device along the route of the excavation. All underground utilities discovered will be flagged a distance of one-half (1/2) meter on each side of the location, and any markings made during the utility investigation must be maintained throughout the contract.

Damage occurring to existing utilities, when the above procedures are not followed, will be repaired at the Contractor's expense.

3.5.2 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 0.61 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.

3.5.3 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.

3.5.4 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.

3.6 UTILITIES WITHIN CONCRETE SLABS

Utilities located within concrete slabs or pier structures, bridges, and the like, are extremely difficult to identify due to the reinforcing steel used in the construction of these structures. Whenever contract work involves concrete chipping, saw cutting, or core drilling, the existing utility location must be coordinated with station utility departments in addition to a private locating service. Outages to isolate utility systems shall be used in circumstances where utilities are unable to be positively identified. The use of historical drawings does not alleviate the contractor from meeting this requirement.

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. In addition, provide electrical arc flash protection for personnel as required by NFPA 70E. Insulating blankets, hearing protection, and switching suits may also 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 or European Union equivalent.

3.8 WORK IN CONFINED SPACES

The Contractor shall comply with the requirements in Section 06.I of USACE EM 385-1-1. 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.06 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.08, 06.I.09 and 06.I.10 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.07 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 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 DEMOLITION

3.101.1 Demolition Plan

The Contractor shall submit a written demolition plan for all demolition work to be carried on the site. In addition, the demolition plan shall be signed by a Professional Registered Engineer and meet the requirements of the Corps of Engineers Safety and Health Manual, EM 385-1-1, section 23. The demolition plan shall be submitted to the COR at least 1 week before the beginning of the work, including structural calculations for the demolition, if necessary. The demolition work shall not begin before the Contractor has received a written approval from the COR.

3.12.1 Protection of Personnel

During the demolition work the Contractor shall continuously evaluate the condition of the structure being demolished and take immediate action to protect all personnel working in and around the demolition site. No area, section, or component of floors, roofs, walls, columns, pilasters, or other structural element will be allowed to be left standing without sufficient bracing, shoring, or lateral support to prevent collapse or failure while workers remove debris or perform other work in the immediate area.

3.10.1 Protection of Structures

Floors, roofs, walls, columns, pilasters, and other structural components that are designed and constructed to stand without lateral support or shoring, and are determined to be in stable condition, shall remain standing without additional bracing, shoring, or lateral support until demolished, unless directed otherwise by the COR. The Contractor shall ensure that no elements determined to be unstable are left unsupported and shall be responsible for placing and securing bracing, shoring, or lateral supports as may be required as a result of any cutting, removal, or demolition work performed under this contract.

Interior concrete or masonry walls shall be demolished from the top down unless a Registered Engineer can demonstrate that an alternate method poses no additional safety hazards

3.11 HOUSEKEEPING

3.11.1 Clean-Up

The Contractor shall be responsible for cleaning up. The Contractor shall require his personnel to keep the immediate work site clean of all dirt and debris resulting from work under this contract.

Accumulated dirt and debris shall be hauled off and disposed of in accordance with local law and at least once a week by the Contractor. Additionally, 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.

Stairwells used by the Contractor during execution of work shall be cleaned daily. Cloths, mops, and brushes containing combustible materials shall be disposed of or stored outside of the buildings in tight covered metal containers. Paints and thinners shall not be poured into inlets of the interior or exterior sewage system. Paint, stains, and other residues on adjacent surfaces or fixtures caused by the Contractor shall be carefully removed and cleaned to original finish. Upon completion of the work, the Contractor shall remove all construction equipment, materials and debris resulting from the work. The entire work site and the area used by Contractor personnel shall be left clean.

ATTACHMENT

STR 01525O – SAFETY AND OCCUPATIONAL HEALTH PHASING PLAN

- End of Section -

A. PURPOSE AND RESPONSIBILITIES:

1. The purpose of this SOH Phasing Plan is to establish controls and procedures to reduce the safety and occupational health risks on associated projects to an acceptable level. This SOH Phasing Plan is not intended to address all program SOH requirements, but provides general emphasis to certain procedures and requirements addressed in: EM 385-1-1, U.S. Army Corps of Engineers Safety and Health Requirements Manual

2. For contractor safety on projects associated with this program, compliance with EM 385-1-1 safety requirements will be the long-term goal reached by growing a safety culture. This compliance will, by necessity, be achieved through a phased-in process. In the Commander's letter at the preface of the EM 385-1-1, he acknowledges that in OCONUS locations, strict compliance with the manual may not be possible – and through the hazard analysis process, safety measures can be developed to attain the same degree of safety.

a. The exact timeline and methods of compliance, based generally on the Phase plan below will be determined by in-theater Project Delivery Team (PDT) partners responsible for safety, to include USACE Field Engineering/Construction/ Safety personnel, Prime Contractors and Local Subcontractors. The Prime Contractor, in partnership with the USACE and subcontractors, will develop a Safety and occupational Health Plan (SOHP) consisting of a specific Accident Prevention Plan (APP) and Activity Hazard Analysis for each project.

b. Each project SOHP will evolve as a living document, starting by dividing into phases to provide a goal with a timeline. Focus for the project safety program areas will be based on the following time-based phases.

Phase I: "Saving Lives". Establish achievable compliance methods and basic worker safety education to eliminate or reduce to an acceptable level the life-threatening conditions associated with high hazard construction activities.

- The initial high-hazard focus areas shall include:
  - Excavations
  - Fall Hazards
  - Electrical Work
  - Mobile Construction Equipment
  - Machinery
  - Confined Spaces
- Develop a basic worker safety and health practices manual/ guide and associated mandatory training for each Focus area listed above. These will be in English and local language, based on local conditions and practices and targeted at high-hazard activities.
- On all contract sites, the basic life-support will include First Aid Kits, and emergency communication.
- Contractor Accident Prevention Plans, Activity Hazard Analyses, and other safety-related systems under development with assistance by PDT

Phase II: "Building A Safety Culture" (Approximately one year, beginning at end of Phase I) Advanced safety education of local contractors and LN work force. Full contractor compliance with
USACE safety standards related to high-hazard situations, increased application of standards on all work.

- Workforce education and training to include all applicable requirements of EM 385-1-1 and International Safety Standards
- All required Personal Protective Equipment (PPE) available and used by workers in applicable work practices, as outlined in the EM 385-1-1.

- Contractor Accident Prevention Plans, Activity Hazard Analyses, and other safety-related systems refined to meet standard USACE expectations with assistance by PDT
- Standard Contractor Safety administrative responsibilities required, i.e.: Accident reporting, man-hour tracking, training documentation, First Aid personnel certification, fire protection, etc.

Phase III, "Full Performance" (beginning at end of Phase II) Full performance in compliance with EM 385-1-1 and other applicable laws, regulations, design codes and standards.
Where standard compliance is not possible, local methods may be used in accordance with implementing letter of EM 385-1-1 or through formal waiver process.

3. The PDT shall employ the "Plan, Do, Check, Act" process for implementing this SOHP as a living document. Each PDT member is responsible for planning for safety and health management within their area of responsibility, implementing agreed-on mitigation, checking to assure that the SOHP is being implemented and acting to adjust plans and implementation with a goal of continuous improvement. This plan will be reviewed and revised as needed at the initiation of each Phase listed above.

4. The PDT members shall cooperate in developing a listing of potential hazards associated with each project.

B. GOALS AND OBJECTIVES:

1. Goals. The safety and health goals of all projects are:
   a. Be accident free
   b. Detect and address safety and health problems early in the life of each project
   c. Do not accept unnecessary risk
   d. Every team member, to include contractors shall contribute to the safety and health of their fellow team members and assure that the product is free of inherent hazards to the user.
   e. Educate the workforce and promote Safety as a new way of doing business, show how the project and the employee benefit from Safety.

2. Objectives. The safety and health objectives of this program are:
   a. Managers, supervisors, and workers shall be held accountable, based on the current Phase, for safety and health.
   b. Safety and health expectations shall be communicated with the work force in their native language through the use of banners, flyers, and periodic safety meetings
   c. The work force shall have the safety and health training needed to perform the work at hand, based on the Phase.
   d. Injury and property damage shall be avoided through early detection and management of hazards

Phase I Interim Safety and Occupational Health Work Practices for USACE Contractor Projects

Phase I Safety Program

1. Contractors shall strive to maintain full compliance with the USACE Safety Requirements Manual, EM 385-1-1. This may not be easily achieved during this Phase, due to a number of factors. The focus for safety and health efforts during this Phase is Saving Lives – the prevention of deaths, permanently disabling injuries, and major property loss. The goal during this period is to provide the equipment and methods needed to save lives and to train the workforce in working safely and using the correct personal Protective Equipment (PPE).

2. In order to assist in achieving this goal immediately, the following interim standards shall be used (as a minimum acceptable standard) when full compliance with the EM 385-1-1 is not possible. Contractors shall provide these standards in to their workforce in the local language and shall provide training as needed to ensure worker awareness.

Basic Safety and Health Standards for Construction

A. USACE and the contractors must form a team to assure safety on every job site and prevent serious accidents. All unsafe conditions must be reported and the hazard reduced before work may proceed.

B. Personal Protective Equipment (PPE) may not always be available to every worker during this Phase. Where the equipment required by the USACE Safety Manual, EM 385-1-1, cannot be provided in a timely manner, the contractor shall develop methods that will provide a similar degree of safety (as accepted by USACE) and not expose the workers to serious risk. The mandatory minimum standards for all PPE are:

- Footwear: Closed-toe durable shoes or boots shall be worn by all workers on the project site. No sandals or sports shoes will be allowed, at no time will workers be allowed on the project site with bare feet. Safety footwear (steel-toe or other protection) should be worn by workers using steel rollers, tampers, jack hammers or carrying heavy objects (metal, concrete, stone)
- Head Protection: When they are available, hard hats should be worn by all construction workers when they are at the project. Hard Hats must be worn in overhead hazard areas including material hoisting/ lifting operations, areas below scaffolds and other elevated work, in excavations, and low ceiling areas that have sharp or hazardous projections. If they are not available, then workers must be kept away from these and other overhead hazard areas.
- Respirators: Workers exposed to toxic chemicals, vapors, gases and dusts must wear proper respiratory protection. Such exposure is expected in asbestos removal/ repair work, working with paints and solvents in rooms or enclosed spaces, and fuel production facilities. The employer must train the workers in the uses of the respirator and how to properly wear it. The minimum acceptable respirator is a negative pressure filter or cartridge half-face respirator that is correctly equipped for the hazard. Contractors shall consult and follow the ACGIH guidance for length of allowable exposure to the contaminant and workers shall not exceed the recommended time for exposure. Dust Masks will be worn when the work is producing visible dust.
- Eye Protection: Workers shall wear protective glasses, goggles, or visors when exposed to eye hazards. These hazards include concrete dust, stone and concrete chips from hammering, sandblasting, and power tool cutting or milling. Workers performing welding and cutting with torches or arc-welding equipment shall wear the proper shaded lenses in face shields and/ or goggles.
- Hearing Protection: Protective ear plugs shall be worn when workers are exposed to potentially damaging noise including jack hammers, flight line operations, power saws and grinders, and combustion engines without mufflers.
- Gloves: All workers shall have protective gloves appropriate to the task.
- Clothing: Workers shall wear clothing that protects their skin from damage – shirts and long pants at a minimum. Workers exposed to welding operations, chemicals, abrasive blasting, wet concrete, asbestos, and other hazardous contaminants will wear appropriate clothing for the hazard. Workers using power tools or operating equipment shall not wear very loose or flowing clothing that may get caught in the equipment.

C. Work Methods for Highly Hazardous Work: The following types of work and hazards are recognized as the leading cause of serious injuries and deaths in construction work. Each type of work has specific PPE and safety equipment that is required to do the work and also specific

procedures that must be followed every time the work is done. These interim measures are the minimum acceptable precautions. For each project, an Activity Hazard Analysis (AHA) shall be completed and, when possible, compliance with more restrictive methods of the EM 385-1-1 shall be achieved.

Workers shall be trained on the following safety precautions, the nature of the hazards involved, and any additional work methods used before performing each type of work

- Excavations
  - The Site Safety and Health Officer will be contacted for inspection of the work prior to digging. The SSHO will assist in any safety equipment or techniques that are required to avoid injury. They will also provide a safety check on the location to assure the there are no underground hazards at the site.
  - All excavations or unsafe areas will be marked with barricades or warning tape. These warnings must be maintained and visible until the area is restored to a safe condition.
  - When workers will enter trenches, the walls shall be sloped according to the type of soil or shoring, trench boxes, or other structures will be used to protect workers from collapsing walls
  - Soil removed from trenches will not be placed at the edge of the trench – it must be placed back at least 1 meter from the edge.
  - Vehicles and construction equipment must not be parked closer than 2 meters from the edge of an excavation.
  - Excavation walls shall be inspected regularly during each day to check for cracks, bulges, large stones, sandy areas, and failure of the wall. If these conditions are found, nobody may enter the excavation and the damaged area must be dug out or braced.

- Fall Hazards
  - When working above 2 meters from the ground or another level, all workers shall be protected from falling. The SSHO will inspect prior to beginning work to be sure the work methods are safe. Inspection will include work on ladders, scaffolds, and other elevated work areas.
  - Protection systems shall be sturdy railings, walls, or other structures
  - If there are no structures to protect workers, body belts or harnesses shall be used along with lanyards.
  - Body belts should be mainly be used only to prevent a worker from falling over an edge or off a structure.
  - Body belts and harnesses can both be used as fall protection (stopping a falling worker). The lanyard shall be rope strong enough to withstand the shock of stopping the worker's weight, and they shall be as short as possible, to limit the shock force. Lanyards shall never allow a worker to fall more than 2 meters. It is recommended that lanyards without shock absorber devices be no longer than 1 meter.

- Electrical Work
  - All circuits, wires, and electrical devices shall be tested with a volt meter and found to be de-energized before workers touch the energized parts
  - Controls, switches, and other means for energizing the circuit or equipment shall be tagged "do not operate"
  - Workers shall not work closer to energized systems than the distances listed in the USACE manual.
  - Temporary electrical systems shall be grounded and tested for good ground resistance before use.

- Power tools shall be protected from water and damage, and their cords must be insulated. Cords must be factory installed or equivalent replacements, including safety grip plug and cord boot.
- Extension cords will be in safe, good working order.

- Mobile Construction Equipment
  - If equipment, particularly cranes, are damaged the repairs shall be done by a competent repair person and verified by the SSHO prior to being brought back into service.
  - Nobody may ride outside the cab of construction equipment. Specifically, no riders may ever be in loader buckets, bulldozer blades, on forklift forks, or suspended by a crane.
  - When workers are nearby, construction equipment must have reverse signal alarms or shall use a spotter standing away from the equipment. The spotter must be visible by the driver and positioned to see the area behind the equipment.
  - Construction equipment must work a safe distance from electrical systems, based on the voltage.
  - Cranes must be used according to the manufacturer. If no manufacturer data is available, a load chart shall be developed by a qualified engineer.
  - Workers should stay out of the radius of the crane boom during a lift.
  - Lifting ropes shall be inspected daily for breaks and failure of hardware and fittings.
  - Nobody shall ever ride the hook or load of a crane.

- Machinery
  - Rotating shafts, wheels, blades, and other hazardous parts shall have guards to prevent workers from being injured.
  - Fuel-powered machinery must not be operated indoors or near enclosed areas without using powered ventilation to prevent toxic CO build-up.
  - Metal housings of electrically powered equipment must be grounded

- Confined Spaces
  - The SSHO will pre-approve any work in a confined space, such as in a tank, sewer, manhole or any other enclosed area. The SSHO will inspect the work and assist with any safety equipment or techniques that are required.
  - All permit-required confined spaces (PRCS) on a project shall have signs prohibiting entry.
  - Entrants, supervisors, and attendants for PRCS shall be properly trained.
  - When available, oxygen/flammable/toxic gas meters shall be used for all PRCS. This equipment must be used to evaluate the air in all spaces known or suspected to have contained flammable or toxic chemicals or contain sewage, rotting vegetation or other organic matter.
  - For spaces not meeting the above criteria, mechanical ventilation fans shall be used to clear the air in the space when meters are not available. Based on the air flow of the fan, it shall exhaust the total volume of the space a minimum of seven times prior to entry.
  - All entrants shall wear a harness, body belt, or other device attached to a rope sufficient to retrieve the worker in an emergency.
  - Permits should be used during PRCS entry. If not possible, then some visible means, such as flags or tags outside the entrance, shall be used so supervisors can see when workers are in the space.

- Gas Cylinders
  - Pressurized gas cylinders, such as Oxygen and Acetylene tanks will be stored in a holding stand/ cart to prevent them from falling over. Cylinders will not be placed free on the ground or standing free. If the bottle is not in use the valve will be removed.

D. Child Labor. Minors under the age of 18 may not perform any of the above hazardous work. Additionally, these minors can not perform any hazardous work such as operating dangerous power tools (circular saws, jack hammers, lathes, etc), driving vehicles, be exterior assistants for vehicle operators or operating mobile construction equipment, explosives work, work at heights over 2 meters without standard railings, electrical work, entering excavations, and work with toxic substances.

-- End of Section --

SPECIFICATION SECTION 01770

CLOSEOUT PROCEDURES

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 01335 SUBMITTAL PROCEDURES:

SD-10 Operation and Maintenance Data
Equipment/Product Warranty List; G
Submit Data Package 1 in accordance with Section 01781 OPERATION AND MAINTENANCE DATA.

SD-11 Closeout Submittals
As-Built Drawings; G
Record Of Materials; G
Equipment/Product Warranty Tag; G

1.2 PROJECT RECORD DOCUMENTS

1.2.1 As-Built Drawings

As built drawings shall be submitted in 2 full-size, 2 half-size paper drawing sets, and 4 digital CD copies made of complete AUTOCAD drawings and PDF drawings. Digital files shall be well indexed in the similar fashion as paper documents.

1.2.2 As-Built Record of Materials

Furnish a record of materials.

