

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT	1. CONTRACT ID CODE	PAGE	OF	PAGES
		1		2

2. AMENDMENT/MODIFICATION NO. 0002	3. EFFECTIVE DATE 05/15/02	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
6. ISSUED BY CODE		7. ADMINISTERED BY (If other than Item 6) CODE	
US ARMY ENGINEER DISTRICT, HONOLULU CORPS OF ENGINEERS, BUILDING S-200 FORT SHAFTER, HAWAII 96858-5440 CONTRACT SPECIALIST: JODY MURAOKA			

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)	(X)	9A. AMENDMENT OF SOLICITATION NO.
	X	DACA83-02-R-0004
		9B. DATED (SEE ITEM 11) 04/10/02
		10A. MODIFICATION OF CONTRACT/ORDER NO.
		10B. DATED (SEE ITEM 13)
CODE		FACILITY CODE

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers is extended, is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. Accounting and Appropriation Data (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

(X)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc). SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor is not, is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

FY02 DLA MILCON KNMD 003002, Replace Hydrant Fuel System, Hickam Air Force Base, Oahu, HI

See Page 2 of 2 Pages

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF SIGNER (Type or print)
15B. CONTRACTOR/OFFEROR	16B. UNITED STATES OF AMERICA
(Signature of person authorized to sign)	BY (Signature of Contracting Officer)
15C. DATE SIGNED	16C. DATE SIGNED

1. Am-0001 amended the solicitation to eliminate all references to materials being used as any part of the selection criteria. As a result of Am-0001, there will not be any material preference used to select the successful offeror.

2. **CHANGES TO THE SOLICITATION.** Attached hereto are new and revised pages to the solicitation. The revision mark "(Am-0002)" is shown on each new and revised page.

a. REVISED PAGES/PROVISIONS/CLAUSES/PARAGRAPHS. Following are revised pages to the solicitation. Changes are indicated in **bold** print. Although the entire sections are being re-issued under Am-0002, only the following pages/provisions/clauses/paragraphs changed in these sections.

Section 00120

Paragraphs 2.5.2.1, 2.5.4.2, 2.5.4.2.1, 2.5.4.3.1, 2.5.5.1, 2.5.6 and 2.6

Section 00900

Q6 through Q22

Section 01000

Section 15050, Paragraph 2.4.1

b. DELETED PROVISIONS/CLAUSES/PAGES. The following items are deleted from the solicitation.

Section 00700

Appendix A, Davis Bacon Wage Determination (dated 04/19/02)

c. NEW PAGES. The following pages are added to the solicitation.

Section 00700

Appendix A, Davis Bacon Wage Determination (dated 05/03/02)

3. The proposal due date of May 28, 2002, 2:00 P.M., Hawaiian Standard Time, remains unchanged.

SECTION 00120

PROPOSAL SUBMISSION REQUIREMENTS AND EVALUATION FACTORS

1.0 GENERAL

1.1. Cost of Preparing Proposals

The Government will not reimburse any Offeror any costs incurred in the preparation and submittal of an offer in response to this solicitation.

1.2. Inquiries

Address all inquiries regarding this Request for Proposals to:

U.S. Army Engineer District, Honolulu
Attn: Ms. Jody Muraoka (CEPOH-CT-C)
Building S-200
Fort Shafter, Hawaii 96858-5440
Phone No. (808) 438-8575
Fax No. (808) 438-8588
E-Mail: jody.muraoka@usace.army.mil

1.3 Submittal of Proposals

Submit proposal packages to the US Army Corps of Engineers (“the Government”) as shown in Block 8 of Standard Form 1442.

Proposals received by the Government after the date and time set for receipt of proposals will be handled in accordance with the requirements of Provision “52.215-1, Instructions to Offerors—Competitive Acquisition (May 2001),” subparagraph (c), found in Section 00100.

1.4 Proposal Evaluation

Numerical scores and other point-scoring techniques will not be used in the evaluation process. Each factor or subfactor will be rated on an adjectival rating system. The Government will evaluate offers in accordance with the NON-PRICE EVALUATION FACTORS described in paragraph 2.5 of this section and the offeror’s proposed total price.

Offerors are advised that the Government intends to award without discussions. Upon completing the evaluation of all proposals, the Contracting Officer will, in accordance with the provisions of this solicitation and applicable acquisition regulations, proceed to award without discussions. However, if discussions are determined necessary, the Contracting Officer will establish a competitive range and conduct discussions with those Offerors only within the competitive range. Upon conclusion of discussions, if necessary, the Contracting Officer will request final proposal revisions from the Offerors remaining in the competitive range and may, upon receipt of final proposal revisions, proceed to award a contract without further discussions or notice.

1.5 Contract Award

The Government intends to award a contract to the Offeror whose proposal has been determined to represent the best value to the Government, non-price and price factors considered. Award will be made to the Offeror whose proposal has the best non-price evaluation and the lowest price. However, if there is no Offeror meeting both these criteria, the Government intends to implement a “Best Value” process involving a cost-technical tradeoff process. In this case, award may be made to other than the lowest price Offeror or other than the highest non-price-rated Offeror.

2.0 PROPOSAL FORMAT

2.1 General

Proposals shall be submitted in three (3) separate envelopes. All proposal revisions shall be submitted as page replacements with revised text readily identifiable, e.g. bold face print or underlining. Proposal replacement pages shall be clearly marked "REVISED", shall show the date of revision, shall be submitted in the appropriate number of copies (e.g., if four copies of the original page was required, then four copies of the revised page will also be required), and shall be of a different color than the original pages they are to replace.