Where several manufacturers' brands, types, or classes of the item listed have been used in the project, designate specific areas where each item was used. Designations shall be keyed to the areas and spaces depicted on the contract drawing. Furnish the record of materials used in the following format:

MATERIALS DESIGNATION	SPECIFICATION	MANUFACTURER	MATERIALS USED (MANUFACTURER'S DESIGNATION)	WHERE USED

1.3 EQUIPMENT/PRODUCT WARRANTIES

1.3.1 Equipment/Product Warranty List

The Contractor shall develop a warranty management plan which shall contain information relevant to the clause Warranty of Construction. At least 30 days before the planned pre-warranty conference, the Contractor shall submit the warranty management plan for Government approval. The warranty management plan shall include all required actions and documents to assure that the Government receives all warranties to which it is entitled. The plan shall be in narrative form and contain sufficient detail to render it suitable for use by future maintenance and repair personnel, whether tradesmen, or of engineering background, not necessarily familiar with this contract. The term "status" as indicated below shall include due date and whether item has been submitted or was accomplished. Warranty information made available during the construction phase shall be submitted to the Contracting Officer for approval prior to each monthly pay estimate. Approved information shall be assembled in a binder and shall be turned over to the Government upon acceptance of the work. The construction warranty period shall begin on the date of project acceptance and shall continue for the full product warranty period. A joint 4 month and 9 month warranty inspection shall be conducted, measured from time of acceptance, by the Contractor, Contracting Officer and the Customer Representative. Information contained in the warranty management plan shall include, but shall not be limited to, the following:

a. Roles and responsibilities of all personnel associated with the warranty process, including points of contact and telephone numbers within the organizations of the Contractors, subcontractors, manufacturers or suppliers involved.

b. Listing and status of delivery of all Certificates of Warranty for extended warranty items, to include roofs, HVAC balancing, pumps, motors, transformers, and for all commissioned systems such as fire protection and alarm systems, sprinkler systems, lightning protection systems, etc.

c. A list for each warranted equipment, item, feature of construction or system indicating:

1. Name of item.
2. Model and serial numbers.
3. Location where installed.
4. Name and phone numbers of manufacturers or suppliers.
5. Names, addresses and telephone numbers of sources of spare parts.
6. Warranties and terms of warranty. This shall include one-year overall warranty of construction. Items which have extended warranties shall be indicated with separate warranty expiration dates.
7. Cross-reference to warranty certificates as applicable.
8. Starting point and duration of warranty period.
9. Summary of maintenance procedures required to continue the warranty in force.
10. Cross-reference to specific pertinent Operation and Maintenance manuals.
11. Organization, names and phone numbers of persons to call for warranty service.
12. Typical response time and repair time expected for various warranted equipment.

d. The Contractor's plans for attendance at the 4 and 9 month post-construction warranty inspections conducted by the Government.

e. Procedure and status of tagging of all equipment covered by extended warranties.

f. Copies of instructions to be posted near selected pieces of equipment where operation is critical for warranty and/or safety reasons.

1.3.2 Performance of Warranty Work

In the event the Contractor fails to commence and diligently pursue any construction warranty work required, the Contracting Officer will have the work performed by others, and after completion of the work, will charge the remaining construction warranty funds of expenses incurred by the Government while performing the work, including, but not limited to administrative expenses.

Following oral or written notification of required construction warranty repair work, the Contractor shall respond in a timely manner. Written verification will follow oral instructions. Failure of the Contractor to respond will be cause for the Contracting Officer to proceed against the Contractor.

1.3.3 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.

1.3.4 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 AND BALANCING

All contract requirements for testing/adjusting/balancing shall be fully completed, including all testing, prior to contract completion date. The time required to complete all testing/adjusting/balancing is included in the allotted calendar days for completion.

1.5 FINAL CLEANING

The premises shall be left broom clean. Stains, foreign substances, and temporary labels shall be removed from surfaces. Carpet and soft surfaces shall be vacuumed. Equipment and fixtures shall be cleaned to a sanitary condition. Filters of operating equipment shall be replaced. Debris shall be removed from roofs, drainage systems, gutters, and downspouts. 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 --

SECTION 01780A

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 Contractor Quality Control approval. 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 01335 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

As-Built Drawings

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.

SD-03 Product Data

As-Built Record of Equipment and Materials

Two copies of the record listing the as-built materials and equipment incorporated into the construction of the project.

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

Two copies of the listing of completed final clean-up items.

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 the specified software and 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.

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 Circle shall be placed at the location of each deletion.

(3) For new details or sections which are added to a drawing, a Modification Circle shall be placed by the detail or section title.

(4) For minor changes, a Modification Circle shall be placed by the area changed on the drawing (each location).

(5) For major changes to a drawing, a Modification Circle 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 Circle shall be placed either by the schedule heading or by the change in the schedule.

(7) The Modification Circle size shall be 12.7 mm 1/2 inch diameter unless the area where the circle is to be placed is crowded. Smaller size circle 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 or Microstation V8 format compatible with a Window 2000 or Windows XP operating system. 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 Contracting Officer will review final as-built drawings for accuracy and the Contractor shall make required corrections, changes, additions, and deletions.

a. CADD colors shall be the "base" colors of red, green, and blue. Color code for changes shall be as follows:

(1) Deletions (red) - Deleted graphic items (lines) shall be colored red with red lettering in notes and leaders.

(2) Additions (Green) - Added items shall be drawn in green with green lettering in notes and leaders.

(3) Special (Blue) - Items requiring special information, coordination, or special detailing or detailing notes shall be in blue.

b. 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.

c. When final revisions have been completed, the cover sheet drawing shall show the wording "RECORD DRAWING AS-BUILT" followed by the name of the Contractor in letters at least 5 mm 3/16 inch high. All other contract drawings shall be marked either "AS-Built" drawing denoting no revisions on the sheet or "Revised As-Built" denoting one or more revisions. Original contract drawings shall be dated in the revision block.

d. Within 20days for contracts $5 million and above after Government approval of all of the working as-built drawings for a phase of work, the Contractor shall prepare the final CADD as-built drawings for that phase of work and submit two sets of blue-lined prints of these drawings for Government review and approval. The Government will promptly return one set of prints annotated with any necessary corrections. Within 10 days for contracts $5 million and above the Contractor shall revise the CADD files accordingly at no additional cost and submit one set of final prints for the completed phase of work to the Government. Within 20 days for contracts $5 million and above of substantial completion of all phases of work, the Contractor shall submit the final as-built drawing package for the entire project. The submittal shall consist of one set of electronic files on compact disc, read-only memory (CD-ROM), one set of mylars, two sets of blue-line prints and one set of the approved working as-built drawings. They shall be complete in all details and identical in form and function to the contract drawing files supplied by the Government. Any transactions or adjustments necessary to accomplish this is the responsibility of the Contractor. The Government reserves the right to reject any drawing files it deems incompatible with the customer's CADD system. Paper prints, drawing files and storage media submitted will become the property of the Government upon final approval. Failure to submit final as-built drawing files and marked prints as specified shall be cause for withholding any payment due the Contractor under this contract. Approval and acceptance of final as-built drawings shall be accomplished before final payment is made to the Contractor.

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 Warranty Management Plan

The Contractor shall develop a warranty management plan which shall contain information relevant to the clause Warranty of Construction. At least 30 days before the planned pre-warranty conference, the Contractor shall submit the warranty management plan for Government approval. The warranty management plan shall include all required actions and documents to assure that the Government receives all warranties to which it is entitled. The plan shall be in narrative form and contain sufficient detail to render it suitable for use by future maintenance and repair personnel, whether tradesmen, or of engineering background, not necessarily familiar with this contract. The term "status" as indicated below shall include due date and whether item has been submitted or was accomplished. Warranty information made available during the construction phase shall be submitted to the Contracting Officer for approval prior to each monthly pay estimate. Approved information shall be assembled in a binder and shall be turned over to the Government upon acceptance of the work. The construction warranty period shall begin on the date of project acceptance and shall continue for the full product warranty period. A joint 4 month and 9 month warranty inspection shall be conducted, measured from time of acceptance, by the Contractor, Contracting Officer and the Customer Representative. Information contained in the warranty management plan shall include, but shall not be limited to, the following:

a. Roles and responsibilities of all personnel associated with the warranty process, including points of contact and telephone numbers within the organizations of the Contractors, subContractors, manufacturers or suppliers involved.

b. Listing and status of delivery of all Certificates of Warranty for extended warranty items, to include roofs, HVAC balancing, pumps, motors, transformers, and for all commissioned systems such as fire protection and alarm systems, sprinkler systems, lightning protection systems, etc.

c. A list for each warranted equipment, item, feature of construction or system indicating:

1. Name of item.

2. Model and serial numbers.
3. Location where installed.
4. Name and phone numbers of manufacturers or suppliers.
5. Names, addresses and telephone numbers of sources of spare parts.
6. Warranties and terms of warranty. This shall include one-year overall warranty of construction. Items which have extended warranties shall be indicated with separate warranty expiration dates.
7. Cross-reference to warranty certificates as applicable.
8. Starting point and duration of warranty period.
9. Summary of maintenance procedures required to continue the warranty in force.
10. Cross-reference to specific pertinent Operation and Maintenance manuals.
11. Organization, names and phone numbers of persons to call for warranty service.
12. Typical response time and repair time expected for various warranted equipment.

d. The Contractor's plans for attendance at the 4 and 9 month post-construction warranty inspections conducted by the Government.

e. Procedure and status of tagging of all equipment covered by extended warranties.

f. Copies of instructions to be posted near selected pieces of equipment where operation is critical for warranty and/or safety reasons.

1.3.2 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.

1.3.3 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.
2) No gas to family housing unit or cantonment area.

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.

1.3.5 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 inapplicable technical specification sections.

1.5 OPERATION AND MAINTENANCE MANUALS

Operation manuals and maintenance manuals shall be submitted as specified. Operation manuals and maintenance manuals provided in a common volume shall be clearly differentiated and shall be separately indexed.

1.6 FINAL CLEANING

The premises shall be left broom clean. Stains, foreign substances, and temporary labels shall be removed from surfaces. Carpet and soft surfaces shall be vacuumed. Equipment and fixtures shall be cleaned to a sanitary condition. Filters of operating equipment shall be replaced. Debris shall be removed from roofs, drainage systems, gutters, and downspouts. 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 -

SECTION 01781

OPERATION AND MAINTENANCE DATA

PART 1 GENERAL

1.1 SUBMISSION OF OPERATION AND MAINTENANCE DATA

Submit Operation and Maintenance (O&M) Data specifically applicable to this contract and a complete and concise depiction of the provided equipment, product, or system. Organize and present information in sufficient detail to clearly explain O&M requirements at the system, equipment, component, and subassembly level. Include an index preceding each submittal. Submit in accordance with this section and Section 01335 SUBMITTAL PROCEDURES.

1.1.1 Package Quality

Documents must be fully legible. Poor quality copies and material with hole punches obliterating the text or drawings will not be accepted.

1.1.2 Package Content

Data package content shall be as shown in the paragraph titled "Schedule of Operation and Maintenance Data Packages." Comply with the data package requirements specified in the individual technical sections, including the content of the packages and addressing each product, component, and system designated for data package submission.

1.1.3 Changes to Submittals

Manufacturer-originated changes or revisions to submitted data shall be furnished by the Contractor if a component of an item is so affected subsequent to acceptance of the O&M Data. Changes, additions, or revisions required by the Contracting Officer for final acceptance of submitted data, shall be submitted by the Contractor within 30 calendar days of the notification of this change requirement.

1.2 TYPES OF INFORMATION REQUIRED IN O&M DATA PACKAGES

1.2.1 Operating Instructions

Include specific instructions, procedures, and illustrations for the following phases of operation:

1.2.1.1 Safety Precautions

List personnel hazards and equipment or product safety precautions for all operating conditions.

1.2.1.2 Operator Prestart

Include procedures required to set up and prepare each system for use.

1.2.1.3 Startup, Shutdown, and Post-Shutdown Procedures

Provide narrative description for Startup, Shutdown and Post-shutdown operating procedures including the control sequence for each procedure.

1.2.1.4 Normal Operations

Provide narrative description of Normal Operating Procedures. Include Control Diagrams with data to explain operation and control of systems and specific equipment.

1.2.1.5 Emergency Operations

Include Emergency Procedures for equipment malfunctions to permit a short period of continued operation or to shut down the equipment to prevent further damage to systems and equipment. Include Emergency Shutdown Instructions for fire, explosion, spills, or other foreseeable contingencies. Provide guidance and procedures for emergency operation of all utility systems including required valve positions, valve locations and zones or portions of systems controlled.

1.2.1.6 Operator Service Requirements

Include instructions for services to be performed by the operator such as lubrication, adjustment, inspection, and recording gage readings.

1.2.1.7 Environmental Conditions

Include a list of Environmental Conditions (temperature, humidity, and other relevant data) that are best suited for the operation of each product, component or system. Describe conditions under which the item equipment should not be allowed to run.

1.2.2 Preventive Maintenance

Include the following information for preventive and scheduled maintenance to minimize corrective maintenance and repair.

1.2.2.1 Lubrication Data

Include preventative maintenance lubrication data, in addition to instructions for lubrication provided under paragraph titled "Operator Service Requirements":

a. A table showing recommended lubricants for specific temperature ranges and applications.
b. Charts with a schematic diagram of the equipment showing lubrication points, recommended types and grades of lubricants, and capacities.
c. A Lubrication Schedule showing service interval frequency.

1.2.2.2 Preventive Maintenance Plan and Schedule

Include manufacturer's schedule for routine preventive maintenance, inspections, tests and adjustments required to ensure proper and economical operation and to minimize corrective maintenance. Provide manufacturer's projection of preventive maintenance work-hours on a daily, weekly, monthly, and annual basis including craft requirements by type of craft. For periodic calibrations, provide manufacturer's specified frequency and

procedures for each separate operation.

1.2.3 Corrective Maintenance (Repair)

Include manufacturer's recommended procedures and instructions for correcting problems and making repairs.

1.2.3.1 Troubleshooting Guides and Diagnostic Techniques

Include step-by-step procedures to promptly isolate the cause of typical malfunctions. Describe clearly why the checkout is performed and what conditions are to be sought. Identify tests or inspections and test equipment required to determine whether parts and equipment may be reused or require replacement.

1.2.3.2 Wiring Diagrams and Control Diagrams

Wiring diagrams and control diagrams shall be point-to-point drawings of wiring and control circuits including factory-field interfaces. Provide a complete and accurate depiction of the actual job specific wiring and control work. On diagrams, number electrical and electronic wiring and pneumatic control tubing and the terminals for each type, identically to actual installation configuration and numbering.

1.2.3.3 Maintenance and Repair Procedures

Include instructions and a list of tools required to repair or restore the product or equipment to proper condition or operating standards.

1.2.3.4 Removal and Replacement Instructions

Include step-by-step procedures and a list required tools and supplies for removal, replacement, disassembly, and assembly of components, assemblies, subassemblies, accessories, and attachments. Provide tolerances, dimensions, settings and adjustments required. Instructions shall include a combination of text and illustrations.

1.2.3.5 Spare Parts and Supply Lists

Include lists of spare parts and supplies required for maintenance and repair to ensure continued service or operation without unreasonable delays. Special consideration is required for facilities at remote locations. List spare parts and supplies that have a long lead-time to obtain.

1.2.4 Corrective Maintenance Work-Hours

Include manufacturer's projection of corrective maintenance work-hours including requirements by type of craft. Corrective maintenance that requires completion or participation of the equipment manufacturer shall be identified and tabulated separately.

1.2.5 Appendices

Provide information required below and information not specified in the preceding paragraphs but pertinent to the maintenance or operation of the product or equipment. Include the following:

1.2.6 Parts Identification

Provide identification and coverage for all parts of each component, assembly, subassembly, and accessory of the end items subject to replacement. Include special hardware requirements, such as requirement to use high-strength bolts and nuts. Identify parts by make, model, serial number, and source of supply to allow reordering without further identification. Provide clear and legible illustrations, drawings, and exploded views to enable easy identification of the items. When illustrations omit the part numbers and description, both the illustrations and separate listing shall show the index, reference, or key number that will cross-reference the illustrated part to the listed part. Parts shown in the listings shall be grouped by components, assemblies, and subassemblies in accordance with the manufacturer's standard practice. Parts data may cover more than one model or series of equipment, components, assemblies, subassemblies, attachments, or accessories, such as typically shown in a master parts catalog

1.2.6.1 Warranty Information

List and explain the various warranties and include the servicing and technical precautions prescribed by the manufacturers or contract documents in order to keep warranties in force. Include warranty information for primary components such as the compressor of air conditioning system.

1.2.6.2 Personnel Training Requirements

Provide information available from the manufacturers that is needed for use in training designated personnel to properly operate and maintain the equipment and systems.

1.2.6.3 Testing Equipment and Special Tool Information

Include information on test equipment required to perform specified tests and on special tools needed for the operation, maintenance, and repair of components.

1.2.6.4 Contractor Information

Provide a list that includes the name, address, and telephone number of the General Contractor and each Subcontractor who installed the product or equipment, or system. For each item, also provide the name address and telephone number of the manufacturer's representative and service organization most convenient to the project site. Provide the name, address, and telephone number of the product, equipment, and system manufacturers.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 TRAINING

Unless provided for elsewhere, the Contractor shall provide operational and maintenance training for all systems furnished under this contract in accordance with this section. The training shall not take place until the operation and maintenance manuals are submitted and

approved.

Training will be given to personnel responsible for the operation and maintenance of the system at the installation. Orient training to the specific system being installed under this contract. Use operation and maintenance manual as the primary instructional aid in contractor provided activity personnel training. Manuals shall be delivered for each trainee with two additional sets delivered for archiving at the project site. Submit a training course schedule, syllabus, and training materials 14 days prior to the start of training. Obtain approval of the training course before beginning that phase of training. Furnish a qualified instructor approved by the system manufacturer to conduct training for the specific system.

Training manuals shall include an agenda, defined objectives and a detailed description of the subject matter for each lesson. Furnish audio-visual equipment and all other training materials and supplies. A training day is defined as 8 hours of classroom or lab instruction, including two 15 minute breaks and excluding lunch time, Monday through Friday, during the daytime shift in effect at the training facility. For guidance, the Contractor should assume the attendees will have a high school education.

The Contractor shall videotape the training session on VHS tapes and provide the tapes to the Government.

-- End of Section --

ADDITIONAL INSTRUCTIONS

1. AI 22.1 Prohibition Against Human Trafficking, Inhumane Living Conditions, and Withholding of Employee Passports: Insert in Section H (Section 00800).

2. AI 25.1 Armed Personnel –Incidents Reports(5 Nov 2007) . Put in Section H (Section 00800).

3. AI 25.2 Fitness for Duty and Limits on Medical / Dental Care in Iraq and Afghanistan(5 Nov 07). Insert in Section H (Section 00800).

4. A1 25.3 Compliance with Law and Regulations (5 Nov 07). Insert Section H (Section 00800).

5. AI 25.4 Quarterly Contractor Census Reporting (12 Nov 07). Insert in Section H (Section 00800).

6 . AI 26.5 Afghanistan Socioeconomic Programs (5 Nov 07) **(Not implemented until the DFARS is modified).**

7. AI 26.6 projected Afghan and Third Country National (TCN) Employment (5 Nov 07). Insert in Section K (Section 00600).

8. AI 52.6 Arming Requirements and Procedures for Private Security Contacts, Detail Contacts and Personal Protection (5 Nov 07). Insert in Section H (Section 00800)

9. Afghanistan “Afghan First” Program Implementation. Although Afghan First is not implemented until the DFAR is changed we are inserting this in Section H (Section 00800).