2.1.1 Volume I, Non-Price Proposal

One envelope shall be clearly marked, "VOLUME I, NON-PRICE PROPOSAL, RFP NO. DACA83-02-R-0004." It shall contain an original and six (6) copies of the items provided in response to the Non-Price Factors listed in paragraph 2.5.

2.1.2 Volume II, Price Proposal

The second envelope shall be clearly marked, "VOLUME II, PRICE PROPOSAL, RFP NO. DACA83-02-R-0004." It shall contain one original and two copies of the Offeror's completed Standard Form (SF) 1442, using a printed copy of the SF 1442 included in this solicitation.

Volume II shall also include the following:

- One original and two copies of Section 00010, Price Proposal Schedule. Indicate whether or not Facilities Capital Cost of Money is included in the Offeror's costs of performing the work. Proposals that state that Facilities Capital Cost of Money is not included, or proposal that do not address Facilities Capital Cost of Money, will be deemed to have waived Facilities Capital Cost of Money.
- Original and two copies of Price Breakdown (See Paragraph 2.6, Volume II, Price Proposal of Section 00120).
- One original and one copy (certified as a true copy) of the Offeror's executed joint venture agreement and identify the size status for each member of the JV (if the Offeror is a joint venture).
- One original and one copy of the Offeror's completed Section 00600, Representations and Certifications, using a printed copy of Section 00600 included in this solicitation.
- One original and one copy of the Offeror's completed, if applicable, SF LLL, Disclosure of Lobbying Activities, using a printed copy of the SF LLL included as Appendix A in Section 00600.

2.1.3 Volume III, Subcontracting Plan (Large Business Concerns)

If the Offeror is a large business concern, the Offeror shall submit a subcontracting plan in accordance with FAR 52.219-9 (See Section 00100, Appendix A for a sample).

The third envelope shall be clearly marked, "VOLUME III, SUBCONTRACTING PLAN, RFP NO. DACA83-02-R-0004." Volume III will not be evaluated or rated. Only the selected Offeror's plan will be reviewed and must be approved prior to award of the contract.

2.1.4 Table of Contents

Proposal volumes shall be tabbed. Each of the proposal volumes shall include a Table of Contents that includes the title of the subject matter discussed therein and the page number where the information can be

found. The volumes shall be organized in the same order described in paragraph 2.4 of this Section. Each evaluation factor and subfactor shall be separately tabbed. Proposals that are not correctly tabbed may be considered non-responsive.

2.2. Proposal Presentation

Proposals shall be prepared in the English language.

Proposals shall completely address the requirements of the RFP. Elaborate format, binders, special reproduction techniques, and the like are not necessary. However, the proposal shall be neatly organized and bound. All pages, except divider tabs, shall be numbered. Except for divider tabs and revisions sheets, as noted above, plain white 8-1/2" x 11" bond shall be used. However, if drawings or other graphics are included, Offerors may reduce them only to the extent that legibility is not lost.

There is no limit to the number of pages in the non-price proposal. Pages may be single or double sided and shall be typed. Type pitch shall be 10 pitch or larger.

Information presented should be organized so as to pertain to only the evaluation factor or subfactor in which section the information is presented. Information pertaining to more than one evaluation factor or subfactor should be repeated in the tab for each factor or subfactor.

2.3 Proposal Content

Proposals shall be in a narrative format, organized and titled so that each section of the proposal follows the order and format of the factors and subfactors set forth below in paragraph 2.5, "VOLUME I, NON-PRICE PROPOSAL".

Any information, presented in a proposal that the Offeror wants safeguarded from disclosure to other parties must be identified and labeled in accordance with the requirements of Provision "52.215-1, Instructions to Offerors—Competitive Acquisition (May 2001)," subparagraph (e), which is found in Section 00100 of this solicitation. The Government will endeavor to honor the restrictions against release requested by Offerors, to the extent permitted under United States law and regulations.

The proposal must set forth full, accurate, and complete information as required by this solicitation. The Government will rely on such information in the award of a contract. By submission of an offer, the Offeror agrees that all items in its proposal (key managerial and technical home office and on-site personnel, subcontractors, material and equipment manufacturers, targets for utilization of eligible SDB concerns, etc.) will be used throughout the duration of the contract and any substitutions of any item will require prior approval of the Contracting Officer.

2.4 Evaluation Factors

All proposals will be evaluated on non-price and price factors. Offerors are required to provide data addressing all stated factors. If an Offeror does not have data relating to a specific factor, it shall be clearly stated. Offers that do not address all factors may be considered non-responsive and may not receive further consideration.

Non-price evaluation factors are listed in descending order of importance. All subfactors within a factor have equal importance. Non-price factors are approximately equal in weight to price.

NON-PRICE FACTORS (Volume I):

Factor I, Key Personnel

Factor II, Past Performance

Subfactor A - Past Performance Ratings

Subfactor B - Customer Satisfaction

Factor III, Past Experience

Factor IV, Small Business Program

Subfactor A - Extent of proposed small business subcontracting participation in the performance of the proposed contract.

Subfactor B - Past performance in complying with Small Business Subcontracting Plan goals.

Subfactor C - Extent of participation of small disadvantaged business (SDB) concerns in the performance of the proposed contract in the authorized North American Industrial Classification System (NAICS) Industry Subsector

PRICE (Volume II)

2.5 Volume I, Non-Price Proposal

Data provided in response to the non-price factors described below shall be included in Volume I, "Non-Price Proposal". All references to Offeror shall include any proposed subcontractors meeting the criteria stated in paragraph 2.5.2.1 below.

2.5.1 Relevant Experience

Relevant experience refers to construction of military Type III hydrant fueling systems (or equivalent commercial aircraft fueling systems), welding of stainless steel pipe, fuel piping (aboveground and underground), and fuel pumping systems and equipment work; computer-based pump control systems; construction of large vertical above ground fuel storage tanks; and the removal, transportation, and disposal of underground fuel storage tanks and associated piping.