10. DFAR 225-7402-4 SPOT (Synchronized Predeployment and Operational Tracker) This consists of DFAR cause 252.225-7040 and DoD Deviations 2007-O0004 and 2007-O00010. Insert in Section I.

DFAR 252.225.7040 and DoD Class Deviations 2007-O0004. Insert the following in Section 00700 to implement SPOT.

DFAR 252.225-7040 CONTRACTOR PERSONNEL AUTHORIZED TO ACCOMPANY U.S. ARMED FORCES DEPLOYED OUTSIDE THE UNITED STATES (JUN 2006)

(a) *Definitions*. As used in this clause—

"Combatant Commander" means the commander of a unified or specified combatant command established in accordance with 10 U.S.C. 161.

"Other military operations" means a range of military force responses that can be projected to accomplish assigned tasks. Such operations may include one or a combination of the following: civic action, humanitarian assistance, civil affairs, and other military activities to develop positive relationships with other countries; confidence building and other measures to reduce military tensions; military presence; activities to convey messages to adversaries; military deceptions and psychological operations; quarantines, blockades, and harassment operations; raids; intervention operations; armed conflict involving air, land, maritime, and strategic warfare operations; support for law enforcement authorities to counter international criminal activities (terrorism, narcotics trafficking, slavery, and piracy); support for law enforcement authorities to suppress domestic rebellion; and support for insurgency, counterinsurgency, and civil war in foreign countries.

"Theater of operations" means an area defined by the combatant commander for the conduct or support of specified operations.

(b) *General*.

(1) This clause applies when Contractor personnel are authorized to accompany U.S. Armed Forces deployed outside the United States in—

(i) Contingency operations;

(ii) Humanitarian or peacekeeping operations;

(iii) Other military operations; or

(iv) Military exercises designated by the Combatant Commander.

(2) Contract performance in support of U.S. Armed Forces deployed outside the United States may require work in dangerous or austere conditions. The Contractor accepts the risks associated with required contract performance in such operations.

(3) Contractor personnel are civilians accompanying the U.S. Armed Forces.

(i) Except as provided in paragraph (b)(3)(ii) of this clause, Contractor personnel are not authorized to use deadly force against enemy armed forces other than in self-defense.

(ii) Private security Contractor personnel are authorized to use deadly force only when necessary to execute their security mission to protect assets/persons, consistent with the mission statement contained in their contract.

(iii) Civilians who accompany the U.S. Armed Forces lose their law of war protection from direct attack if and for such time as they take a direct part in hostilities.

(4) Service performed by Contractor personnel subject to this clause is not active duty or service under 38

U.S.C. 106 note.

(c) *Support*.

(1)(i) The Combatant Commander will develop a security plan for protection of Contractor personnel in locations where there is not sufficient or legitimate civil authority, when the Combatant Commander decides it is in the interests of the Government to provide security because—

(A) The Contractor cannot obtain effective security services;

(B) Effective security services are unavailable at a reasonable cost; or

(C) Threat conditions necessitate security through military means.

(ii) The Contracting Officer shall include in the contract the level of protection to be provided to Contractor personnel.

(iii) In appropriate cases, the Combatant Commander may provide security through military means, commensurate with the level of security provided DoD civilians.

(2)(i) Generally, all Contractor personnel authorized to accompany the U.S. Armed Forces in the theater of operations may be provided resuscitative care, stabilization, hospitalization at level III military treatment facilities, and assistance with patient movement in emergencies where loss of life, limb, or eyesight could occur. Hospitalization will be limited to stabilization and short-term medical treatment with an emphasis on return to duty or placement in the patient movement system.

(ii) When the Government provides medical treatment or transportation of Contractor personnel to a selected civilian facility, the Contractor shall ensure that the Government is reimbursed for any costs associated with such treatment or transportation.

(iii) Medical or dental care beyond this standard is not authorized unless specified elsewhere in this contract.

(3) Unless specified elsewhere in this contract, the Contractor is responsible for all other support required for its personnel engaged in the theater of operations under this contract.

(4) Contractor personnel must have a letter of authorization issued by the Contracting Officer in order to process through a deployment center or to travel to, from, or within the theater of operations. The letter of authorization also will identify any additional authorizations, privileges, or Government support that Contractor personnel are entitled to under this contract.

(d) *Compliance with laws and regulations*. The Contractor shall comply with, and shall ensure that its personnel authorized to accompany U.S. Armed Forces deployed outside the United States as specified in paragraph (b)(1) of this clause are familiar with and comply with, all applicable—

(1) United States, host country, and third country national laws;

(2) Treaties and international agreements;

(3) United States regulations, directives, instructions, policies, and procedures; and

(4) Orders, directives, and instructions issued by the Combatant Commander, including those relating to force protection, security, health, safety, or relations and interaction with local nationals.

(e) *Pre-deployment requirements*. (1) The Contractor shall ensure that the following requirements are met prior to

deploying personnel in support of U.S. Armed Forces. Specific requirements for each category may be specified in the statement of work or elsewhere in the contract.

(i) All required security and background checks are complete and acceptable.

(ii) All deploying personnel meet the minimum medical screening requirements and have received all required immunizations as specified in the contract. The Government will provide, at no cost to the Contractor, any theater-specific immunizations and/or medications not available to the general public.

(iii) Deploying personnel have all necessary passports, visas, and other documents required to enter and exit a theater of operations and have a Geneva Conventions identification card, or other appropriate DoD identity credential, from the deployment center. Any Common Access Card issued to deploying personnel shall contain the access permissions allowed by the letter of authorization issued in accordance with paragraph (c)(4) of this clause.

(iv) Special area, country, and theater clearance is obtained for personnel. Clearance requirements are in DoD Directive 4500.54, Official Temporary Duty Abroad, and DoD 4500.54-G, DoD Foreign Clearance Guide. Contractor personnel are considered non-DoD personnel traveling under DoD sponsorship.

(v) All personnel have received personal security training. At a minimum, the training shall—

(A) Cover safety and security issues facing employees overseas;

(B) Identify safety and security contingency planning activities; and

(C) Identify ways to utilize safety and security personnel and other resources appropriately.

(vi) All personnel have received isolated personnel training, if specified in the contract.

(2) The Contractor shall notify all personnel who are not a host country national, or who are not ordinarily resident in the host country, that—

(i) Such employees, and dependents residing with such employees, who engage in conduct outside the United States that would constitute an offense punishable by imprisonment for more than one year if the conduct had been engaged in within the special maritime and territorial jurisdiction of the United States, may potentially be subject to the criminal jurisdiction of the United States in accordance with the Military Extraterritorial Jurisdiction Act of 2000 (18 U.S.C. 3621, *et seq*.);

(ii) Pursuant to the War Crimes Act (18 U.S.C. 2441), Federal criminal jurisdiction also extends to conduct that is determined to constitute a violation of the law of war when committed by a civilian national of the United States;

(iii) Other laws may provide for prosecution of U.S. nationals who commit offenses on the premises of U.S. diplomatic, consular, military or other U.S. Government missions outside the United States (18 U.S.C. 7(9)); and

(iv) When there is a formal declaration of war by Congress, Contractor personnel authorized to accompany U.S. Armed Forces may be subject to prosecution under the Uniform Code of Military Justice.

(f) *Processing and departure points*. Deployed Contractor personnel shall—

(1) Process through the deployment center designated in the contract, or as otherwise directed by the Contracting Officer, prior to deploying. The deployment center will conduct deployment processing to ensure visibility and accountability of Contractor personnel and to ensure that all deployment requirements are met, including the requirements specified in paragraph (e)(1) of this clause;

(2) Use the point of departure and transportation mode directed by the Contracting Officer; and

(3) Process through a Joint Reception Center (JRC) upon arrival at the deployed location. The JRC will validate personnel accountability, ensure that specific theater of operations entrance requirements are met, and brief Contractor personnel on theater-specific policies and procedures.

(g) *Personnel data list.*

(1) In accordance with DoD Instruction 3020.41, Contractor Personnel Authorized to Accompany the U.S. Armed Forces, the Contractor shall establish and maintain with the designated Government official a current list of all Contractor personnel that deploy with or otherwise provide support in the theater of operations to U.S. Armed Forces as specified in paragraph (b)(1) of this clause. The list shall include each individual's general location in the theater of operations. The Contracting Officer will inform the Contractor of the Government official designated to receive this data and the appropriate automated system(s) to use for this effort.

(2) The Contractor shall ensure that all employees on the list have a current DD Form 93, Record of Emergency Data Card, on file with both the Contractor and the designated Government official.

(h) *Contractor personnel*.

(1) The Contracting Officer may direct the Contractor, at its own expense, to remove and replace any Contractor personnel who jeopardize or interfere with mission accomplishment or who fail to comply with or violate applicable requirements of this clause. Such action may be taken at the Government's discretion without prejudice to its rights under any other provision of this contract, including the Termination for Default clause.

(2) The Contractor shall have a plan on file showing how the Contractor would replace employees who are unavailable for deployment or who need to be replaced during deployment. The Contractor shall keep this plan current and shall provide a copy to the Contracting Officer upon request. The plan shall—

(i) Identify all personnel who are subject to military mobilization;

(ii) Detail how the position would be filled if the individual were mobilized; and

(iii) Identify all personnel who occupy a position that the Contracting Officer has designated as mission essential.

(i) *Military clothing and protective equipment.*

(1) Contractor personnel are prohibited from wearing military clothing unless specifically authorized in writing by the Combatant Commander. If authorized to wear military clothing, Contractor personnel must—

(i) Wear distinctive patches, arm bands, nametags, or headgear, in order to be distinguishable from military personnel, consistent with force protection measures; and

(ii) Carry the written authorization with them at all times.

(2) Contractor personnel may wear military-unique organizational clothing and individual equipment (OCIE) required for safety and security, such as ballistic, nuclear, biological, or chemical protective equipment.

(3) The deployment center, or the Combatant Commander, shall issue OCIE and shall provide training, if necessary, to ensure the safety and security of Contractor personnel.

(4) The Contractor shall ensure that all issued OCIE is returned to the point of issue, unless otherwise directed by the Contracting Officer.

(j) *Weapons*.

(1) If the Contractor requests that its personnel performing in the theater of operations be authorized to carry weapons, the request shall be made through the Contracting Officer to the Combatant Commander, in accordance with DoD Instruction 3020.41, paragraph 6.3.4.1 or, if the contract is for security services, paragraph 6.3.5.3. The Combatant Commander will determine whether to authorize in-theater Contractor personnel to carry weapons and what weapons and ammunition will be allowed.

(2) If the Contracting Officer, subject to the approval of the Combatant Commander, authorizes the carrying of weapons—

(i) The Contracting Officer may authorize the Contractor to issue Contractor-owned weapons and ammunition to specified employees; or

(ii) The *[Contracting Officer to specify the appropriate individual, e.g., Contracting Officer's Representative, Regional Security Officer]* may issue Government-furnished weapons and ammunition to the Contractor for issuance to specified Contractor employees.

(3) The Contractor shall ensure that its personnel who are authorized to carry weapons—

(i) Are adequately trained to carry and use them—

(A) Safely;

(B) With full understanding of, and adherence to, the rules of the use of force issued by the Combatant Commander; and

(C) In compliance with applicable agency policies, agreements, rules, regulations, and other applicable law;

(ii) Are not barred from possession of a firearm by 18 U.S.C. 922; and

(iii) Adhere to all guidance and orders issued by the Combatant Commander regarding possession, use, safety, and accountability of weapons and ammunition.

(4) Whether or not weapons are Government-furnished, all liability for the use of any weapon by Contractor personnel rests solely with the Contractor and the Contractor employee using such weapon.

(5) Upon redeployment or revocation by the Combatant Commander of the Contractor's authorization to issue firearms, the Contractor shall ensure that all Government-issued weapons and unexpended ammunition are returned as directed by the Contracting Officer.

(k) *Vehicle or equipment licenses*. Contractor personnel shall possess the required licenses to operate all vehicles or equipment necessary to perform the contract in the theater of operations.

(l) *Purchase of scarce goods and services*. If the Combatant Commander has established an organization for the theater of operations whose function is to determine that certain items are scarce goods or services, the Contractor shall coordinate with that organization local purchases of goods and services designated as scarce, in accordance with instructions provided by the Contracting Officer.

(m) *Evacuation*.

(1) If the Combatant Commander orders a mandatory evacuation of some or all personnel, the Government will provide assistance, to the extent available, to United States and third country national Contractor personnel.

(2) In the event of a non-mandatory evacuation order, unless authorized in writing by the Contracting Officer, the Contractor shall maintain personnel on location sufficient to meet obligations under this contract.

(n) *Next of kin notification and personnel recovery*.

(1) The Contractor shall be responsible for notification of the employee-designated next of kin in the event an employee dies, requires evacuation due to an injury, or is isolated, missing, detained, captured, or abducted.

(2) In the case of isolated, missing, detained, captured, or abducted Contractor personnel, the Government will assist in personnel recovery actions in accordance with DoD Directive 2310.2, Personnel Recovery.

(o) *Mortuary affairs*. Mortuary affairs for Contractor personnel who die while accompanying the U.S. Armed Forces will be handled in accordance with DoD Directive 1300.22, Mortuary Affairs Policy.

(p) *Changes*. In addition to the changes otherwise authorized by the Changes clause of this contract, the Contracting Officer may, at any time, by written order identified as a change order, make changes in the place of performance or Government-furnished facilities, equipment, material, services, or site. Any change order issued in accordance with this paragraph (p) shall be subject to the provisions of the Changes clause of this contract.

(q) *Subcontracts*. The Contractor shall incorporate the substance of this clause, including this paragraph (q), in all subcontracts when subcontractor personnel are authorized to accompany U.S. Armed Forces deployed outside the United States in—

(1) Contingency operations;

(2) Humanitarian or peacekeeping operations;

(3) Other military operations; or

(4) Military exercises designated by the Combatant Commander.

(End of clause)

DOD CLASS DEVIATION 2007-00004

CONTRACTOR PERSONNEL AUTHORIZED TO ACCOMPANY U.S. ARMED FORCES DEPLOYED OUTSIDE THE UNITED STATES (JUN 2006)(DEVIATION 2007-00004)

(g) *Personnel data.*

(1) In accordance with DoD Instruction 3020.41, Contractor Personnel Authorized to Accompany the U.S. Armed Forces, the Contractor shall **enter before deployment, or if already in the designated operational area, enter upon becoming an employee under the contract,** and maintain **current data, including departure data, for** all Contractor personnel that **are authorized to accompany** U.S. Armed Forces **deployed outside the United States** as specified in paragraph (b)(1) of this clause. The automated **web-based** system to use for this effort **is the Synchronized Predeployment and Operational Tracker (SPOT) (For information on how to register and enter data into this system, go to http://www.dod.mil/bta/products/spot.html)**.

(2) The Contractor shall ensure that all employees **in the database** have a current DD Form 93, Record of Emergency Data Card, on file with both the Contractor and the designated Government official. **The Contracting Officer will inform the Contractor of the Government official designated to receive this data card.**

(end clause)

AI Other Changes in Contract Performance. It is recognized by the parties entering into this contract that performance of the contemplated project will take place in Afghanistan. Afghanistan has been designated by the President of the United States as an area in which Armed Forces of the United States are and have been engaged in combat. As such, circumstances may cause the contemplated project to be effected during said performance. Examples of such circumstances include but are not limited to: Outbreak of hostilities in or near the project site; changes in contemplated project site (ownership of the project); U.S. Government and Afghanistan Government policy changes; site access denials; and other unforeseeable changes in the conditions of the project site that prevent the completion of the project as originally contemplated. Such circumstances may require the contract to be terminated, relocated, redesigned, etc, or a combination of factors. The aforementioned possibly remedy to unforeseen circumstances is meant to be illustrative and not all inclusive. In the event the Contractor is UNABLE to perform the project on the site set forth and described in the contract for any of the circumstances set forth above, the Contractor shall be entitled to an equitable adjustment to the effected terms and conditions of the contract.

AI 22.1 Prohibition Against Human Trafficking, Inhumane Living Conditions, and Withholding of Employee Passports (5 Nov 07): All contractors ("contractors" herein below includes subcontractors at all tiers) are reminded of the prohibition contained in Title 18, United States Code, Section 1592, against knowingly destroying, concealing, removing, confiscating, or possessing any actual or purported passport or other immigration document, or any other actual or purported government identification document, of another person, to prevent or restrict or to attempt to prevent or restrict, without lawful authority, the person's liberty to move or travel, in order to maintain the labor or services of that person, when the person is or has been a victim of a severe form of trafficking in persons.

Contractors are also required to comply with the following provisions:

1) Contractors shall only hold employee passports and other identification documents discussed above for the shortest period of time reasonable for administrative processing purposes.
2) Contractors shall provide all employees with a signed copy of their employment contract, in English as well as the employee's native language that defines the terms of their employment/compensation.
3) Contractors shall not utilize unlicensed recruiting firms, or firms that charge illegal recruiting fees.
4) Contractors shall be required to provide adequate living conditions (sanitation, health, safety, living space) for their employees. Fifty square feet (50 sf) is the minimum acceptable square footage of personal living space per employee. Upon contractor's written request, contracting officers may grant a waiver in writing in cases where the existing square footage is within 20% of the minimum, and the overall conditions are determined by the contracting officer to be acceptable. A copy of the waiver approval shall be maintained at the respective life support area.
5) Contractors shall incorporate checks of life support areas to ensure compliance with the requirements of this Trafficking in Persons Prohibition into their Quality Control program, which will be reviewed within the Government's Quality Assurance process.
6) Contractors shall comply with international laws regarding transit/exit/entry procedures, and the requirements for work visas. Contractors shall follow all Host Country entry and exit requirements.

Contractors have an affirmative duty to advise the Contracting Officer if they learn of their employees violating the human trafficking and inhumane living conditions provisions contained herein. Contractors are advised that contracting officers and/or their representatives will conduct random checks to ensure contractors and subcontractors at all tiers are adhering to the law on human trafficking, humane living conditions and withholding of passports.

The contractor agrees to incorporate the substance of this clause, including this paragraph, in all subcontracts under his contract.

(End)

AI 25.2 Fitness for Duty and Limits on Medical/ Dental care in Afghanistan (5 Nov 07). The contractor shall perform the requirements of this contract notwithstanding the fitness for duty of deployed employees, the provisions for care offered under this section, and redeployment of individuals determined to be unfit. The contractor bears the responsibility for ensuring all employees are aware of the conditions and medical treatment available at the performance. The contractor shall include this information and requirement in all subcontracts with performance in the theater of operations.

The contractor shall not deploy an individual with any of the following conditions unless approved by the appropriate CENTCOM Service Component (ie. ARCENT, CENTAF, etc.) Surgeon: Conditions which prevent the wear of personal protective equipment, including protective mask, ballistic helmet, body armor, and chemical/biological protective garments; conditions which prohibit required theater immunizations or medications; conditions or current medical treatment or medications that contraindicate or preclude the use of chemical and biological protectives and antidotes; diabetes mellitus, Type I or II, on pharmacological therapy; symptomatic coronary artery disease, or with myocardial infarction within one year prior to deployment, or within six months of coronary artery bypass graft, coronary artery angioplasty, or stenting; morbid obesity (BMI >/= 40); dysrhythmias or arrhythmias, either symptomatic or requiring medical or electrophysiologic control; uncontrolled hypertension, current heart failure, or automatic implantable defibrillator; therapeutic anticoagulation; malignancy, newly diagnosed or under current treatment, or recently diagnosed/treated and requiring frequent subspecialist surveillance, examination, and/or laboratory testing; dental or oral conditions requiring or likely to require urgent dental care within six months' time, active orthodontic care, conditions requiring prosthodontic care, conditions with immediate restorative dentistry needs, conditions with a current requirement for oral-maxillofacial surgery; new onset (< 1 year)) seizure disorder, or seizure within one year prior to deployment; history of heat stroke; Meniere's Disease or other vertiginous/motion sickness disorder, unless well controlled on medications available in theater; recurrent syncope, ataxias, new diagnosis (< 1year) of mood disorder, thought disorder, anxiety, somotoform, or dissociative disorder, or personality disorder with mood or thought manifestations; unrepaired hernia; tracheostomy or aphonia; renalithiasis, current; active tuberculosis; pregnancy; unclosed surgical defect, such as external fixeter placement; requirement for medical devices using AC power; HIV antibody positivity; psychotic and bipolar disorders. (Reference: Mod 8 to USCENTCOM Individual Protection and Individual/Unit Deployment Policy, PPG-Tab A: Amplification of the Minimal Standards of Fitness for Deployment to the CENTCOM AOR).

In accordance with military directives (DoDI 3020.41, DoDI 6000.11, CFC FRAGO 09-1038, DoD PGI 225.74), resuscitative care, stabilization, hospitalization at Level III (emergency)

military treatment facilities and assistance with patient movement in emergencies where loss of life, limb or eyesight could occur will be provided. Hospitalization will be limited to emergency stabilization and short-term medical treatment with an emphasis on return to duty or placement in the patient movement system. Subject to availability at the time of need, a medical treatment facility may provide reimbursable treatment for emergency medical or dental care such as broken bones, lacerations, broken teeth or lost fillings.

Routine and primary medical care is not authorized. Pharmaceutical services are not authorized for routine or known prescription drug needs of the individual. Routine dental care, examinations and cleanings are not authorized.

Notwithstanding any other provision of the contract, the contractor shall be liable for any and all medically-related services or transportation rendered. In accordance with OUSD(C) Memorandum dated January 4, 2007, the following reimbursement rates will be charged for services at all DoD deployed medical facilities. These rates are in effect until changed by DoD direction.

Inpatient daily rate: $1,918.00. Date of discharge is not billed unless the patient is admitted to the hospital and discharged the same day.

Outpatient visit rate: $184.00. This includes diagnostic imaging, laboratory/pathology, and pharmacy provided at the medical facility.

(End)

AI 25.4 Quarterly Contractor Census Reporting (12 Nov 07). The prime contractor will report upon contract award and then quarterly thereafter, not later than January, 1 April, 1 July and 1 October, to JCCI.J2J5J7@pco-iraq.net for Iraq and to BGRMPARC-A@swa.army.mil for Afghanistan the following information for the prime contract and all subcontracts under this contract:

(1) The total number of contract employees performing on the contract who receive any support benefits, including but not limited to billeting, food, use of exchanges, laundry by host nation, US Nationals, and Third Country Nationals;
(2) The total number of prime contract employees performing on the contract by host nation, US Nationals, and Third Country National;
(3) The total number of subcontractor employees performing on the contract by subcontractor, host nation, US Nationals, and Third Country National;
(4) The company names and contact information of its subcontractors at all tiers; and
(5) The name of all company POCs who are responsible for entering and updating employee data in the Synchronized Predeployment & Operational Tracker (SPOT) IAW DFAR 252.225-7040 DOD class deviation 2007-O0004 or DFAR DOD class deviation 2007-O0010.

(End)

AI 25.3 Compliance with Laws and Regulations (5 Nov 07). The Contractor shall comply with, and shall ensure that its personnel and its subcontractors and subcontractor personnel at all tiers obey all existing and future U.S. and Host Nation laws, Federal or DoD regulations, and Central Command orders and directives applicable to personnel in Iraq and Afghanistan, including but not limited to USCENTCOM, Multi-National Force and Multi-National Corps fragmentary orders, instructions and directives.

Contractor employees performing in the USCENTCOM Area of Operations are under the jurisdiction of the Uniform Code of Military Justice (UCMJ). Under the UCMJ, U.S. commanders may discipline contractor
employees for criminal offenses. Contractors shall advise the Contracting Officer if they suspect an employee has committed an offense. Contractors shall not permit an employee suspected of a serious offense or violating the Rules for the Use of Force to depart Iraq or Afghanistan without approval from the senior U.S. commander in the country.

(End)

AI 25.1 ARMED PERSONNEL – INCIDENT REPORTS

a. General Information DFARS 225.7402-4 requires the clause at 252.225-7040, Contractor Personnel Authorized to Accompany U.S. Armed Forces Deployed Outside the United States, in solicitations and contracts when contract performance requires that contractor personnel be available to deploy with or otherwise provide support in the theater of operations to U.S. military forces deployed outside the United States in (1) contingency operations; (2) humanitarian or peacekeeping operations; or (3) other military operations or exercises designated by the combatant commander.

b. Government Support DFARS 252.225-7040 and DOD Instruction 3020.41, Contractor Personnel Authorized to Accompany the US Armed Forces requires the contracting officer to address, among other items, Government support and security in the "terms of the contract." The Statement of Work (SOW) may be used to address these requirements. The SOW's language should be tailored to meet the needs of the specific acquisition. The requiring activity is responsible to coordinate requests for life support with FOB commanders (w/command and control of the Mayor's Cell) to determine if the requested support is available. Examples of Life Support that may be required/authorized include, but are not limited to: (1) deployment in-processing centers; (2) training; (3) transportation to operation area; (4) transportation within operation area; (5) physical security; (6) force protection; (7) organizational clothing and individual protective equipment; (8) emergency medical care; (9) Dining facilities; (10) billeting; (11) postal service; (12) phone service; (13) emergency notification of next of kin; (14) laundry; (15) religious services; and (16) fuel. The Contracting Officer will issue contractor personnel a Letter of Authorization (LOA) which is required in order to process through the deployment processing center. See paragraph 6.2.7.4.2 of DOD-I 3020.41 for information on preparing the LOA.

c. Weapons and Weapons Firing Contractor personnel may be authorized to carry weapons in accordance DFARS 252.225-7040(j) and DOD Instruction 3020.41 paragraphs 6.3.4 and 6.3.5. Deputy Commander USCENTCOM is the approval authority for all security service and personal protection arming requests in Iraq and Afghanistan. Authority to approve or deny requests has been delegated to the MNF-I Commander for Iraq and in Afghanistan to the Commanding General, Combined Joint Task Force – 82, (effective 16 July, 2007) with authority to re-delegate to the flag officer level.

d. Armed Personnel – Incident Reports: All Contractors in the Afghanistan theater of operations shall comply with and shall ensure that their personnel supporting Coalition forces are familiar with and

comply with all applicable orders, directives, and instructions issued by the International Security Assistance Force (ISAF) Commander or relating to force protection and safety.

Contractors shall provide an initial report of all weapons firing incidents to the National Operations Center (NOC) as soon as practical based upon the situation and shall submit a written report to a NOC within 48 hours. The initial report will include the name of the company, where the incident occurred, time when the incident occurred, a brief description of the events leading up to the incident, and a point of contact for the company. A follow-up, comprehensive written report of events surrounding the firing of weapons will be provided to the NOC within 96 hours. Reports shall be submitted to the NOC, Operations Section (or as otherwise directed).

Contractors will also provide first aid and request MEDEVAC of injured persons, and remain available for Coalition response forces based upon the situation. In the event contractor personnel are detained by US or Coalition Forces, prolonged detention due to lack of proper identification can be alleviated by contractor personnel possessing on their person information that includes the Contractors name, the contract number, a POC in the Contractor management, and the phone number of the NOC.

AI 52.6 Arming Requirements and Procedures for Private Security Company (PSC) Contracts, Personal Security Detachment (PSD) Contracts, and for Requests for Personal Protection in Iraq and Afghanistan

General. Contractor and its subcontractors at all tiers that require arming under this contract agree to obey all existing and future laws, regulations, orders, and directives applicable to the use of private security personnel in Iraq and Afghanistan, including US CENTCOM, Multi-National Force Commander and Multi-National Corps Commander orders, instructions and directives. Contractors will ensure that all employees, including employees at any tier of subcontracting relationships, armed under the provisions of this contract, comply with the contents of this clause and with the requirements set forth in the following:

(6) DODI 3020.41, *Contractor Personnel Authorized to Accompany the US Armed Forces*;

(7) DFARS 252.225-7040, *Contractor Personnel Supporting a Force Deployed Outside the United States*;

(8) CPA Order #17, *Registration Requirements for Private Security Companies*, dated 27 Jun 04;

(9) US CENTCOM Policy Letter, Mod 1, *Personal Protection and Contract Security Service Arming*, dated 7 Nov 2006

b. ***Required Government Documentation.*** The unit requesting the contractor security shall provide a description of the following to the arming approval authority and to the contracting officer:

(1) The specific location where the PSC will operate;
(2) The persons and/or property that require protection;
(3) The anticipated threat;
(4) The required weapon types; and

(5) The reason current security/police forces are inadequate.

c. ***Required Contractor Documentation***. Contractors and their subcontractors at all tiers that require arming approval shall provide the following to the contracting officer representative (COR):

(1) Documentation that each employee who will be armed under the contract received the following training—

(A) Weapons Qualification/Familiarization. All employees must meet the qualification requirements established by any DoD or other U.S. government agency

(B) Law of Armed Conflict (LOAC);

(C) Rules for the Use of Force (RUF), as defined in the US CENTCOM Policy, dated 23 December 2005; and

(D) Distinction between the above-prescribed RUF and the Rules of Engagement (ROE), which are applicable only to military forces.

(2) Completed DD Form 2760 (or equivalent documentation) for each armed employee, indicating that the employee is not otherwise prohibited under U.S. law from possessing the required weapon or ammunition.

(3) One (1) copy of a business license from the Iraqi Ministry of Trade;

(4) One (1) copy of an operating license (or a temporary operating license) from the Ministry of Interior;

(5) A communications plan that, at a minimum, sets forth the following:

(A) The contractor's method of notifying military forces and requesting assistance where hostilities arise or combat action is needed;

(B) How relevant threat information will be shared between contractor security personnel and U.S. military forces; and

(C) How the contractor will coordinate transportation with appropriate military authorities.

(6) An acceptable plan for accomplishing background checks on all contractor and subcontractor employees who will be armed under the contract. The contractor shall, at a minimum, perform the following (which will be specifically addressed in its plan and which will be documented and furnished to the COR upon completion):

(A) Use one or more of the following sources when conducting the background checks: Interpol, FBI, Country of Origin Criminal Records, Country of Origin US Embassy Information Request, CIA records, and/or any other records available;

(B) Verify with MNC-I Provost Marshal that no employee has been barred by any commander within Iraq; and

(C) Certify, after completing all checks, that all persons armed under this contract are not prohibited under U.S. law from possessing a weapon or ammunition.

d. ***Required Contractor Acknowledgements***. Contractors and their subcontractors at all tiers that require arming approval will provide written acknowledgement of the following to the COR:

(1) Penalties for Non-Compliance. Failure of contractor or subcontractor employee(s) to comply with the laws, regulations, orders, and rules (including those specified herein)

governing the use of force may result in the revocation of weapons authorization for such employee(s). Where appropriate, such failure may also result in the total revocation of weapons authorization for the contractor (or subcontractor) and sanctions under the contract, including termination.

(2) Criminal and Civil Liability. Arming of contractor or subcontractor employees under this contract may subject the contractor, its subcontractors, and persons employed by the same, to U.S. and Host Nation prosecution and civil liability. "Host Nation" refers to the nation or nations where services under this contract are performed.

(3) Lapses in Training. Failure to successfully retrain an employee who is armed under this contract within twelve (12) months of the last training date will constitute a lapse in the employee's authorization to possess and carry the weapon. All unauthorized employees will immediately surrender their weapon to the contractor and will remain unarmed until such time as they are retrained and the COR determines that the retraining is sufficient.

e. ***Authorized Weapon & Ammunition Types***. Unless DCDRUSCENTCOM (or a designee) provides otherwise, all arming requests and authorizations for contractor or subcontractor employees under this contract shall be limited to U.S. Government-approved weapons and ammunition. This restriction applies to all weapons in the possession of contractor employees, even if such weapons are required for personal protection. The following weapons and ammunition are currently authorized by the U.S. Government for use in Iraq and Afghanistan:

(1) The M9, M4, M16, or equivalent (e.g. .45 CAL, AK-47).

(2) The M9 or equivalent sidearm will be the standard personal protection weapon unless other weapons are specifically requested and approved.

(3) US government Ball ammunition is the standard approved ammunition.

f. ***Requirements for Individual Weapons Possession***. All employees of the contractor and its subcontractors at all tiers who are armed under this contract must:

(1) Possess only those U.S. Government-approved weapons and ammunition for which they are qualified under the training requirements of section (c);

(2) Carry weapons only when on duty or at a specific post;

(3) Not conceal any weapons, unless specifically authorized;

(4) Carry proof of authorization to be armed. Employees not possessing such proof will be deemed unauthorized and must surrender their weapon to their employer; and

(5) Not consume any alcoholic beverage while armed or within eight (8) hours of the next work period where they will be armed.

g. ***Weapons/Equipment Restrictions and Responsibilities*.** Unless otherwise provided, the U.S. Government will not provide any weapons or ammunition to contractors, their subcontractors, or any employees of the same. The Contractor will provide all weapons and ammunition to those employees that will be armed under the contract. The contractor and its subcontractors at all tiers will also provide interceptor body armor, ballistic helmets, and the Nuclear, Biological, and Chemical (NBC) protective masks to those employees that require such equipment in the performance of their duties.

h. ***Rules for the Use of Force (RUF)*.** In addition to the RUF and ROE training referenced in paragraph (c), the contractor and its subcontractors at all tiers will monitor and report all activities of its armed employees that may violate the RUF. Prompt reporting demonstrates a desire by the contractor and its subcontractors to minimize the impact of any violations and, therefore, will be given favorable consideration. Violations of the RUF include, though are not limited to:

(1) Taking a direct part in hostilities or combat actions, other than to exercise self-

defense;

(2) Failing to cooperate with Coalition and Host Nation forces;

(3) Using deadly force, other than in self-defense where there is a reasonable belief of imminent risk of death or serious bodily harm;

(4) Failing to use a graduated force approach;

(5) Failing to treat the local civilians with humanity or respect; and

(6) Detaining local civilians, other than in self-defense or as reflected in the contract terms.

i. ***Retention and Review of Records***. The Contractor and all subcontractors at all tiers shall maintain records on weapons training, LOAC, RUF and the screening of employees for at least six (6) months following the expiration (or termination) of the contract. The Contractor and its subcontractors at all tiers shall make these records available to the Contracting Officer or designated representative, at no additional cost to the government, within 72 hours of a request.

j. ***Contractor Vehicles.*** Vehicles used by contractor and subcontractor personnel in the course of their security duties shall not be painted or marked to resemble US/Coalition or host nation military and police force vehicles.

k. ***Quarterly Reporting.*** The prime contractor will report quarterly (i.e. NLT 1 January, 1 April, 1 July and 1 October for each quarter of the calendar year) to the Contracting Officer responsible for this contract, and any other organization designated by the Contracting Officer, the following information under this contract:

(1) The total number of armed civilians and contractors; The names

(2) and contact information of its subcontractors at all tiers; and A

(3) general assessment of the threat conditions, adequacy of force numbers, and any problems that might require a change to force levels. Note: this information is in addition to the information the contractor promises to immediately provide under the communications plan referenced at paragraph (c)(5).

January 31, 2008

Baker Job No. 112380
and 112383

ANCOP /BP ZONE COMPOUNDS
READY TO ADVERTISE SUBMISSION
DESIGN ANALYSIS

A-E IDIQ for General Design and Construction Management Throughout TAC AOR

USACE-TAC
W912ER-05-D-0002
DELIVERY ORDERS: 0029 and 0030

US Army Corps
Of Engineers

Prepared by

Baker

Michael Baker Jr., Inc.
Moon Township, Pennsylvania

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CHAPTER 1 - GENERAL DESCRIPTION

1.1 Introduction

This Final Design Submission consists of this Design Analysis, accompanying set of drawings, Specifications and Table of Contents.

The Design Completion of the ANCOP and BP Zone Compounds is being conducted by Michael Baker Jr., Inc. (Baker), and is authorized under IDIQ Contract No. W912ER-05-D-0002, Task Orders No. 0029 and 0030, that is being administered through the U.S. Army Corps of Engineers-CETAC-CT Transatlantic Programs Center-CETAC-CT.

1.2 Project Design Team and Contact Information

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1.3 Project Description

The ANCOP and BP Zone Compounds are intended to function as proto-typical designs for use by AED, in Afghanistan. The structures will be designed to house various functions for active duty personnel of the Afghan National Police.

1.4 Design Criteria

This project will be designed in general accordance with current Transatlantic Programs Center (TAC) and Corps of Engineers criteria contained in engineering regulations, manuals, and other guidance (see Chapter 2.4). It has been noted that it may not be practical or even feasible to meet all building codes and design criteria per accepted building practices in Afghanistan. The design team has strived to meet criteria that affect life safety at a minimum, and other facets of the applicable design criteria as are

practical. Additional design criteria pertinent to each discipline are listed in the discipline design narrative sections.

SPECSINTACT software is used for the preparation of the project specifications in accordance with ER 1110-1-8155. The primary source of specifications that is utilized is as follows:

> Unified Facilities Guide Specifications (UFGS):
> http://www.ccb.org/docs/ufgshome/UFGSToc.htm.

TAC CADD standards shall be used as the basis for production of drawing files and layout to be completed and provided in AutoCAD*TM*. Per TAC and AED guidance, the file naming convention typically used on TAC projects and contained within the TAC Design Instructions Manual will not be used in favor of a simpler convention which lends itself to use on multiple compounds.