If experience is based upon "equivalent commercial aircraft fueling system", the Offeror shall include a comprehensive and detailed analysis, which explains why the Offeror's cited commercial experience is similar or equivalent to actual Type III experience. This analysis shall include a breakdown and discussion of various project elements and technical challenges in a Type III project. The analysis shall compare the Offeror's commercial experience with the benefits of actual Type III experience on each element as well as overall project integration and management issues.

2.5.2 Construction Team

The construction team shall include the key personnel, joint venture partners, subcontractors, outside associates, or consultants identified in the Offeror's proposal.

2.5.2.1 Subcontract Experience/Credentials

Subcontractors may be included as part of the proposed construction team. The Government will consider the past ~~performance and~~ experience of a subcontractor where the prime contractor provides in its proposal, evidence of a binding teaming agreement or other contractual agreement which creates legal responsibility on the part of the subcontractor. However, the level of consideration will depend on the extent to which the proposal demonstrates the subcontractor's commitment to the project and legal accountability. A copy of all written agreements from each proposed subcontractor shall be included in the proposal. Proposed subcontractors that have not provided a contractual agreement may not be considered in the evaluation of the proposal.

Furthermore, if an Offeror intends to use a subcontractor's past experience ~~or performance~~ information to supplement its own, the subcontractor must provide written consent allowing the Government to hold

discussions with the Offeror on the subcontractor's ~~performance~~ **experience** history. A copy of all consents shall be included in the proposal.

If an Offeror is awarded a contract, all subcontractors that are included in the Offeror's proposal and have provided written commitments to perform in the contract shall be used on the contract. Substitution of any subcontractor(s) included in a successful Offeror's proposal must be submitted for review and acceptance by the Contracting Officer prior to the start of any work by that subcontractor. The Contractor is informed that the Government may take up to 30 days to respond. Any delays resulting from this post-award process shall be the responsibility of the contractor and shall not be a basis for any equitable contract adjustment.

2.5.3 Factor I, Key Personnel

Identify the individuals proposed to fill the key positions --project manager, project superintendent, contractor quality control system manager, and system start-up personnel. Provide resumes for each individual. Resumes must support the individual's qualifications to perform in the identified position, including any special skills or experiences deemed worthy of note. Resumes shall include a List of projects completed by the proposed individual. The list shall include contract number, completion date, title, detailed description, and dollar value. Preference will be given to individuals with past relevant experience (see paragraph 2.5.1 above).

If an Offeror is awarded a contract, all individuals that are included in the Offeror's proposal shall be used on the contract. Substitution or addition of any individual(s) not included in a successful Offeror's proposal must be submitted for review and acceptance by the Contracting Officer prior to the start of work by that individual. The Contractor is informed that the Government will be allowed a minimum of 30 days to respond. Any delays resulting from this substitution process shall be the responsibility of the contractor and shall not be a basis for any equitable contract adjustment.

2.5.3.1 Project Manager

The Project Manager shall be responsible for the contractor's overall management and coordination of this contract and shall be the central point of contact with the Government for performance of all work under this contract, including warranty. The Project Manager shall oversee contract accomplishment, administer all instructions, and answer all questions from the Contracting Officer pertaining to the contract during the life of the contract, including the warranty period. The Project Manager shall be responsible for the complete coordination of all work in this contract. The Project Manager will be responsible for ensuring that adequate internal controls and review procedures are followed in order to eliminate conflicts, errors and omissions, and for ensuring that all technical requirements are met. Another individual may be designated to temporarily act for the Project Manager, however, forty-eight (48) hours advance notice in writing of such change shall be requested to the Contracting Officer, and no change shall be made without prior acceptance by the Contracting Officer. The Project Manager shall have no other duties.

The Project Manager shall have a recognized four-year college degree in engineering, related technical field, or business/management, and five years experience in managing and supervising government construction projects of similar size and scope.

2.5.3.2 Project Superintendent

A Project Superintendent shall be assigned to the contract. This individual shall have a minimum of five years experience as a superintendent on Government construction projects similar in size and scope to this contract. The project superintendent shall have overall responsibility for all operations on the jobsite. The superintendent shall have no other duties.

2.5.3.3 Contractor Quality Control System Manager (CQCSM)

The requirements for the CQCSM are defined in Section 01451.

2.5.3.4 System Start Up Personnel

The requirements for the System Start Up Personnel are defined in Section 15899.

2.5.3.5 Evaluation Standards

Outstanding	The proposal includes all requested information for the factor. Each of the proposed key personnel have at least 10 years of experience on Type III hydrant system construction, plus at least 5 years of other relevant experience and are from the Offeror's organization or committed subcontractors.
Above Average	The proposal includes all requested information for the factor. Each of the proposed key personnel have at least 5 years of experience on Type III hydrant system construction, plus at least 5 years of other relevant experience and are from the Offeror's organization or committed subcontractors.
Satisfactory	The proposal includes all requested information for the factor. All proposed key personnel meet the minimum qualification standards described above and are from the Offeror's organization or committed subcontractors.
Marginal	The proposal does not include all of the requested information for the factor. Not all key personnel are identified, or identified personnel do not meet minimum qualification standards. All proposed key personnel are from the Offeror's organization or committed subcontractors.
Unsatisfactory	The proposal does not include all of the requested information for the factor. Not all key personnel are identified and not all identified personnel meet minimum qualification standards.

2.5.4 Factor II, Past Performance

Data provided in support of this factor shall clearly demonstrate the Offeror's ability to meet the requirements of the contract based on his past performance history on relevant projects similar in size and scope to this contract. Only past performance considered relevant to this project will be considered (see paragraph 2.5.1 above).

2.5.4.1 Information Quality

Offerors should submit complete and accurate information. The Government may elect not to request additional information to perform the evaluation.

2.5.4.2 Subfactor A, Past Performance Ratings

For each of the contracts identified in Volume I, Factor III, Experience, indicate the final overall performance rating received. **Only performance ratings for the Offeror will be considered. Projects submitted to demonstrate subcontractor experience will not be included in the evaluation of this subfactor.** Provide documentation of the indicated rating in this tab. Undocumented performance ratings will not be considered.

2.5.4.2.1 Evaluation Standards

Outstanding	The Offeror has provided projects meeting the criteria for Factor III, Past Experience. Of the projects meeting the criteria for Past Experience (see paragraph 2.5.5), none of the final performance ratings are less than Satisfactory and at least half are Outstanding.
Above Average	The Offeror has provided projects meeting the criteria for Factor III, Past Experience. Of the projects meeting the criteria for Past Experience (see paragraph 2.5.5), none of the final performance ratings are less than Satisfactory and at least half are Above Average.
Satisfactory	The Offeror has provided projects meeting the criteria for Factor III, Past Experience. Of the projects meeting the criteria for Past Experience (see paragraph 2.5.5), none of the final performance ratings are less than

	Satisfactory.
Marginal	The Offeror has provided projects meeting the criteria for Factor III, Past Experience. Of the projects meeting the criteria for Past Experience (see paragraph 2.5.5), none of the final performance ratings are less than Marginal.
Unsatisfactory	The Offeror has provided projects meeting the criteria for Factor III, Past Experience. Of the projects meeting the criteria for Past Experience (see paragraph 2.5.5), at least one received an Unsatisfactory final performance rating, or documented performance ratings were not submitted.
Neutral	Offerors will not be rated favorably or unfavorably if the Offeror does not have a record of relevant past performance. However, an Offeror with no past performance history may be considered less favorably than an Offeror with a favorable past performance history.

2.5.4.3 Subfactor B, Customer Satisfaction

A customer survey sheet is provided at the end of this section as Attachment 2. For each of the contracts identified in Volume I, Factor III, Offerors shall complete Part A. Offerors shall send the partially completed forms to the selected survey respondents for completion of Part B. The respondent shall return completed surveys directly to the Contracting Officer at the following address:

US Army Engineer District, Honolulu
CEPOH-CT-C
Attn: DACA83-02-R-0004, Customer Survey
Bldg. 230
Fort Shafter, HI 96858-5440

Fax: 808-438-8588

Respondents should be requested to return surveys by the closing date of the solicitation. Surveys received directly from offerors will not be considered in the evaluation.

A copy of page 1 of all partially completed survey sheets sent shall be included in this tab. Ensure that the reference number is completed on each survey sheet to correctly match surveys to the projects listed in Factors III.

2.5.4.3.1 Evaluation Standards

Outstanding	Surveys were received for all of the projects listed in Volume I, Factor III. On all surveys received, all of the ratings for questions 2 through 8 were above average or better and at least half of the ratings for question 9 were outstanding.
Above Average	Surveys were received for all of the projects listed in Volume I, Factor III. On all surveys received, none of the ratings for questions 2 through 8 were less than satisfactory and at least half of the ratings for question 9 were above average or better.
Satisfactory	Surveys were received for all of the projects listed in Volume I, Factor III. On all surveys received, none of the ratings for questions 2 through 9 were less than satisfactory.
Marginal	Surveys were not received for all of the projects listed in Volume I, Factor III; and on the surveys received, none of the ratings for questions 2 through 9 were less than satisfactory.
Unsatisfactory	Surveys were not received for all of the projects listed in Volume I, Factor III; and on the surveys received, one or more of the ratings for questions 2 through 9 were less than satisfactory.
Neutral	Offerors will not be rated favorably or unfavorably if the Offeror does not have a record of relevant past performance or information on past performance is not available. However, an Offeror with no past performance history may be considered less favorably than an Offeror with a favorable past performance history.

2.5.5 Factor III, Past Experience

Data provided in support of this factor shall clearly demonstrate the Offeror's ability to meet the requirements of the contract based on his past experience on relevant projects similar in size and scope to this contract (see paragraph 2.5.1). Only experience considered relevant to this project will be considered.

For each of the projects provided in support of this factor, a Project Data Sheet shall be completed. This sheet is included as Attachment 1 to this specification section. All requested information shall be provided. Failure to provide any of the requested data may be cause to eliminate a project from consideration in the evaluation.

2.5.5.1 Past Experience

Offerors shall identify contracts demonstrating relevant experience completed after 1995, or still underway and awarded prior to 2001, in which they were/are the prime contractor.

If the Offeror intends to rely on its joint venture partner's or subcontractor's past experience/~~past performance for the system supplier or tank installation, etc.~~, the Offeror shall submit the information shown in Attachment 1 for each **subcontractor committed member of the proposed construction team** (see also paragraph 2.5.2 and 2.5.2.1 above).

In order to demonstrate the depth of its experience, Offerors may submit data for themselves and their committed construction team members for the same project. However, the submission of data for multiple team members on the same project will only be counted as a single project.

2.5.5.2 Evaluation Standards

Outstanding	The Offeror has provided at least 8 relevant projects meeting the stated criteria.
Above Average	The Offeror has provided at least 6 relevant projects meeting the stated criteria.
Satisfactory	The Offeror has provided at least 4 relevant projects meeting the stated criteria.
Marginal	The Offeror has provided at least 2 relevant projects meeting the stated criteria.
Unsatisfactory	None of the projects provided by the Offeror are relevant or meet the stated criteria.