CHAPTER 2 – CIVIL/SITE

2.1 General Parameters

The new facilities for the Afghanistan National Civil Order of Police (ANCOP) project consist of water, sanitary sewer, storm drainage, roadways, general layout of buildings, parking, and related facilities for the five different compounds to serve as training facilities for various patrol battalions and brigades.

2.1.1 Water System

The water system is to include a well source, well pump, chlorinator, storage, distribution piping, service lines, and appurtenances to provide potable water to the facilities. Fire protection is not provided. The facilities are to be provided with electric power by diesel generators. However, the customer anticipates fuel shortages that may frequently limit electric power availability to 2 hours per day. The design of the water systems shall take this into account by providing backups or other alternatives in order to maintain water supply and pressure without electric power, where practical.

The water source for each facility is to be groundwater obtained from on site wells developed by the contractor. The systems are to provide a minimum pressure of 30 psi under peak usage and shall include submersible well pumps capable of providing adequate pressure at a flow rate of twice the anticipated average daily water demand based on 50 gallons per day per capita. An electric submersible well pump will pressurize each system by supplying water to a hydro-pneumatic tank. The well pumps are anticipated to require motors of 4 to 14 horsepower, but may vary based on actual groundwater conditions encountered. A mechanical hand pump capable of providing a flow equal to 25 gallons per capita per day is required as a backup. The hand pump will be connected directly to the electric well pump effluent piping thereby allowing the system to be pressurized by either pump, although pressures will generally be lower when the system is supplied by the hand pump alone. Water system operation depends on an adequate groundwater supply available at reasonable depth. The availability of suitable groundwater is unknown.

Water will be disinfected with chlorine near the well head and before the tank. A skid mounted prefabricated chlorination unit providing disinfection with calcium hypochlorite tablets (commonly known as HTH) is proposed. The unit will use raw water to dissolve calcium hypochlorite tablets and include a small pump to inject the chlorine solution into the effluent well pipe on its way to a storage tank which will provide adequate detention time prior to distribution. The well, both pumps, and the disinfection system will be located within a small well house structure with a removable roof to facilitate pulling of the submersible electric pump. Piping in the well house is to be insulated and provided with means of drainage to minimize the chances of freezing during periods without power and heat.

The customer has verbally required that storage tanks be low in profile for security reasons and preferably less than 40 feet tall. A gravity system with elevated storage would require a tank over 100 feet tall and was therefore ruled out as means of providing adequate water system pressure. In order to meet the requirements of the scope of work and the additional design considerations requested by the customer including limited power availability and tank heights restrictions, a hydro-pneumatic system was selected as the only reasonable alternative.

The hydro-pneumatic systems will include horizontally mounted and insulated above ground hydro-pneumatic tanks containing water and compressed air located adjacent to the well house and maintain system pressures between 60 psi and 75 psi. A compressor is required to occasionally add air to the tank.

A typical hydro-pneumatic system loses pressure very quickly when the power and influent water supply are interrupted. The design for this project is intended to provide a water system less susceptible to rapid pressure loss during periods without power. The hydro-pneumatic tanks were sized based on an allowable minimum pressure of 40 psi during electric pump down times. The ANCOP sites were provided with hydro-pneumatic water tanks whose average daily drawdown volume requirement was set equal to the average daily demand so that system pressure will be maintained above 40 psi under average water demand conditions for 24 hours without pumping. Due to the larger water demands, the BP Zone sites were similarly provided with tanks but average daily drawdown was equal to 75% of the average daily demand so that system pressure will be maintained above 40 psi under average use conditions for 18 hours without pumping. Tank volumes were then rounded to even 8,000 gallon or 10,000 gallon increments which are the standard available tank sizes. Storage was divided between duplicate units in cases where a single tank would be too long to easily transport. Tank capacity of 1 day's storage at 50 gallons per person per day is required in the scope of work. Although this is a gravity tank requirement, all hydro-pneumatic tank volumes exceed this volume, even taking into account the portion of the tank occupied by air.

The table below summarizes the anticipated water demands, tank sizes, and pump sizes.

Facility/Site Description	Facility Design Population	Avg Daily Demand (ADD) @ 50 gpdpc	Hydro-pneumatic Tank Volume with Drawdown Equal to ADD or 0.75*ADD [3]	Proposed Hydro-pneumatic Standard Tank Sizes	Estimated Pump Horsepower [4] HP=gpm*psi/(1714*eff)
ANCOP		gallons per day	Gallons	Gallons	Horsepower
Urban Unit	185	9,250	14,456	Two @ 8,000 ea	4
PBN	228	11,400	17,816	Two @ 8,000 ea	6
BDE HQ	305	15,250	23,833	Two @ 10,000 ea	7
BP Zone					
Type A	403	20,150	31,491	Three @ 10,000 ea	10
Type B	577	28,850	33,816	Three @ 10,000 ea	14

1 - Electric pumping rate assumes 8 hrs per day pump run time to meet demand
2 - Mechanical pumping rate assumes continuous pumping to meet demand
3 - Approximation setting drawdown equal to daily demand at 75 psi max and 40 psi min pressure, except BP Zones where drawdown set equal to .75*ADD
4 - Horsepower estimated at flow rate of electric pump per note 1, 50% pump efficiency, and Total dynamic head of 100 psi

If electric power remains unavailable for an extended period, minimal pressure may be maintained by use of the backup mechanical hand pump which is to be connected directly to the system. Pressure and flow from the hand pump are expected to be sufficient to provide for basic water needs including supply to the DFAC and latrine buildings, assuming adequate groundwater capacity is available. The hand pump will also have a discharge with shut off valve in the well house so that water containers may be filled directly from the pump if desired.

2.1.2 Sanitary System

The sanitary system includes the lateral connections to building sewers, collection system piping and appurtenances, a septic tank with 24 hours storage volume at average anticipated daily flow, and a leach

field. The septic tank and leach field shall be designed by the contractor based on the anticipated flows (80% of daily water demand at 50 gpcpd plus 25% safety factor) and the results of site specific soil percolation tests. The size of the leach field is unknown. Unless favorable soil conditions are encountered during site investigation, it is possible the required leach bed size will exceed the available space. It is also possible the percolation rate will be such that the site is not suitable for a leach field at all. The leach field location requires a large area which cannot be covered by structures or pavement, thus the areas available are limited. A facultative pond has been given as an alternative to a leach field in the project scope of work. Based on a review of facultative pond design criteria it is possible that the sites under consideration will not have sufficient area to accommodate the required facultative pond size. The retention time for a facultative pond is dependant on climate and requires at least one month under the most ideal conditions although much longer periods are normally used.

2.1.3 Storm Water System

The storm water system includes ditches and culverts. The site shall be graded so that drainage is directed to collection ditches conveying water off site via culvert penetrations near the primary and secondary entry control points.

2.1.4 Site Layout Criteria and Methodology

The site layout has been as directed by the customer and according to the scope of work. Setback distances for force protection have been followed where possible; however theses requirements were relaxed as a matter of practicality where insufficient area was available. In cases where offsets have been relaxed, occupied buildings have been protected by placement farthest from perimeter walls and unoccupied buildings were placed closes to perimeter walls. The design preference has been to relax the setback requirements before reducing the 10 meter building separation. In some cases it was deemed necessary to relax both. Following are summaries of design criteria/methodology that were used to prepare each of the site layouts.

BP ZONE – TYPE A

Site Size – 300 m x 300 m measured to the outside limits of the perimeter wall

Setbacks:
<u>From Perimeter Wall</u>:

<10 m – clear space/no buildings
>10 m, <25 m – Warehouse and Ammunition Supply
>25 m, <45 m – Latrines, Laundry, Training Facility, Vehicle Maintenance & POL
>45 m – Barracks, DFAC, and Administration Building

<u>Between Buildings</u>: 10 m

<u>From Roads & Parking</u>:

10 m – Latrine, Laundry, Vehicle Maintenance, and Warehouse
25 m – Barracks, DFAC, Administration Building, and Training Facility

Site Access:

Entry Control Points: Two; both gated. The primary ECP provided with gate house, two guard shacks and vehicle inspection area.

Roads: Surfaced with asphalt. 7.3 m wide, except the one-way administration building circle which is 3.65 m wide.

Sidewalks: Concrete and 1.5 m wide

Barracks:

Design Criteria: Space Available: 456.8 NSM/barrack for Middle & Ordinary personnel
Space requirement for Middle personnel: 8.4 NSM/person
Space requirement for Ordinary personnel: 6.7 NSM/person

Barracks Capacity: Middle – 54 persons/barrack
Ordinary – 68 persons/barrack
Senior – 20 persons/barrack
High – 20 persons/barrack
Women – 50 persons/barrack

Barracks Requirement:

Type	No. Persons	No. Barracks	Remarks
Middle	142	142/54 = 2.6; say 3	
Ordinary	183	183/68 = 2.7; say 3	
Senior	17	2	23 extra spaces
High	61		Assume 21 can be housed in senior area
Total	403		
Women	5%*403 = 20; use 49 min	1	

Vehicle Parking Requirements:

Privately Owned Vehicle (POV) Parking: 15% * 403 persons = 60 spaces

Visitor Parking: 3 spaces

Vehicle Parking: The total number of vehicles requiring parking is 80 plus 27 trailers. The types of vehicles to be parked consist of LTVs, 5-ton trucks, ATVs, and motorcycles. Section 01010, Scope of Work, presents a breakdown of the number of vehicles in each category based on a larger number of total vehicles (153 total vehicles). Using this breakdown, percentages of vehicles in each category were determined and applied to the design total of 80 to establish a vehicle breakdown for design. Mine Resistant Ambush Protective Vehicles were included in the vehicle "mix" that was outlined in the 01010 document but were later deleted. Presented in the following table are the number and size of parking spaces used for facility layout.

Vehicle Type	% of Total	Number	Parking Space Size m x m
LTV	56%	45	4 x 5.5
5-Ton Truck	6%	5	4 x 11
ATV	20%	16	2.4 x 4.9
Motorcycle	16%	13	1.4 x 3.7
C4	2%	1	4 x 11
Wrecker		2	4 x 11
Trailer	--	27	4 x 18

BP ZONE – TYPE B

Site Size – 300 m x 300 m measured to the outside limits of the perimeter wall

Setbacks:
From Perimeter Wall:
<10 m – clear space/no buildings
>10 m, <25 m – Warehouse and Ammunition Supply
>25 m, <45 – Latrines, Laundry, Training Facility, Vehicle Maintenance Facility & POL
>45 m – Barracks, DFAC, and Administration Building

Between Buildings: 10 m

From Roads & Parking:
10 m – Latrine, Laundry, Vehicle Maintenance, and Warehouse
25 m – Barracks, DFAC, Administration Building, and Training Facility

Site Access:
Entry Control Points: Two; both gated. The primary ECP provided with gate house, two guard shacks and vehicle inspection area.

Roads: Surfaced with asphalt. 7.3 m wide, except the one-way administration building circle which is 3.65 m wide.

Sidewalks: Concrete and 1.5 m wide

Barracks:
Design Criteria: Space Available: 456.8 NSM/barrack for Middle & Ordinary personnel
Space requirement for Middle personnel: 8.4 NSM/person
Space requirement for Ordinary personnel: 6.7 NSM/person
Barracks Capacity: Middle – 54 persons/barrack
Ordinary – 68 persons/barrack
Senior – 20 persons/barrack
High – 20 persons/barrack
Women – 50 persons/barrack

Barracks Requirement:

Type	No. Persons	No. Barracks	Remarks
Middle	205	205/54 = 3.8; say 4	
Ordinary	266	266/68 = 3.9; say 4	
Senior	20	3	40 extra spaces
High	86		Assume 26 can be housed in senior area
Total	577		
Women	5%*577 = 29; use 49 min	1	

Vehicle Parking Requirements:

Privately Owned Vehicle (POV) Parking: 15% * 577 persons = 86 spaces

Visitor Parking: 3 spaces

Vehicle Parking: The total number of vehicles requiring parking is 100 plus 27 trailers. The types of vehicles to be parked consist of LTVs, 5-ton trucks, ATVs, and motorcycles. Section 01010, Scope of Work, presents a breakdown of the number of vehicles in each category based on a larger number of total vehicles (153 total vehicles). Using this breakdown, percentages of vehicles in each category were determined and applied to the design total of 100 to establish a vehicle breakdown for design. Mine Resistant Ambush Protective Vehicles were included in the vehicle "mix" that was outlined in the 01010 document but were later deleted. Presented in the following table are the number and size of parking spaces used for facility layout.

Vehicle Type	% of Total	Number	Parking Space Size m x m
LTV	56%	56	4 x 5.5
5-Ton Truck	6%	6	4 x 11
ATV	20%	20	2.4 x 4.9
Motorcycle	16%	16	1.4 x 3.7
C4	2%	1	4 x 11
Wrecker		2	4 x 11
Trailer	--	27	4 x 18

ANCOP URBAN UNIT

Site Size – 200 m x 200 m measured to the outside limits of the perimeter wall

Setbacks: DoD minimum antiterrorism standards for buildings could not be completely maintained for this site. The space requirement for proposed buildings/facilities and vehicle parking is relatively large compared to available site area. Summarized below are intended setback distances that are shown on the site layout plan.

From Perimeter Wall:

<10 m – clear space/no buildings

>10 m, <25 m – Ammunition Supply Facility, and approximately 33% of the Logistics Facility

>25 m, <45 m – Approximately 32% of the Latrine, Laundry, approximately 28% of the Training Facility, the remainder of the Logistics Facility, and a section of the DFAC kitchen area.

>45 m – Barracks, remainder of the DFAC, Administration Building, remainder of the Training Facility

Between Buildings: 10 m

From Roads & Parking: Typically 10 m to 12 m has been maintained. Greater setbacks may be possible if the field is omitted and used for parking.

Site Access:

Entry Control Points: Two; both gated. The primary ECP provided with gate house, two guard shacks and vehicle inspection area.

Roads: Surfaced with asphalt. 7.3 m wide, except the one-way administration building circle which is 3.65 m wide.

Sidewalks: Concrete and 1.5 m wide

Barracks:

Design Criteria: Space Available: 456.8 NSM/barrack for Middle & Ordinary personnel
Space requirement for Middle personnel: 8.4 NSM/person
Space requirement for Ordinary personnel: 6.7 NSM/person
Barracks Capacity: Middle – 54 persons/barrack
Ordinary – 68 persons/barrack
Senior – 20 persons/barrack
High – 20 persons/barrack
Women – 50 persons/barrack

Barracks Requirement:

Type	No. Persons	No. Barracks	Remarks
Middle Ordinary	166	166/54 = 3.07; say 3	
Senior	5	1	15 extra spaces
High	14		6 extra spaces
Total	185		
Women	None		

Vehicle Parking Requirements:

Privately Owned Vehicle (POV) Parking: 15% * 185 persons = 28 spaces

Visitor Parking: 3 spaces

Vehicle Parking: The total number of vehicles requiring parking is 99 plus 27 trailers. The types of vehicles to be parked consist of LTVs, large ton trucks, ATVs, a C4 and wreckers. Presented in the following table are the number and size of parking spaces used for facility layout.

Vehicle Type	Number	Parking Space Size m x m
LTV	27	4 x 5.5
Large Ton Truck	42	4 x 11
ATV	27	2.4 x 4.9
C4	1	4 x 11
Wrecker	2	4 x 11
Trailer	27	4 x 18

ANCOP PATROL UNIT

Site Size – 200 m x 200 m measured to the outside limits of the perimeter wall

Setbacks: DoD minimum antiterrorism standards for buildings could not be completely maintained for this site. The space requirement for proposed buildings/facilities and vehicle parking is relatively large compared to available site area. Summarized below are intended setback distances that are shown on the site layout plan.

From Perimeter Wall:

<10 m – clear space/no buildings

>10 m, <25 m – Ammunition Supply Facility, approximately 27% of the Training Facility, approximately 27% of the Administration Building, and approximately 33% of the Logistics Facility

>25 m, <45 m – The remainder of the Training Facility, the remainder of the Administration Building, and approximately 56% of the DFAC (kitchen area and section of the serving area), 62% of the Latrine, and 45% of the Laundry.

>45 m – Barracks and remainder of the DFAC, Laundry and Latrine.

Between Buildings: 10 m

From Roads & Parking: A 10 m minimum has been maintained.

Site Access:

Entry Control Points: Two; both gated. The primary ECP provided with gate house, two guard shacks and vehicle inspection area.

Roads: Surfaced with asphalt. 7.3 m wide, except the one-way administration building circle which is 3.65 m wide.

Sidewalks: Concrete and 1.5 m wide

Barracks:

Design Criteria: Space Available: 456.8 NSM/barrack for Middle & Ordinary personnel
Space requirement for Middle personnel: 8.4 NSM/person
Space requirement for Ordinary personnel: 6.7 NSM/person
Barracks Capacity: Middle – 54 persons/barrack
Ordinary – 68 persons/barrack
Senior – 20 persons/barrack
High – 20 persons/barrack
Women – 50 persons/barrack

Barracks Requirement:

Type	No. Persons	No. Barracks	Remarks
Middle Ordinary	204	204/54 = 3.78; say 4	
Senior	5	1	15 extra spaces
High	19		1 extra space
Total	228		
Women	None		

Vehicle Parking Requirements:

Privately Owned Vehicle (POV) Parking: 15% * 228 persons = 34 spaces

Visitor Parking: 3 spaces

Vehicle Parking: The total number of vehicles requiring parking is 99 plus 27 trailers. The types of vehicles to be parked consist of LTVs, large ton trucks, ATVs, a C4 and wreckers. Presented in the following table are the number and size of parking spaces used for facility layout.

Vehicle Type	Number	Parking Space Size m x m
LTV	27	4 x 5.5
Large Ton Truck	42	4 x 11
ATV	27	2.4 x 4.9
C4	1	4 x 11
Wrecker	2	4 x 11
Trailer	27	4 x 18

ANCOP BRIGADE UNIT

Site Size – 200 m x 200 m measured to the outside limits of the perimeter wall

Setbacks: DoD minimum antiterrorism standards for buildings could not be completely maintained for this site. The space requirement for proposed buildings/facilities and vehicle parking is relatively large compared to available site area. Summarized below are intended setback distances that are shown on the site layout plan.

From Perimeter Wall:

<10 m – clear space/no buildings

>10 m, <25 m – Ammunition Supply Facility, approximately 49% of the Training Facility, approximately 27% of the Administration Building, 16% of the DFAC (kitchen/storage area), 33% of the Latrine, 33% of the Laundry, and approximately 33% of the Logistics Facility

>25 m, <45 m – Remainder of the Training Facility, Administration Building, Logistics Facility, Latrine, and Laundry, and approximately 38% of the DFAC (primarily kitchen and serving areas).