2.5.6. Factor IV, Small Business Program

Offerors shall submit data that demonstrate its use of Small Business Concerns for Subfactors A and B. Small Business Concerns include small disadvantaged businesses (SDB), women-owned small businesses, HUBZone small businesses, veteran-owned small businesses and service disabled veteran-owned small businesses. Offerors shall submit data that demonstrate its use of SDB's for Subfactor C.

2.5.6.1 Subfactor A - Extent of proposed small business subcontracting participation in the performance of the proposed contract

- If the offeror is submitting a proposal as a joint venture (JV), identify the size status of each member of the JV.
- Identify in terms of dollar value and percentage of the total proposed contract price, the extent of work the offeror will perform as the prime contractor.
- Identify in terms of dollar value and percentage of the total proposed contract price, the work to be subcontracted to small business concerns, SDB concerns, women-owned small business concerns, HUBZone small business concerns, veteran-owned small business concerns and if applicable, historically black colleges or universities/minority institutions (HBCU/MI).

2.5.6.1.1 Evaluation Standards

Outstanding	All USACE subcontracting goals are exceeded. Specific SB, SDB and WOSB are identified as subcontractors or team members. Offerors from small business concerns will be given an outstanding rating.
Above Average	All USACE subcontracting goals are at least met and some are exceeded. Specific SB, SDB and WOSB are identified as subcontractors or team members.
Satisfactory	USACE subcontracting goals are met: SB will perform 62 % of the total subcontract value; 10 % of the total subcontract value will go to SDB; 5% of the total subcontract value will go to WOSB. Specific SB, SDB and WOSB are identified as subcontractors or team members.
Marginal	Most of the USACE subcontracting goals are met, specific SB subcontractors or team members are not identified.
Unsatisfactory	None of the USACE subcontracting goals are met and no justification is provided.

2.5.6.2 Subfactor B - Past performance in complying with Small Business Subcontracting Plan goals.

- Provide SF 294's, "Subcontracting Report for Individual Contracts" for projects of similar scope and magnitude.
- Provide information on awards received for outstanding support of the small business program.
- Provide information on any existing or prior mentor-protégé agreements.

2.5.6.2.1 Evaluation Standards

Outstanding	All goals were exceeded, the Offeror has received awards for outstanding support of the small business program, and the Offeror is or has participated in mentor-protégé agreements or other outreach. Offerors from small business concerns will be given an outstanding rating.
Above Average	All goals were met or exceeded and the Offeror is or has participated in mentor-protégé agreements or other outreach.
Satisfactory	All goals were met.
Marginal	Not all goals were met.
Unsatisfactory	No goals were met.

2.5.6.3 Subfactor C - Extent of participation of small disadvantaged business (SDB) concerns in the performance of the proposed contract in the authorized North American Industrial Classification System (NAICS) Industry Subsector.

- The offeror shall provide targets expressed as dollars and percentages of the total contract value, in each of the applicable, authorized NAICS Industry Subsector, for SDB participation by the contractor, including joint venture partners and team members, and a total target for SDB participation by subcontractors. (The authorized NAICS Industry Subsectors as determined by the Department of Commerce are posted at <http://www.arnet.gov/References/sdbadjustments.htm>.)
- Targets for subcontractors shall be listed separately. The offeror shall provide a listing of the name, address, telephone number, type of work to be performed and target for each SDB subcontractor. Any targets will be incorporated into and become part of the resulting contract.

2.5.6.3.1 Evaluation Standards

Outstanding	SDB participation targets in each of the applicable, authorized NAICS Industry Subsector are provided. Targets are challenging. Specific SDB concerns are identified.
Above Average	SDB participation targets in each of the applicable, authorized NAICS Industry Subsector are provided. Targets are realistic. Specific SDB concerns are identified.
Satisfactory	SDB participation targets in each of the applicable, authorized NAICS Industry Subsector are provided. Targets are realistic. Specific SDB concerns are not identified.
Marginal	No SDB participation targets in the applicable, authorized NAICS Industry Subsector are provided. Satisfactory justification is provided.
Unsatisfactory	No SDB participation targets in the applicable, authorized NAICS Industry Subsector are provided. No justification is provided.

2.6 Volume II, Price Proposal

A price breakdown shall be included in Volume II, "Price Proposal". The Offeror's proposed total price for Bid Item No. 1 shall be broken down according to the following items of work as described on sheet D-I of the contract drawings. Only a lump sum price for each of the items identified below is required. Do not submit a cost breakdown.

A. Work under Phase IA to include: New facility at Fill Stand Area, fill and unloading stands, transfer fuel piping and all temporary work as required. Costs will be broken down by:

- 1) Mechanical costs under Division 15.
- 2) Electrical costs under Division 16.
- 3) All other costs associated with Phase IA.

B. Work under Phase IB to include: Demolition of fuel Area 5, new Diesel Fueling Facility and all temporary work as required. Costs will be broken down by:

- 1) 30,000 gallon diesel fuel tanks No.3 and 4.
- 2) All other mechanical costs under Division 15.
- 3) Electrical costs under Division 16.
- 4) All other costs associated with Phase IB.

C. Work under Phase 2A to include: Demolition of fuel Area 11, new Operations Area including tanks, and all facilities in the Fuel Operations Area. Costs will be broken down by:

- 1) Operating tanks No.1 and 2.
- 2) Mechanical costs under Division 15.
- 3) Electrical costs under Division 16.
- 4) All other costs associated with Phase 2A.

D. Work under Phases 2B thru 2I to include: Installing new Fuel Distribution System including excavation, shoring, dewatering, fuel piping, pits, backfill, testing and all items necessary to complete the system. Costs will be broken down by:

- 1) Dewatering and care of water.
- 2) All other costs associated with Phase 2B thru 2I.

E. Work under Phase 3A thru 3C to include: Demolition and abandonment of existing fuel system and restoration work.

GENERAL DECISION HI020001 05/03/2002 HI1

Date: May 3, 2002

General Decision Number HI020001

Superseded General Decision No. HI010001

State: **Hawaii**

Construction Type:

- BUILDING
- DREDGING
- HEAVY
- HIGHWAY
- RESIDENTIAL

County(ies):

STATEWIDE

BUILDING CONSTRUCTION PROJECTS; RESIDENTIAL CONSTRUCTION PROJECTS
 (consisting of single family homes and apartments up to and
 including 4 stories); HEAVY AND HIGHWAY CONSTRUCTION PROJECTS
 AND DREDGING

Modification Number	Publication Date
0	03/01/2002
1	03/08/2002
2	04/19/2002
3	05/03/2002

COUNTY(ies):

STATEWIDE

ASBE0132A 08/30/1998

	Rates	Fringes
ASBESTOS WORKERS/INSULATORS Includes application of all insulating materials, protective coverings, coatings and finishes to all types of mechanical systems. Also the application of firestopping material for wall openings and penetrations in walls, floors, ceilings and curtain walls.	26.50	14.89

BOIL0204A 10/01/1998

	Rates	Fringes
BOILERMAKERS	26.25	13.76

BRHI0001A 09/03/2001

	Rates	Fringes
BRICKLAYERS; Caulkers; Cement Block Layers; Cleaners; Pointers; and Stonemasons	25.52	15.76

BRHI0001B 09/03/2001

	Rates	Fringes
TERRAZZO WORKERS:		
Terrazzo Workers	25.77	15.76
Terrazzo Base Grinders	23.96	15.76
Terrazzo Floor Grinders and Tenders	22.41	15.76

BRHI0001C 09/03/2001		
	Rates	Fringes
MARBLE MASONS	25.77	15.76

BRHI0001D 09/03/2001		
	Rates	Fringes
TILE LAYERS (CERAMIC)	25.77	15.76
TILE LAYER FINISHERS (CERAMIC)	22.41	15.76

CARP0745A 03/04/2002		
	Rates	Fringes
CARPENTERS:		
Carpenters; Hardwood Floor Layers; Patent Scaffold Erectors (14 ft. and over); Piledrivers; Pneumatic Nailers; Wood Shinglers; and Transit and/or Layout Man		
	30.90	15.45
Millwrights and Machine Erectors	31.15	15.45
Power Saw Operators (2 H.P. and over)	31.05	15.45

CARP0745B 03/04/2002		
	Rates	Fringes
DRYWALL HANGERS	31.15	15.42
LATHERS	31.15	15.42

ELEC1186A 02/17/2002		
	Rates	Fringes
ELECTRICIANS:		
Electricians	31.35	6.15+30.6%
Technicians	32.29	6.15+30.6%
Cable Splicers	34.49	6.15+30.6%

ELEC1186B 02/17/2002		
	Rates	Fringes
LINE CONSTRUCTION:		
Linemen	31.35	6.15+30.6%
Technicians	32.29	6.15+30.6%
Heavy Equipment Operators	28.22	6.15+30.6%
Cable Splicers	34.49	6.15+30.6%
Groundmen; Truck Drivers	23.51	6.15+30.6%

ELEV0126A 10/04/1999		
	Rates	Fringes
ELEVATOR MECHANICS	34.65	6.935+a+b

a. VACATION: Employer contributes 8% of basic hourly rate

for 5 years service and 6% of basic hourly rate
 for 6 months to 5 years service as vacation pay
 credit.

- b. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence
 Day, Labor Day, Thanksgiving Day, Day
 after Thanksgiving Day and Christmas Day.

 ENGI0003I 09/04/2000

	Rates	Fringes
POWER EQUIPMENT OPERATORS (Includes All Types of Paving):		
GROUP 1	26.89	14.18
GROUP 2	27.00	14.18
GROUP 3	27.17	14.18
GROUP 4	27.44	14.18
GROUP 5	27.75	14.18
GROUP 6	28.40	14.18
GROUP 7	28.72	14.18
GROUP 8	28.83	14.18
GROUP 9	28.94	14.18
GROUP 9A	29.17	14.18
GROUP 10	29.23	14.18
GROUP 10A	29.38	14.18
GROUP 11	29.53	14.18
GROUP 12	29.89	14.18
GROUP 12A	30.25	14.18

WAGE RATES FOR TUNNEL WORK:

GROUP 1	27.19	14.18
GROUP 2	27.30	14.18
GROUP 3	27.47	14.18
GROUP 4	27.74	14.18
GROUP 5	28.05	14.18
GROUP 6	28.70	14.18
GROUP 7	29.02	14.18
GROUP 8	29.13	14.18
GROUP 9	29.24	14.18
GROUP 9A	29.47	14.18
GROUP 10	29.53	14.18
GROUP 10A	29.68	14.18
GROUP 11	29.83	14.18
GROUP 12	30.19	14.18
GROUP 12A	30.55	14.18

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Fork Lift (up to and including 10 tons); Partsman (heavy
 duty repair shop parts room when needed).

GROUP 2: Conveyor Operator (Handling building material);
 Hydraulic Monitor; Mixer Box Operator (Concrete Plant).