>45 m – Barracks and remainder of the DFAC.

Between Buildings: 10 m

From Roads & Parking: A 10 m minimum has been maintained.

Site Access:

Entry Control Points: Two; both gated. The primary ECP provided with gate house, two guard shacks and vehicle inspection area.

Roads: Surfaced with asphalt. 7.3 m wide, except the one-way administration building circle which is 3.65 m wide.

Sidewalks: Concrete and 1.5 m wide

Barracks:

Design Criteria: Space Available: 456.8 NSM/barrack for Middle & Ordinary personnel
Space requirement for Middle personnel: 8.4 NSM/person
Space requirement for Ordinary personnel: 6.7 NSM/person
Barracks Capacity: Middle – 54 persons/barrack
Ordinary – 68 persons/barrack
Senior – 20 persons/barrack
High – 20 persons/barrack
Women – 50 persons/barrack

Barracks Requirement:

Type	No. Persons	No. Barracks	Remarks
Middle	258	258/54 = 4.7; say 5	4 barracks only provides 216 spaces and the 33 extra Sr/Hi spaces are insufficient to accommodate the additional 42 Middle personnel that would need housing.
Ordinary	None		
Senior	13	2	27 extra spaces
High	34		6 extra space
Total	305		
Women	None		

Vehicle Parking Requirements:

Privately Owned Vehicle (POV) Parking: 15% * 305 persons = 46 spaces

Visitor Parking: 3 spaces

Vehicle Parking: The total number of vehicles requiring parking is 99 plus 27 trailers. The types of vehicles to be parked consist of LTVs, large ton trucks, ATVs, a C4 and wreckers. Presented in the following table are the number and size of parking spaces used for facility layout.

Vehicle Type	Number	Parking Space Size m x m
LTV	27	4 x 5.5
Large Ton Truck	42	4 x 11
ATV	27	2.4 x 4.9
C4	1	4 x 11
Wrecker	2	4 x 11
Trailer	27	4 x 18

2.2 Functional and Technical Requirements

References
UFC 3-230-03a, Water Supply, 16 Jan 2004
UFC 3-230-04a, Water Distribution, 16 Jan 2004
UFC 3-230-07a, Water Supply: Sources and General Considerations, 16 Jan 2004
UFC 3-230-08a, Water Supply: Water Treatment, 16 Jan 2004
UFC 3-230-09a, Water Supply: Water Storage, 16 Jan 2004
UFC 3-230-10a, Water Supply: Water Distribution, 16 Jan 2004
UFC 3-230-13a, Water Supply: Pumping Stations, 16 Jan 2004
UFC 3-230-17FA, Drainage in Areas Other than Airfields, 16 Jan 2004
UFC 3-240-03N, Operation and Maintenance: Wastewater Treatment System Augmenting Handbook, 16 Jan 2004
UFC 3-240-04a, Wastewater Collection, 16 Jan 2004
UFC 3-240-07FA, Sanitary and Industrial Wastewater Collection-Gravity Sewers and Appurtenances
UFC 3-240-02N Wastewater Treatment Systems Augmenting Handbook
UFC 4-022-01, Security Engineering: Entry Control Facilities/Access Control Points, 25 Mar 2005
UFC 4-010-02, DoD Minimum Antiterrorism Standoff Distances for Buildings, 19 Jan 2007
TM 5-814-3/AFM 88-11, Volume III Domestic Wastewater Treatment and UFC 3-240-02N
TM 5-822-2/AFM 88-7, General Provisions and Geometric Design for Roads, Walks, And open Storage Areas, July 1987

Specifications Sections:
31 00 00 EARTHWORK
31 11 00 CLEARING AND GRUBBING
31 23 00.00 20 EXCAVATION AND FILL
31 32 11 SOIL SURFACE EROSION CONTROL
32 12 16 HOT-MIX ASPHALT (HMA) FOR ROADS
32 15 00 AGGREGATE SURFACE COURSE
32 16 13 CONCRETE SIDEWALKS AND CURBS AND GUTTERS
32 31 00.00 10 FENCING
33 11 00 WATER DISTRIBUTION
33 16 15 WATER STORAGE STEEL TANKS (HYDROPNEUMATIC PRESSURE TANKS)
33 20 00 WATER WELLS
33 30 00 SANITARY SEWERS
33 40 01 STORM DRAINAGE
34 71 13.19 ACTIVE VEHICLE BARRIERS
43 21 39 PUMPS: WATER, VERTICAL TURBINE

CHAPTER 3 – ARCHITECTURAL / INTERIOR DESIGN

3.1 Purpose and Intent

The ANCOP and BP Zone compounds are intended to immediately let for bidding and subsequent construction for utilization by the Afghan National Police as soon as possible. The compounds have various sizes and configurations depending on the size of the functional unit the compound will support, and what general area of the country it will be located in. There are three ANCOP compound typical designs: one Patrol Battalion, one Urban Unit Battalion, and one Brigade Headquarters and Patrol Battalion. Two BP Zone compounds are represented: Zone A and Zone B with Zone B containing Airport and K9 companies. All five compounds are intended to be site-adapted to actual conditions once sites have been selected. The site-adaptation will be accomplished by the successful Contractor.

Force protection measures will be incorporated into the design by including the maximum feasible standoff distances from the force protection perimeter wall. Due to unknown conditions, the site layouts have been developed using the smallest feasible footprints. This has resulted in buildings being situated within the force protection setbacks in some instances. Approval from AED and CSTC-A has been obtained for setbacks reductions per the Charrette Meetings Minutes.

3.2 General Description

Several building types are included in each compound. These building types include: Administration building, Dining Facility (DFAC), Training building, Toilet & Shower building, Middle Barracks, Women's Barracks, Senior & High Barracks, Logistics Facility, Warehouse, Laundry building, Vehicle Maintenance Facility, Ammunition Supply Building, Guard Shack, Gate House, Guard Towers, Canopies, and Well House. The various facilities have been designed to take advantage of using typical details common to multiple building types. The sizes and general layouts of the facilities were developed in accordance with the 01010's issued at the beginning of the project and confirmed through the Charrette.

Administration Building:
The Administration building is a two story building which houses office space in the form of private offices and open office space, interrogation and observations rooms, holding cells, weapons storage room, evidence storage room, commander's suite including sleeping quarters, toilet and shower, and office, conference room, situation room, toilet rooms, and interior stairways. The layout is organized around a central corridor with a stairway at opposite ends, and toilet rooms in the center. The design utilizes exterior load-bearing CMU construction with each corridor wall being an interior load-bearing wall.

DFAC:
The Dining Facility is intended to be a pre-engineered metal building with interior CMU infill to obtain the required resistance to abuse. This will allow the DFAC to be a clear-span and to possibly be used for provincial gatherings and meetings. The DFAC has two separate seating areas (one for middle/ordinary ranks, and the other for senior/high ranks), food preparation area, office, cool storage with provisions for a future walk-in refrigerator/freezer, and an outside annex with wood-burning stoves and wood storage.

Training Facility:
The Training Facility is a pre-engineered metal building allowing a clear-span, and has the ability to be subdivided via an operable partition.

Toilet & Shower Building:
The Toilet & Shower building contains separate areas for toilets, lavatories, showers, and ablution areas. These facilities are intended for middle/ordinary ranked personnel. The design utilizes the same basic transverse section as the administration and other facilities, but is one story and has internal columns in lieu of the load-bearing interior walls. High windows are provided for natural light.

Middle Barracks:
The Middle Barracks is a one-story open plan utilizing exterior bearing wall construction with interior columns. It is sized for 50-60 occupants. There are varying quantities of barracks per compound depending on the quantity of middle/ordinary ranked personnel assign to it.

Women's Barracks:
The Women's Barracks is similar to the Middle Barracks with the following exceptions: toilet and shower facilities are integral to the barracks, and a separate room is provided for potential high-rank female personnel. The Women's barracks only occur in BP Zone compounds.

Senior & High Barracks:
The Senior & High Barracks is a two-story design similar to the administration building in layout and construction. A central corridor with a stairway at opposite ends organizes the plan. Toilet and shower facilities are integral to the barracks. Private quarters are provided for senior personnel, and double rooms are provided for high ranking personnel.

Logistics Facility:
The Logistics Facility contains two vehicle maintenance bays, an office, and warehouse space and will utilize a pre-engineered metal building system with an increased height to allow for vehicles of up to 4 meters high to enter the maintenance bays.

Warehouse:
The Warehouse is a small building with storage space for various types of goods. Designed for load-bearing CMU exterior walls, the warehouse also has an overhead coiling door.

Laundry Building:
The Laundry building houses multiple stainless steel laundry tubs in a design utilizing the standard transverse building section with load-bearing exterior CMU walls and interior columns. High windows are provided for natural light.

Vehicle Maintenance Facility:
The Vehicle Maintenance facility is a pre-engineered metal building to provide the required clear-span. Three maintenance bays are included along with an office, waste POL storage, tool room, and battery room. One maintenance bay includes a recessed service pit. Also included with the Vehicle Maintenance facility is a POL building, which is a small CMU outbuilding for storage of POL products.

Ammunition Supply Building:
The Ammunition Supply Building is a reinforced concrete structure that will have earthen berms on three sides. The fourth side will have the entry door and will be situated so that the door faces the force protection perimeter wall. The building is split into two spaces, allowing for the proper separation of different classifications of ammunition.

Guard Shack:
Two guard shacks are provided at each compound. Each is a small one room building with windows on all four sides. These buildings are used to house entry guards inspecting vehicles prior to entry through the primary entry control point.

Gate House:
The Gate House is situated just inside the force protection perimeter wall at the primary entry control point. It contains an office, a break room, and a storage closet.

Guard Towers:
Guard Towers are present on every outside corner of the force protection perimeter wall. They consist of an elevated enclosed platform with entry via an exterior stair, as well as an interior ladder with a hatch for emergency use. The towers have awning type windows with plastic glazing. A search light is mounted to the roof, allowing coverage along the outside of the force protection wall. An RPG standoff screen surrounds the outward facing facades of the towers.

Canopies:
A canopy is provided over the refueling point, the generators and switchgear, and the fuel storage tanks (which are all collocated). The canopy has a plywood ceiling which acts as a standoff against RGP rounds.

Well House:
The Well House is a small load-bearing CMU outbuilding used to protect the compound's water source.

3.3 Criteria References

The following documents have been utilized and referenced in the Architectural Design:

Final Scope of Work	17 September 2007, ANCOP and BP Zone, -W912ER-05-D-0029 and 0030
USCAE-TAC Design Instruction Manual	September 2000, Design Instruction Manual, United States Army Corps of Engineers, Transatlantic Programs Center.
IBC 2003	International Building Code
NFPA 101	Life Safety Code (as directed in MIL HDBK 1008c)
UFC 1-200-1	Design General Building Requirements
UFC 4-010-01	DoD Minimum Antiterrorism Standards for Buildings
UFC 4-010-02	DoD Minimum Antiterrorism Standoff Distances for Buildings

3.4 Exterior Building Envelope

3.4.1 Framing

Based on adequate soil bearing capacity, the structures will use continuous strip wall footings at the perimeter. Standard spread footings shall be used to support interior building columns. The building frame consists of structural steel, metal deck and concrete for second floors where applicable, and roof deck. The ground floor will be concrete slab on grade. See structural section for further description and for nominal sizes.

3.4.2 Walls

The exterior wall system will be load bearing, nominal 200 mm. concrete masonry units. The walls will be reinforced and tied to the steel building frame as required. The exterior face of wall will have a stucco finish. On the interior side of the wall surfaces 100mm of rigid insulation will be applied. The interior finish of the exterior walls will be cement-plaster on metal lath.

Lintels in exterior walls will be reinforced cast in place concrete, or reinforced concrete masonry lintel blocks. Similarly, sloping sills will be either cast in place or concrete masonry shapes with a cement wash or stainless steel sill.

3.4.3 Openings

Exterior windows and glazed exterior door openings shall receive aluminum framing and door systems, and aluminum window frames. Exterior glazing shall be 25mm laminated and heat strengthened glass in single or insulated units as the condition warrants. All windows will be operable. Insulated units will be furnished with low-e glass. Other exterior doors (service and utility) shall be hollow metal units. Sizing, mounting and reinforcement of all window and door frames shall conform to current AT/FP requirements. Windows in the Guard Towers will be plastic-glazed (Plexi-glas) for ease of replacement.

3.4.4 Roofing

The roofing system will be comprised a corrugated metal roof on metal deck. The corrugated metal roof will have gasketed fasteners.

3.4.5 Thermal Resistance

The building envelope will comply with ASHRAE Standard 90.1, based upon Climate Zone 4A which is assumed to be the worst-case scenario. In general the thermal resistance calculations are as follows:

Typical Stucco/CMU/Rigid Insulation/Plaster Exterior Walls (Nonresidential)

ITEM		"R"		
Inside film		0.68		
Plaster		0.56		
100mm board insulation		5.80	Table A3.1D	
200mm CMU		1.83	Table A3.1C	
Stucco		0.08		
Outside film		0.17		
	Total "R"	9.12	"U" =	0.110

Typical Stucco/CMU/Plaster Exterior Walls (SEMIHEATED)

ITEM		"R"		
Inside film		0.68		
Plaster		0.56		
200mm CMU		1.83	Table A3.1C	
Stucco		0.08		
Outside film		0.17		
	Total "R"	3.32	"U" =	0.301

Metal buildings shall have thermal insulation values not less than those listed in Table 5.5-4 of ASHRAE 90.1 2004 for metal buildings.

3.5 Interior Construction and Finishes

In general, interior wall construction shall be painted cement plaster applied to CMU. The interior of outside perimeter walls shall be painted plaster on metal lath. Ceiling systems shall be suspended cement plaster. Floor finishes shall be terrazzo tile in wet areas. Sealed concrete flooring with integral coloring shall be used at all other areas.

DESIGN ANALYSIS

CHAPTER 3
ARCHITECTURAL/ INTERIOR DESIGN

APPENDIX

LATRINE SIZING

Based on Middle and Ordinary Personnel Only

	M/O Personnel	1:12 Req'd Toilets	1:10 Req'd Showers
ANCOP Urban Unit	166	24	23
	Ratio	6.9	7.2
ANCOP Patrol Unit	204	24	23
	Ratio	8.5	8.9
ANCOP Brigade Unit	258	38	39
	Ratio	6.8	6.6
BP Zone A	325	38	39
	Ratio	8.6	8.3
BP Zone B	471	48	46
	Ratio	9.8	10.2

CHAPTER 4 - STRUCTURAL

4.1 General Parameters

The new facilities for the Afghanistan National Civil Order of Police (ANCOP) project consist of a several different building types with multiple functions for five different compounds, serving as the training facilities for various patrol battalions and brigades.

In general, four different structural systems will be used for the buildings. The first will consist of load-bearing concrete masonry units (CMU) shear walls supporting steel framing. The second will be pre-engineered braced steel framing and moment framing with non-load bearing CMU exterior walls. The third system is for Guard Tower and will consist of an elevated poured-in-place concrete rigid frame floor and roof system with CMU infill wall enclosures. Finally, several miscellaneous steel moment-frame canopies will be locate throughout each compound. All superstructure systems will be supported by conventional spread and strip footing type foundation systems.

Each of the different building types has been listed below and associated with its structural system:

Structural System 1: Load bearing CMU shear walls & steel framing:

- Administration Building (2-story)
- Toilet, Shower and Absolution Building (1-story)
- Middle Barracks (1-story)
- Women's Barracks (1-story)
- Senior and High Barracks (2-story)
- Laundry Facility (1-story)
- Guard Shack (1-story)
- Gate House (1-story)
- Well House (1-story)

Structural System 2: Pre-engineered braced or moment frame:

- Training Building (1-story)
- Vehicle Maintenance Facility (1-story)
- Kitchen and Dining Hall – DFAC (1-story)
- Logistics/Warehouse Building (1-story)
- Entry Control Point Canopy (1-story)

Structural System 3: Concrete rigid frame:

- Guard Tower (elevated 1-story)

Structural System 4: Cantilevered column system canopies:

- Re-fuel Point/Generator Canopy
- DFAC Wood Storage Canopy

Other Structural Systems: Earth-Retaining:

- ASP – Ammunition Supply Point (1-story)

4.2 Functional and Technical Requirements

Codes:

IBC 2003:	International Building Code
ACI 301:	Specifications for Structural Concrete for Buildings
ACI 318:	Building Code Requirements for Reinforced Concrete
ACI 530:	Building Code Requirements for Masonry Structures
ACI 530.1:	Specifications for Masonry Structures
ASCE 7-02:	Minimum Design Loads for Buildings
AISC-ASD:	American Institute of Steel Construction, Ninth Edition
UFC 1-200-01:	Design: General Building Requirements
UFC 3-310-01:	Design Load Assumptions for Buildings
UFC 3-310-02A:	Structural Design Criteria for Buildings
UFC 3-310-03A:	Seismic Design for Buildings, USACE
UFC 3-310-05A:	Masonry Structural Design for Buildings, USACE
UFC 3-320-06A:	Concrete Floor Slabs on Grade Subject to Heavy Loads, USACE
	UFC 3-340-01: Design and Analysis of Hardened Structures to Conventional Weapons Effects, USACE
UFC 4-010-01:	DoD Minimum Antiterrorism Standards for Buildings

References:

"Designing Floor Slabs on Grade", 1992; Ringo & Anderson
"Design of Reinforced Masonry Structures", 1995; Concrete Masonry Society
"Masonry Designers' Guide MDG-4", 2003; The Masonry Society
"Metal Building Systems: Design and Specifications", 1997; Newman
"Steel Deck Institute" (SDI) – Steel Deck Institute Design Manual Specifications

Specifications Sections:

03 11 13.00 10	Structural Concrete Formwork
03 20 01.00 10	Concrete Reinforcing
03 30 00.00 20	Cast-in-Place Concrete
04 20 00	Masonry Unit
05 05 23.00 10	Welding, Structural
05 12 00	Structural Steel
05 30 00	Metal Decking
05 40 00	Cold-Formed Metal Framing
05 50 00	Metal Fabrications
05 51 00.00 40	Metal Stairs

4.3 Gravity Framing Systems

The majority of the gravity framing systems throughout the compound consists of steel wide flange roof or elevated floor framing to support the gravity loads. In most cases where CMU walls are present, the framing will bear directly on the walls; including interior corridor walls in the Administration Buildings, Senior and High Barracks. Where the interior is desired to be more open, steel wide flange girders framing into steel tube or pipe columns will support the steel in-fill framing. The roof slopes are formed by positioning the wide flange members along the slope from the ridge to the eave; which then in turn will support 38mm structural metal roof deck.

The elevated floors located in the Administration Buildings and Senior and High Barracks are comprised of 38mm structural metal form deck with 64mm normal weight concrete topping (overall slab thickness of 102mm) that will be reinforced. The slab is supported with wide flange steel floor beams spaced at approximately 1600mm and bearing on the CMU walls.

Gravity framing at the Training Building, Vehicle Maintenance Facility, Kitchen and Dining Hall, Logistics/Warehouse Building and the Entry Control Point Canopy will consist of pre-engineered clear-span rigid steel frames, likely with tapered beams and columns, supporting purlins spanning perpendicular to frames. Architectural "raised-seam" metal roofing, supplied with the pre-engineered building system, will be attached directly to the purlins and remain as the finished roofing surface.

The Guard Tower will resist gravity loads via reinforced concrete, one-way spanning, flat slabs for both floor and roof structures. The slabs will be supported with reinforced concrete columns. All concrete support elements will be formed and cast-in-place.

Finally, gravity framing for the Re-Fuel/Generator Canopy and the DFAC Wood Storage Canopy will consist of steel wide flange members supported by steel tube or pipe columns. Roof members will be sloped as required to form the roof profile and to support the 38mm structural metal roof deck that will afterwards be attached.

4.4 Foundation Systems and Slabs-on-Grade

The foundation systems consist of continuous reinforced concrete strip footings under all CMU load bearing and perimeter walls. Conventional reinforced concrete spread footings will be constructed under all individual steel, concrete or pre-engineered building columns. CMU wall construction will begin at the top of the footings and continue upward, thereby eliminating the need for reinforced concrete foundation (stem) walls. Masonry foundation walls below grade will be grouted solid. Minimum continuous wall footing dimensions will be 600mm wide by 300mm thick. Minimum spread footing dimensions will be 900mm square by 300mm thick. Larger footing sizes will be used as required to resist uplift forces when present. Allowable bearing capacity of the in-place soils is assumed to be 96kPa and a minimum bearing depth for exterior footings is 800mm.

All slabs-on-grade, except for those in the Logistics/Warehouse Building, Vehicle Maintenance Facility and the ASP, will consist of a 100mm reinforced concrete slab on 100mm compacted crushed granular fill material. The slab on grade in the Logistics/Warehouse Building, Vehicle Maintenance Facility and the ASP will consist of a 150mm reinforced concrete slab on 100mm compacted crushed granular fill

material. No vapor barriers will be used. Slabs-on-grade supporting interior CMU partition walls will be thickened to 600mm wide by 200mm thick minimum and have additional reinforcing.

4.5 Lateral Resistance Systems

The lateral resistance systems for each structural system listed above in Section A will be designed for the most critical affects from either wind or seismic forces. For Structural System 1, reinforced concrete masonry load-bearing shear walls will be designed to resist lateral forces and categorized as "ordinary" elements. Structural System 2 will be designed to resist lateral forces with pre-engineered clear-span steel moment frames for the main span direction and portal or braced cable frames along the end walls in the opposing direction. Lateral drift for the pre-engineered building system shall be limited to that compatible with the CMU exterior wall enclosure, but in no case shall it be less than H/180. The Guard Tower (Structural System 3) will resist lateral forces with ordinary concrete moment frames while Structural System 4 will utilize a cantilevered column system where the steel columns are fixed at their base to the concrete footings.

Other than the pre-engineered buildings, lateral loads will be distributed to the resisting systems through structural rigid or flexible diaphragms. Rigid diaphragms are limited to those constructed with structural metal form decking and concrete infill topping while those constructed with only structural metal decking are considered flexible. For the pre-engineered building, lateral loads are generally distributed with horizontal (plan) cable or rod bracing since the metal roofing supplied by the pre-engineered building manufacturer is not structural. Wall enclosures, where applicable, for all structural systems are assumed to be CMU and will be designed as vertically spanning elements to transfer lateral forces to the diaphragms.

4.6 Antiterrorism Force Protection

Other than the Guard Tower and Guard Shack, only the minimum protective measures as specified by the current Department of Defense Minimum Antiterrorism Standards for Buildings (UFC 4-010-01) are required for this project. All structures within the compound are less than 3-stories in height and therefore are not required to be designed to prevent progressive collapse. Although conventional construction may be used provided that required minimum standoff distances are achieved, the UFC 4-010-01 requires that all applicable window and glazed door jambs, head and sill members are to be designed for appropriate blast loads. In addition, all exterior masonry walls shall be reinforced both vertically and horizontally at a maximum spacing of 1200mm.

4.7 Design Loads

Wind load

- Basic Wind Speed (3-second gust): 135 km/hr (90mph)
- Importance Factor (I): 1.0
- Exposure Category: D

Seismic Load

- Seismic Occupancy Category: II
- Importance Factor (I): 1.0
- Site Class: D
- Seismic Design Category: D
- Short Acceleration (S_s): 1.28
- One Second Acceleration (S_1): 0.51

Roof Live Loads

- Flat or Sloped Roof Live Load: 1.0 kPa (20 psf)

Elevated Floor Live Loads

- Typical Floor 4.0 kPa (80 psf)
- Light Storage 4.0 kPa (80 psf)
- Corridors 4.0 kPa (80 psf)

Snow Load

- Ground Snow Load (Pg): N/A (per UFC 3-310-01)

Roof Dead Load

- Steel Framing 0.25 kPa (5 psf)
- Roofing: 0.1 kPa (2 psf)
- Insulation: 0.1 kPa (2 psf)
- Metal Decking: 0.1 kPa (2 psf)
- Mech./ Elec./ Plumbing: 0.15 kPa (3 psf)
- Plaster Ceiling: 0.25 kPa (5 psf)
- Miscellaneous: 0.05 kPa (1 psf)

Total = 1.0 kPa (20 psf)

Elevated Floor Dead Load

- 100mm normal weight concrete slab: 2.0 kPa (43 psf)
- Steel Framing: 0.3 kPa (6 psf)
- Mech./ Elec./ Plumbing: 0.2 kPa (4 psf)
- Plaster Ceiling 0.25 kPa (5 psf)
- Miscellaneous: 0.1 kPa (2 psf)

Total = 2.9 kPa (60 psf)

4.8 Design Stresses

- Concrete: F'c = 21 Mpa (3000 psi)
- Masonry: f'm = 10 Mpa (1,500 psi)
- Reinforcing: Fy = 415 Mpa (60,000 psi)
- Structural Steel (Wide Flange Members): Fy = 345 Mpa (50,000 psi)
- Rectangular Hollow Structural Sections: Fy = 320 Mpa (46,000 psi)

- Other Steel — Fy = 250 Mpa (36,000 psi)
- Allowable Soil Bearing Pressure: — 96 kPa (2000 psf)
- Modulus of Subgrade Reaction: — 150 pci

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CHAPTER 5 - HVAC DESIGN

5.1 Heating, Ventilating, and Air Conditioning Design Criteria.

The guiding criteria and reference for the design of the HVAC systems includes:

- International Mechanical Code 2006
- ARI - Air Conditioning and Refrigerant Institute.
- ASHRAE - Americans Society of Heating Refrigeration and Air Conditioning Engineers
- ASHRAE Standard 62.1-2004 Ventilation for Indoor Air Quality.
- ASHRAE Standard 90.1-2004 Energy Standard for Buildings Except Low-Rise Residential Buildings.
- All other Applicable ASHRAE Handbooks and Guidelines.
- All applicable NFPA Standards.
- UFC 3-410-01FA Design: Heating Ventilating and Air Conditioning.
- UFC 4-010-01 Design Minimum Antiterrorism Standards for Buildings
- UL 710, Exhaust Hood for Commercial Cooking Equipment.

5.2 Design Conditions, Heating/Cooling Load Calculations.

Outside Design Conditions: 42.2° C (108.0° F) DB / 17.2° C (63.0° F) WB shall be used for the cooling design condition (sensible capacity) and -1.1° C (30.0° F) shall be used for the heating design condition. Conditions are as directed by owner and used for all sites for standardization of equipment.

Indoor Design Conditions: Indoor design cooling and heating set points for both occupied and maintained scenarios shall be in accordance with Section 01015 Technical Requirements, 6. Mechanical, 7.31 Indoor Design Condition.

Load Calculations: Heat gain and loss calculations shall be performed utilizing the Trane Trace Load Calculation program, which utilizes calculation methodologies approved by ASHRAE. Calculations will be performed on a room-by-room basis. Heating load calculations will not take credits for lights or internal loads as supplementing the heating system.

- Occupancy Loads: The sensible and latent loads for the occupied spaces will be in accordance with the ASHRAE Handbook – Fundamentals. The number of occupants per space shall be determined by using the occupancy counts determined by the Architect. ASHRAE occupancy estimates shall be used where a space is not covered.

- Lighting Loads: Fixture counts and heat release data will be used to calculate the lighting loads in each space upon completion of the lighting design. Preliminary loads shall be based on the ASHRAE 90.1 allowable lighting watts per square foot densities.

- Equipment Loads: A 1.5 watt per square foot allowance will be included for open office and classroom spaces. A 200 watt allowance will be included for each workstation in private and semi-private offices.

- Toilets and showers will be exhausted at the greater of 10 air changes per hour, .001 CMS/SM (2 cfm/SF), or ASHRAE 62.1 requirements. Mechanical rooms will be provided with a minimum of 2 air changes per hour or as required to remove excessive heat.

- As directed by AED the HVAC units have been standardized across all tasks. As directed, a load calculation was performed on a middle sized, Administration building to determine a "standard" building heating/ cooling load. With this information as a basis of design, the evaporative coolers were chosen based on required airflows to temper the building-cooling load. Additionally the units heating capacity was selected based on the worse case scenario of 100% outside air and -1.1° C. The standard unit size was selected and one or more of these units will be utilized at each site to accommodate the buildings needs. Because of unit standardization and differently sized buildings, some units may be oversized and others may be undersized. This was done for redundancy of equipment, spare parts and service considerations and with the recommendation and full understanding of AED, CSTC-A and TAC.

5.3 HVAC Systems – Dining Facility and Storage Yard:

Main Dining: Heating and cooling shall be provided by outdoor packaged HVAC units consisting of evaporative coolers, outdoor air intake and diesel fired burners with fuel tank. Supply air shall be ducted centrally throughout space and to individual rooms with a central return air system. Control shall be with an analog on/auto/off - heat/cool thermostat centrally located for each unit.

Kitchen Area: The kitchen cooking area shall be served by an exhaust only kitchen hood with baffle filters and up blast exhaust fan on the roof above the kitchen. Make up air to the unit will be provided by the HVAC unit. The dish washing area shall be served by an inline exhaust fan. General cooling and heating will be provided by a packaged HVAC units consisting of evaporative coolers, outdoor air intake and diesel fired burners with fuel tank.

Kitchen Annex: Annex is open air with a canopy, louvers shall be provided on two sides of the canopy to provide cross ventilation of the space.

Propane Storage Ventilation: Ventilation of the propane storage shall be provided by an inline exhaust fan that shall be switched at the panel to run continuously.

Ventilation: Ventilation to the main building shall be provided by the evaporative coolers through its fresh air intake with separate exhaust fans direct discharging to the outside for the toilet rooms.

5.4 HVAC Systems – Barracks (Middle/Ordinary):

Main Heating and Cooling: Outdoor, packaged HVAC units consisting of evaporative coolers, outdoor air intake and diesel fired burners with fuel tank. Supply air shall be ducted centrally throughout space with a central return air system. Control shall be with an analog on/auto/off - heat/cool thermostat centrally located for each unit.

Ventilation: HVAC unit shall provide ventilation through its outdoor air intake.

5.5 HVAC Systems – Barracks (Women):

Main Heating and Cooling: Outdoor, packaged HVAC units consisting of evaporative coolers, outdoor air intake and diesel fired burners with fuel tank. Supply air shall be ducted centrally throughout space and to individual rooms where applicable with a central return air system. Control shall be with an analog on/auto/off - heat/cool thermostat centrally located for each unit.

Ventilation: Ventilation to toilet and shower facilities shall be provided by ducted inline exhaust fans switched with the lights.

5.6 HVAC Systems – Barracks (Senior/High):

Main Heating and Cooling: Outdoor, packaged HVAC units consisting of evaporative coolers, outdoor air intake and diesel fired burners with fuel tank. Supply air shall be ducted centrally throughout space and to individual rooms when applicable with a central return air system Control shall be with an analog on/auto/off - heat/cool thermostat centrally located for each unit.

Ventilation: Ventilation to toilet and shower facilities shall be provided by ducted inline exhaust fans switched with the lights.

5.7 HVAC Systems – Shower and Latrine:

Main Heating and Cooling: Outdoor, packaged HVAC units consisting of evaporative coolers, outdoor air intake and diesel fired burners with fuel tank. Supply air shall be ducted centrally throughout facility. Control for the HVAC unit shall be with an analog on/auto/off - heat/cool thermostat centrally located for each unit. Unit shall be interlocked with exhaust fans to prevent unit from operating without exhaust.

Mechanical Rooms: Heating shall utilize the buildings main HVAC system with exhaust provided by ducted inline exhaust fans. Combustion air shall be supplied by wall mounted louvers ducted to 305mm (12”) AFF, and exhausted by wall mounted louvers mounted 305mm (12”) below ceiling. Louvers shall have motor operated dampers to open when hot water heaters are firing and close when not. Hot water heater vents shall extend up through roof.

Ventilation / Exhaust: Unit shall be 100% outdoor air with ventilation provided by ducted inline exhaust fans switched with the lights and interlocked with the HVAC unit.

5.8 HVAC Systems – Laundry Building:

Main Heating and Cooling: Outdoor, packaged HVAC units consisting of evaporative coolers, outdoor air intake and diesel fired burners with fuel tank. Supply air shall be ducted centrally throughout facility. Control for the HVAC unit shall be with an analog on/auto/off - heat/cool thermostat centrally located for each unit. Unit shall be interlocked with exhaust fans to prevent unit from operating without exhaust.

Ventilation: Ventilation shall be provided by ducted inline exhaust fans switched with the lights and through the HVAC unit. Drying of garments is accomplished by lines placed outside therefore dryer ventilation is not needed or required.

5.9 HVAC Systems – Administrative Buildings:

Main Heating and Cooling: Outdoor, packaged HVAC units consisting of evaporative coolers, outdoor air intake and diesel fired burners with fuel tank. Supply air shall be ducted to each room with central return air system utilizing the corridor ceiling space. Control shall be with an analog on/auto/off - heat/cool thermostat centrally located for each unit.

Situation Room Cooling: These spaces will be provided with dedicated ceiling mounted, split system DX air conditioning units with outdoor condensing units.

Cells: Heating and cooling is provided by the buildings HVAC system, all air shall be directed to the outside utilizing a ducted wall exhaust fan. Security grills are not required as directed by AED, CSTC-A and TAC.

Stairs: No requirements per AED, CSTC-A and TAC.

Ventilation: Ventilation to the main building shall be provided by the evaporative coolers through its fresh air intake with ducted inline exhaust fans direct vented to the outside for the toilet and shower rooms.

5.10 HVAC Systems – Multipurpose Facility:

Main Heating and Cooling: Outdoor, packaged HVAC units consisting of evaporative coolers, outdoor air intake and diesel fired burners with fuel tank. Supply air shall be ducted centrally throughout facility. Control for the HVAC unit shall be with an analog on/auto/off - heat/cool thermostat centrally located for each unit.

Ventilation: Ventilation to the main building shall be provided by the Evaporative coolers through its fresh air intake with ducted inline exhaust fans direct vented to the outside.

5.11 HVAC Systems – Training Facility:

Main Heating and Cooling: Outdoor, packaged HVAC units consisting of evaporative coolers, outdoor air intake and diesel fired burners with fuel tank. Supply air shall be ducted centrally throughout facility. Control for the HVAC unit shall be with an analog on/auto/off - heat/cool thermostat centrally located for each unit.

Ventilation: Ventilation to the main building shall be provided by the Evaporative coolers through its fresh air intake.

5.12 HVAC Systems – Gate House:

Heating: Supplied by electric unit heaters mounted below ceiling with remote mounted thermostat.

Ventilation: Ventilation needs shall be met by operable windows.

5.13 HVAC Systems – Well House:

Heating: Supplied by electric unit heaters mounted below ceiling with remote mounted thermostat.

5.14 HVAC Systems – ASP:

Heating: Supplied by electric unit heaters mounted below ceiling with remote mounted thermostat.

Ventilation: Ventilation shall be provided by ducted inline exhaust fan controlled with a reverse acting thermostat.

5.15 HVAC Systems – Vehicle Maintenance:

Main Heating and Cooling: Outdoor, packaged HVAC units consisting of evaporative coolers, outdoor air intake and diesel fired burners with fuel tank. Supply air shall be centrally ducted. Control shall be with an analog on/auto/off - heat/cool thermostat centrally located for each unit.

Office: This space shall be provided with dedicated wall mounted, split system heat pump unit with outdoor unit.

Ventilation: Ventilation shall be provided by ducted exhaust fans direct vented to the outside that are switched at the wall and controlled with combination Nitrogen Dioxide (NO2) and Carbon Monoxide (CO) sensors, the sensors shall be set to turn the fans on if CO levels rise above 35 ppm or NO2 levels rise above 2 ppm. A separate fan will be ducted underground to grilles located at 300mm (12”) AFF of the pit, this fan shall be switched at the panel to run continuously. Vehicle exhaust shall be provided by through the door hoses.

Battery Room: The battery room will be provided with a dedicated exhaust fan interlocked with a hydrogen sensor to turn fan on with increased hydrogen levels. The fan shall be interlocked with the battery charger so that the charger will not operate without ventilation. A wall mounted fan switch shall be provided to control the fan. Fan motors will be installed outside the battery room. The blower will have a non-sparking fan.

5.16 General Requirements:

- Duct system design to be per ASHRAE, SMACNA, and other industry standards utilizing the equal friction method of duct sizing. All interior ductwork shall be insulated inside the facility and exterior ducts shall be insulated and jacketed. Volume control dampers to be installed at branch take-off locations. Balancing shall not be performed at the air devices. Access panels shall be provided at all concealed duct mounted equipment.

- Unit filtering shall consist of 50 mm (2”) 30% EFF Washable pre-filters and 50 mm (2”) 30% EFF Washable Final Filters.

- Kitchen exhaust ducts shall be steel, minimum 16 gage, with all seams and joints having a liquid tight continuous external weld. Cleanouts / access shall be provided at each change in direction and large enough to permit cleaning.

- All ducts within the shower, laundry facilities and any predominantly wet areas shall be aluminum.

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CHAPTER 6 – PLUMBING

6.1 Plumbing Design Criteria.

The guiding criteria and reference for the design of the Plumbing systems includes:

- International Plumbing Code 2006
- All applicable ASHRAE Standards
- American Society of Mechanical Engineers, ASME.
- American Society of Testing Materials, ASTM.