GROUP 3: Brakeman; Deckhand; Fireman; Oiler; Oiler/Gradechecker;
 Signalman; Switchman; Highline Cableway Signalman; Bargeman;
 Bunkerman; Concrete Curing Machine (self-propelled, automatically
 applied unit on streets, highways, airports and canals);
 Leveeman; Roller (5 tons and under); Tugger Hoist.

GROUP 4: Boom Truck or dual purpose "A" Frame Truck (5 tons or
 less); Concrete Placing Boom (Building Construction); Dinky

Operator; Elevator Operator; Hoist and/or Winch (one drum);
Straddle Truck (Ross Carrier, Hyster and similar).

GROUP 5: Asphalt Plant Fireman; Compressors, Pumps, Generators
and Welding Machines ("Bank" of 9 or more, individually or
collectively); Concrete Pumps or Pumpcrete Guns; Lubrication and
Service Engineer (Grease Rack); Screedman.

GROUP 6: Boom Truck or Dual Purpose "A"Frame Truck (over 5 tons);
Combination Loader/Backhoe (up to and including 3/4 cu. yd.);
Concrete Batch Plants (wet or dry); Concrete Cutter, Groover
and/or Grinder (self-propelled unit on streets, highways,
airports, and canals); Conveyor or Concrete Pump (Truck or
Equipment Mounted); Drilling Machinery (not to apply to
waterliners, wagon drills or jack hammers); Fork Lift (over 10
tons); Loader (up to and including 3 and 1/2 cu. yds); Lull High
Lift (under 40 feet); Lubrication and Service Engineer (Mobile);
Maginnis Internal Full Slab Vibrator (on airports, highways,
canals and warehouses); Man or Material Hoist; Mechanical
Concrete Finisher (Large Clary, Johnson Bidwell, Bridge Deck and
similar); Mobile Truck Crane Driver; Portable Shotblast Concrete
Cleaning Machine; Portable Boring Machine (under streets,
highways, etc.); Portable Crusher; Power Jumbo Operator (setting
slip forms, etc., in tunnels); Rollers (over 5 tons); Self-
propelled Compactor (single engine); Self-propelled Pavement
Breaker; Skidsteer Loader with attachments; Slip Form Pumps
(Power driven by hydraulic, electric, air, gas, etc., lifting
device for concrete forms); Small Rubber Tired Tractors; Trencher
(up to and including 6 feet); Underbridge Personnel Aerial
Platform (50 feet of platform or less).

GROUP 7: Crusher Plant Engineer, Dozer (D-4, Case 450, John Deere
450, and similar); Dual Drum Mixer, Extend Lift; Hoist and/or
Winch (2 drums); Loader (over 3 and 1/2 cu. yds.
up to and including 6 yards.); Mechanical Finisher or Spreader
Machine (asphalt), (Barber Greene and similar) (Screedman
required); Mine or Shaft Hoist; Mobile Concrete Mixer (over 5
tons); Pipe Bending Machine (pipelines only); Pipe Cleaning
Machine (tractor propelled and supported); Pipe Wrapping Machine
(tractor propelled and supported); Roller Operator (Asphalt);
Self-Propelled Elevating Grade Plane; Slusher Operator; Tractor
(with boom) (D-6, or similar); Trencher (over 6 feet and less
than 200 h.p.); Water Tanker (pulled by Euclids, T-Pulls, DW-10,
20 or 21, or similar); Winchman (Stern Winch on Dredge).

GROUP 8: Asphalt Plant Operator; Barge Mate (Seagoing); Cast-in-
Place Pipe Laying Machine; Concrete Batch Plant (multiple units);
Conveyor Operator (tunnel); Deckmate; Dozer (D-6 and similar);
Finishing Machine Operator (airports and highways); Gradesetter;
Kolman Loader (and similar); Mucking Machine (Crawler-type);
Mucking Machine (Conveyor-type); No-Joint Pipe Laying Machine;
Portable Crushing and Screening Plant; Power Blade Operator
(under 12); Saurman Type Dragline (up to and including 5 yds.);
Stationary Pipe Wrapping, Cleaning and Bending Machine; Surface
Heater and Planer Operator, Tractor (D-6 and similar); Tri-Batch
Paver; Tunnel Badger; Tunnel Mole and/or Boring Machine Operator
Underbridge Personnel Aerial Platform (over 50 feet of platform).

GROUP 9: Combination Mixer and Compressor (gunite); Do-Mor Loader
and Adams Elegrader; Dozer (D-7 or equal); Wheel and/or Ladder
Trencher (over 6 feet and 200 to 749 h.p.).

GROUP 9A: Dozer (D-8 and similar); Gradesetter (when required by the Contractor to work from drawings, plans or specifications without the direct supervision of a foreman or superintendent); Push Cat; Scrapers (up to and including 20 cu. yds); Self-propelled Compactor with Dozer; Self-Propelled, Rubber-Tired Earthmoving Equipment (up to and including 20 cu. yds) (621 Band and similar); Sheep's Foot; Tractor (D-8 and similar); Tractors with boom (larger than D-6, and similar).

GROUP 10: Chicago Boom; Cold Planers; Heavy Duty Repairman or Welder; Hoist and/or Winch (3 drums); Hydraulic Skooper (Koehring and similar); Loader (over 6 cu. yds. up to and including 12 cu. yds.); Saurman type Dragline (over 5 cu. yds.); Self-propelled, rubber-tired Earthmoving Equipment (over 20 cu. yds. up to and including 31 cu. yds.) (637D and similar); Soil Stabilizer (P & H or equal); Sub-Grader (Gurries or other automatic type); Tractors (D-9 or equivalent, all attachments); Tractor (Tandem Scraper); Watch Engineer.