6.2 Domestic Water Systems and Design.

Domestic Water Supply: Water service for each building where required, will be brought into a mechanical, toilet, storage or similar type space. Cold water service located in said room will include shut-off valve, backflow preventer, and a hose bib. Galvanized piping shall be used for all interior domestic water services. Water service line will be grounded and insulated as required.

Domestic Water Distribution Piping & System Design – Administration:
The hot and cold water piping will leave the mechanical/water heater room and distribute through the main corridor. Hot and cold water branches will be routed into the first floor corridor ceiling to serve common risers serving the first and second floors. Each room will have a hot and cold water shut-off valve serving all plumbing fixtures. The domestic hot and cold water piping will be sized per IPC and to minimize system pressure loss through all mains and branches. Water hammer arresters will be used to minimize water system noise. One exterior sill cock with vacuum breakers shall be provided on either side of the building near the evaporative coolers. All cold and hot water piping, and other applicable domestic water equipment will be insulated. Hot water shall be provided by electric resistance water heaters with a thermostatic mixing valve.

Domestic Water Distribution Piping & System Design – Barracks (High):
The hot and cold water piping will leave the mechanical/water heater room and distribute through the main corridor. Hot and cold water branches will be routed into the first floor corridor ceiling to serve common risers serving the first and second floors. Each room will have a hot and cold water shut-off valve serving all plumbing fixtures. The domestic hot and cold water piping will be sized per IPC and to minimize system pressure loss through all mains and branches. Water hammer arresters will be used to minimize water system noise. One exterior sill cock with vacuum breakers shall be provided on either side of the building near the evaporative coolers. All cold and hot water piping, and other applicable domestic water equipment will be insulated. Hot water shall be provided by electric resistance water heaters with a thermostatic mixing valve.

Domestic Water Distribution Piping & System Design – Barracks (Women):
The hot and cold water piping will leave the mechanical/water heater room and distribute through the main corridor. Hot and cold water branches will be routed to the corridor ceiling to serve each room which will have a hot and cold water shut-off valve serving all plumbing fixtures. The domestic hot and cold water piping will be sized per IPC and to minimize system pressure loss through all mains and branches. Water hammer arresters will be used to minimize water system noise. One exterior sill cock with vacuum breakers shall be provided on either side of the building

near the evaporative coolers. All cold and hot water piping, and other applicable domestic water equipment will be insulated. Hot water shall be provided by electric resistance water heaters with a thermostatic mixing valve.

Domestic Water Distribution Piping & System Design – Latrine Showers
The hot and cold water piping will leave the mechanical/water heater room and distribute through out the building. Hot and cold water branches will be routed exposed to each plumbing fixture along interior walls.. Each fixture will have a hot and cold water shut-off valve. The domestic hot and cold water piping will be sized per IPC and to minimize system pressure loss through all mains and branches. Water hammer arresters will be used to minimize water system noise. One exterior sill cock with vacuum breakers shall be provided on either side of the building near the evaporative coolers. All cold and hot water piping, and other applicable domestic water equipment will be insulated. Diesel fuel fired water heaters with a thermostatic mixing valve shall provide hot water.

Domestic Water Distribution Piping & System Design – Laundry
The hot and cold water piping will leave the mechanical/water heater room and distribute through out the building. Hot and cold water branches will be routed to each wash tub which will have a hot and cold water shut-off valve. The domestic hot and cold water piping will be sized per IPC and to minimize system pressure loss through all mains and branches. Water hammer arresters will be used to minimize water system noise. One exterior sill cock with vacuum breakers shall be provided on either side of the building near the evaporative coolers. All cold and hot water piping, and other applicable domestic water equipment will be insulated. Hot water shall be provided by electric resistance water heaters with a thermostatic mixing valve.

Domestic Water Distribution Piping & System Design – DFAC
The hot and cold water piping will leave the storage room and distribute through out the building. Hot and cold water branches will be routed to each plumbing fixture which will have a hot and cold water shut-off valve. 60° C hot water will be extended to the dishwashing sink. The domestic hot and cold water piping will be sized per IPC and to minimize system pressure loss through all mains and branches. Water hammer arresters will be used to minimize water system noise. One exterior sill cock with vacuum breakers shall be provided on either side of the building near the evaporative coolers. All cold and hot water piping, and other applicable domestic water equipment will be insulated. Hot water shall be provided by electric resistance water heaters with a thermostatic mixing valve.

6.3 Plumbing Fixtures:

Eastern Water Closet With Flush Tank Assembly: Eastern style water closets shall be used with acid resisting fired porcelain enameled cast iron complete with rotating No-Hub 'P' trap and No-Hub coupling to meet piping requirements. Eastern Style water closet shall be furnished with integral non-skid foot pads and bowl wash down non-splashing flushing rim. The water closet shall be completely self supporting requiring no external mounting hardware and shall be flush with floor. The Eastern Style water closet shall incorporate waterproofing membrane flashing flange. A cold water spigot 300mm (12”) above finished floor on the right (from a perspective of standing inside of the stall and looking out) sidewall of the stall shall be provided. Spigot shall have a flexible hose and spray nozzle such that the user can wash over the water closet.

Lavatories: All sinks shall be field fabricated by the GC. Faucets shall be chrome plated brass single lever mixing type with maintenance access to waste piping and P-traps from under the sink. Lavatories inside the prison cells shall be tamper-proof with integral spout, soap depression, and outlet connection to slip 40mm (1.5") OD tubing.

Shower: All showers shall be field fabricated by the GC. Showerhead and faucet handles shall be copper alloy with manual mixing with hot and cold water valves. In addition to a shower head, each shower stall shall be provided with a threaded faucet approximately 1.2 m (4') AFF with hot and cold-water controls, mixing valve and a diverter type valve so water can be directed to either the shower or to the lower faucet. Shower shall be provided with low flow shower head. The shower head shall be heavy duty type and securely fastened to the wall.

Emergency Eye Wash Assembly: A emergency eye wash assembly shall be provided in the Vehicle Maintenance facility. A floor drain will be provided in the area of the eye wash (where emergency water flowing on the floor may lead to additional safety or operational complications).

Floor Mount Janitor Sink: Enameled cast iron with copper alloy rim guard. Provide with hot and cold water valves with manual mixing. Faucet handles shall be copper alloy.

Laundry Room Sinks: Single bowl, floor mounted, stainless steel, approximately 600mm x 600mm x 350mm deep. Provide with hot and cold water valves with manual mixing. Faucet handle shall be corrosion resisting steel or copper alloy.

Kitchen Sink: Single Bowl corrosion resisting formed steel. Faucet bodies and spout shall be cast or wrought copper alloy. Handles, drain assembly, and stopper shall be corrosion resisting steel or copper alloy.

Ablution Trough: Trough shall be field fabricated by the GC. Trough will be provided with trench drain with brass grating and strainer. Each station shall be provided with hot and cold water valves to allow manual mixing. Faucet handles shall be copper alloy.

Drinking Water Fountain: Non-refrigerated with enamel cast iron or corrosion resistant bowl with brass fittings and faucets.

6.4 Sanitary Sewer:

The sanitary, waste and vent system will be a conventional system, designed in accordance with the IPC. Schedule 40 PVC will be used for all standard sanitary and vent lines, cast iron will be used for grease waste lines from the DFAC to the grease interceptor. All other fixtures will be vented as required by code. The sanitary stack will extend into the attic space, becoming a stack vent and will tie together with the stacks from the facility. The vent will penetrate the roof on the backside of the ridge on the utility space between buildings. Cleanouts will be provided in accordance with the International Plumbing Code (IPC) with additional as directed by the owner. Floor drains will also be provided in mechanical rooms, rooms with water heaters and laundry rooms. Trap primers will be provided where required. Trench drains will be provided at the Vehicle Maintenance building, DFAC, and Warehouse Logistics.

6.5 Packaged Evaporative Cooling Unit:

Water service for each unit, will be brought into a mechanical, storage or similar type space, a shutoff valve and backflow preventer will be provided inside the building and the line will extend out to the unit. A blow off valve will be provided to drain system out side of building. All piping shall be insulated inside the building and heat trace will be provided on all exterior piping. A drain valve shall also be provided on the unit drain pan.

6.6 Vehicle Refueling Points

Packaged, aboveground, double wall, fire and ballistic rated, diesel and MOGAS tank/dispenser units will be provided at the vehicle refueling points. Each tank will have a dual hose dispenser with high hose retractor. The tank/dispenser units will be filled using secure, remote fill points which are accessed from outside the base.

6.7 Generator Fuel Systems

In addition to the belly fuel tanks provided with the primary and backup generators, standalone diesel fuel tanks will be provided at each bank of generators. These tanks will also be aboveground, double wall, fire-rated, and will be filled using secure, remote fill points which are accessed from outside the base. The current estimated total storage size require for 24 hour/30 day operation at average daily loading of these tanks for ANCOP sites is 43,232 liters (11,422 gallons) and at BP Zone Sites is 63,000 liters (16,645 gallons). At ANCOP, two 22,712 liter (6,000 gallon) tanks and the generator day tanks will be provided. At BP Zone sites three 22,712 liter (6,000 gallon) tanks and the generator day tanks will be provided.

6.8 Compressed Air Systems.

A compressed air system shall be provided at the Vehicle Maintenance building. Compressed air lines shall extend from the tool room where a compressor, provided by others, will be located. Air drops with filter dryers and quick connects shall be located throughout the facility for ease of use. Air piping material shall be black iron.

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CHAPTER 7 – FIRE PROTECTION

7.1 General

Fire protection will not be provided for this project. Fire extinguishers will be provided through-out the facility buildings.

CHAPTER 8 - ELECTRICAL

8.1 Criteria Sources and References

- ANSI-C2 National Electrical Safety Code

- IEEE Std-142 Grounding of Industrial and Commercial Power Systems
- IEEE Std-446 Emergency and Standby Power Systems for Industrial and Commercial Applications
- IEEE Std-602 Electric Systems in Health Care Facilities
- IEEE Std-1100 Powering and Grounding Electronic Equipment
- Illuminating Engineering Society (IES) Lighting Handbook Reference And Application, 9th Edition
- MIL-HDBK-419 Grounding, Bonding, and Shielding for Electronic Equipment and Facilities
- MIL-HDBK-1004/1 Electrical Engineering Preliminary Design Considerations
- MIL-HDBK-1004/2 Power Distribution Systems

- IEC 60439-1 Low Voltage Switchgear and Controlgear Assemblies – Part 1 Type Tested and Partially Type Tested Assemblies
- IEC 60529 Degrees of Protection Provided by Enclosures
- IEC 60598-1 Luminaires: Part 1, general Requirements and Tests
- IEC 60598-2-22 Luminaires Part 2-22, Particular Requirements – Luminaires for Emergency Lighting
- IEC 60669-1 Switches for Household and Similar Fixed-Electrical Installations
- IEC 60898-1 Electrical Accessories – Circuit Breakers for Overcurrent Protection for Household and Similar Installations – Part 1, Circuit Breakers for AC Operation
- IEC 61009 Residual Current Operated Circuit Breakers with Integral Overcurrent Protection for Household and Similar Installations (RCBOs) – Part 1, General Rules

- NFPA 70 National Electrical Code
- NFPA 72 Fire Protection Systems
- NFPA 99 Heath Care Facilities
- NFPA 101 Life Safety Code
- NFPA 110 Emergency and Standby Power Systems
- NFPA 780 Lightning Protection Code
- TM 5-811-1 Electrical Power Supply and Distribution
- UFC 3-520-01 Design: Interior Electrical Systems
- UFC 4-021-01 Design And O&M: Mass Notification Systems
- USACE Transatlantic Program Center Design Instructions Manual

8.2 Site Electrical Supply

8.2.1 Service Availability

The design of the ANCOP facility will apply to the CENTCOM Area of Responsibility (AOR). Twenty-seven countries, from northeast Africa, the Middle East, to western Asia, are potential sites for this standardized facility. All but one country, Saudi Arabia, operates the power distribution system at 380/220 volts, 50 cycles per second (Hz).

Although not present today in the capacity the future electric power for the facility will be supplied from the regional power distribution body; non-US equipment requiring 220 Volts, 50 Hz will be utilized.

Therefore, future electricity will be supplied from the local utility at 380/220 Volts, 3 Phase, 4 wire, at a frequency of 50 Hz. Basis of design for all equipment such as HVAC, lighting, etc., will be standard overseas materials readily available in the Middle East. All the specific equipment listed will be required to be supplied at 380/220 volts, 50 Hz, in lieu of the 208/120 volt, 60 Hz requirement.

8.2.2 Distribution Scheme

The secondary distribution system consists of two series mounted manual transfer switches (MTS). Each MTS shall have three-connection points: Normal power (N), Emergency Power (E) and Normal/Emergency (N/E). Both the MTSs and the Main Distribution Panel (MDP) shall be service rated for the applications. Both generators shall be prime power rated for 24-hour operation of the base.

The local utility connection shall be made to the N-lugs of MTS-1. Where the local utility company cannot provide service at this time the terminal shall be a provision for a future connection. A generator shall be connected to the E-lugs of MTS-1. The N/E lugs shall be bussed to the N-lugs of MTS-2. A generator shall be connected to the E-lugs of MTS-2. The N/E-lugs shall be connected to the service distribution equipments main lugs. From the MDP a series of sub-distribution panels shall be placed throughout the base to service individual buildings.

8.2.3 Grounding

The power distribution ground will be a solidly grounded neutral system to provide voltage stabilization, free from transient over voltages. A bare copper ground conductor will be buried around the building perimeter to form the grounding electrode system. The main electrical panel will be bonded to the ground ring. Lightning protection down conductors, where required, will be permanently bonded to the grounding electrode system. Each building grounding system shall be tested to achieve 25-ohms or less as recommended per NEC article 250.

8.2.4 Construction Methods

The local service connection will be run underground form the interior generator and switchgear pad to the local utility transformer pad outside of the perimeter fence. This conduit bank will consist of four 100-mm conduits with pull tapes. The pad location is site specific and will be determined in the field. At locations where no local utility exists the pad shall be located in site of the guard shack.

8.3 Other Site Electrical Utilities

8.3.1 Telephone

Site telephone utility requirements are location specific and cannot be defined at this time. The facility will require an approximately 25 pair incoming telephone cable and Fiber Optic connectivity if available at the site.

8.3.2 Fire Alarm

Standalone Fire Alarm systems with manual pull stations only, shall be provided in the Administration Building and the Dining Facilities. Each Barrack shall be provided with a standalone local Automatic Fire Alarm System with manual pull stations and smoke detection. Each Fire Alarm system shall have provisions to be locally reset in case of accidental triggering. A Mass Notification System shall not be provided per AED direction.

8.3.3 Exterior Lighting

Building exterior fixtures will be located at each door and in the area of the exterior HVAC equipment. Fixtures shall be furnished with quartz lamps.

8.3.4 Cathodic Protection

Cathodic protection of metallic surfaces in contact with the earth is highly dependant on soil resistively and is therefore, site specific. Non-metallic materials used for incoming and outgoing pipes and conduits do not need cathodic protection. Metallic fuel and other liquid storage tanks will be placed on concrete slabs.

8.3.5 Lightning Protection

The Lightning Protection system shall be provided at the flag poles, on the roof of the Administration Building, ASP and on the Guard Towers.

The main power distribution transformer will be equipped with surge arresters to protect against transferred potentials from lightning strikes to the incoming overhead power electric lines.

8.4 Building Electrical Systems

8.4.1 Power Distribution

The future main electric service transformer steps-down the incoming medium voltage power to 380/220V 3 Phase, 4 wire, 50 Hz for distribution throughout the facility. Generators are provided ~~for~~ to power the facility and shall be distributed over the same underground distribution system. The current sizing for the generator is based on 25 Watts/Square Meter.

Large, three-phase loads, such as motors or pumps, may operate at the 380V level and single-phase devices (electrical equipment and lighting, for example) operate at the 220 volt level.

8.4.2 Lighting Systems

300 milliampere earth leakage protection shall be provided for all panelboards that are used for lighting circuits. Surface fluorescent light fixtures with electronic ballasts and T-8 lamps will be used in all interior areas. Parabolic type luminares will be used in most areas. Surface and suspended industrial fluorescent fixtures will be used in spaces without ceiling grids such as latrines, laundry, mechanical, electrical, storage and staging areas.

Lighting levels (30” AFF) with surface reflectance values in various spaces inside the building are:

			Reflectance (%)		
	Lux	FC	Clg	Wall	Floor
Conventional Spaces					
Office/Computer spaces	500	50	80	50	20
Restrooms	300	30	80	50	20
Corridors	200	20	80	50	20
Conference Rooms	300	30	80	50	20
Receiving	300	30	80	50	20
Electrical/Mechanical/Utility Rooms	200	20	50	20	10
Latrine/Toilet/Shower	300	30	50	30	20
Barracks	300	30	80	50	20
Training Facility	500	50	80	50	20
Vehicle Maintenance	500	50	50	30	10
Kitchen	500	50	80	50	20
Dining	200	20	80	50	10

Light fixtures illuminating the path of egress and escape (exit) signs will be powered from emergency battery ballasts integral to the fixtures.

8.4.3 Wiring Methods

Insulated single conductor cable in metal conduit will be used for low voltage power feeder and branch circuits. Conduits routed underneath concrete slabs to reduce overhead congestion will be plastic pipe (PVC) with a stub up transition of metal conduit. Cable will be sized in mm^2 and conduit will be sized in mm.

Receptacles located in damp or wets areas will be equipped with residual current detectors (RCD) to protect against shock hazards, which will open the circuit when a 10mA current differential is sensed between the two conductors.

Circuit breakers with 30 milliampere earth leakage protection will be used to feel all receptacle loads. The voltage, current, and configuration of receptacles for circuits dedicated to one particular piece of equipment will match the plug supplied by the manufacturer.

8.4.4 Emergency System

Life Safety light fixtures illuminating the path of egress and escape (exit) exit signs will be powered from emergency battery ballasts with 1 1/2 hour backup which will be integral to the fixtures.

8.4.5 Public Address System

An individual Public Address System (PA) will be provided utilizing a system of loud speaker(s) located on a pole adjacent to the Administration Building and amplifier. The PA system will reside in the Administration Building with access from the Situation Room.

8.4.6 Communications

The communications system will primarily consist of a series of empty underground conduits beginning at the Situation Room and branching to all selected buildings, guard shacks and guard towers. Two empty 100-mm conduits shall be provided for future local utility connection point. Each conduit shall be provided with a pull tape. No wiring shall be provided with this contract.

DESIGN ANALYSIS

CHAPTER 8
ELECTRICAL DESIGN

APPENDIX