GROUP 10A: Boat Operator; Cable-operated Crawler Crane (up to and including 25 tons); Cable-operated Power Shovel, Clamshell, Dragline and Backhoe (up to and including 1 cu. yd.); Dozer D9-L; Dozer (D-10, HD41 and similar) (all attachments); Gradall (up to and including 1 cu. yd.); Hydraulic Backhoe (over 3/4 cu. yds. up to and including 2 cu. yds.); Mobile Truck Crane Operator (up to and including 25 tons) (Mobile Truck Crane Driver Required); Self-propelled Boom Type Lifting Device (Center Mount) (up to and including 25 tons) (Grove, Drott, P&H, Pettibone and similar); Trencher (over 6 feet and 750 h.p. or more); Watch Engineer (steam or electric).

GROUP 11: Automatic Slip Form Paver (concrete or asphalt); Band Wagon (in conjunction with Wheel Excavator); Cable-operated Crawler Cranes (over 25 tons but less than 50 tons); Cable-operated Power Shovel, Clamshell, Dragline and Backhoe (over 1 cu. yd. up to 7 cu. yds.); Gradall (over 1 cu. yds. up to 7 cu. yds.); DW-10, 20, etc. (Tandem); Earthmoving Machines (multiple propulsion power units and 2 or more Scrapers) (up to and including 35 cu. yds., "struck" m.r.c.); Highline Cableway; Hydraulic Backhoe (over 2 cu. yds. up to and including 4 cu. yds.); Leverman; Lift Slab Machine; Loader (over 12 cu. yds); Master Boat Operator; Mobile Truck Crane Operator (over 25 tons but less than 50 tons); (Mobile Truck Crane Driver required); Pre-stress Wire Wrapping Machine; Self-propelled Boom-type Lifting Device (Center Mount) (over 25 tons m.r.c.); Self-propelled Compactor (with multiple-propulsion power units); Single Engine Rubber Tired Earthmoving Machine (with Tandem Scraper); Tandem Cats; Trencher (pulling attached shield).

GROUP 12: Clamshell or Dipper Operator; Derricks; Drill Rigs; Multi-Propulsion Earthmoving Machines (2 or more Scrapers) (over 35 cu. yds "struck"m.r.c.); Operators (Derricks, Piledrivers and Cranes); Power Shovels and Draglines (7 cu. yds. m.r.c. and over); Self-propelled rubber-tired Earthmoving equipment (over 31 cu. yds.) (657B and similar); Wheel Excavator (up to and including 750 cu. yds. per hour); Wheel Excavator (over 750 cu. yds. per hour).

GROUP 12A: Dozer (D-11 or similar or larger); Hydraulic Excavators (over 4 cu. yds.); Lifting cranes (50 tons and over); Pioneering Dozer/Backhoe (initial clearing and excavation for the purpose of providing access for other equipment where the

terrain worked involves 1-to-1 slopes that are 50 feet in height or depth, the scope of this work does not include normal clearing and grubbing on usual hilly terrain nor the excavation work once the access is provided); Power Blade Operator (Cat 12 or equivalent or over); Straddle Lifts (over 50 tons); Tower Crane, Mobile; Traveling Truss Cranes; Universal, Liebherr, Linden, and similar types of Tower Cranes (in the erection, dismantling, and moving of equipment there shall be an additional Operating Engineer or Heavy Duty Repairman); Yo-Yo Cat or Dozer.

HELICOPTER WORK:

Pilot of Helicopter	31.06	14.18
Co-Pilot of Helicopter	30.89	14.18
Airborne Hoist Operator for Helicopter	30.75	14.18

DIVERS (AQUA LUNG) (SCUBA):

Diver (Aqua Lung) (Scuba) (up to a depth of 30 feet)	41.58	14.18
Diver (Aqua Lung) (Scuba) (over a depth of 30 feet)	50.95	14.18
Stand-by Diver (Aqua Lung) (Scuba)	31.06	14.18

DIVERS (OTHER THAN AQUA LUNG):

Diver (Other than Aqua Lung)	50.95	14.18
Stand-By Diver (Other than Aqua Lung)	32.20	14.18
Diver Tender (Other than Aqua Lung)	29.17	14.18

BOOMS AND/OR LEADS (HOURLY PREMIUMS):

The Operator of a crane (under 50 tons) with a boom of 80 feet or more (including jib), or of a crane (under 50 tons) with leads of 100 feet or more, shall receive a per hour premium for each hour worked on said crane (under 50 tons) in accordance with the following schedule:

Booms of 80 feet up to but not including 130 feet or Leads of 100 feet up to but not including 130 feet	0.35
Booms and/or Leads of 130 feet up to but not including 180 feet	0.50
Booms and/or Leads of 180 feet up to and including 250 feet	0.90
Booms and/or Leads over 250 feet	1.35

The Operator of a crane (50 tons and over) with a boom of 180 feet or more (including jib) shall receive a per hour premium for each hour worked on said crane (50 tons and over) in accordance with the following schedule:

Booms of 180 feet up to and including 250 feet	1.00
Booms over 250 feet	1.50

ENGI0003K 09/04/2000

Rates Fringes

TRUCK DRIVERS:

GROUP 1	27.17	14.18+a
GROUP 2	27.44	14.18+a
GROUP 3	27.75	14.18+a
GROUP 4	28.40	14.18+a
GROUP 5	28.72	14.18+a
GROUP 6	28.83	14.18+a

TRUCK DRIVERS CLASSIFICATIONS

- GROUP 1: Utility, flatbed, or similar.
- GROUP 2: Dump, 8 yards, and under (water level); water truck, up to and including 2,000 gallons.
- GROUP 3: Tandem Dump, over 8 yards (water level); water truck (over 2,000 gallons).
- GROUP 4: Semi-trailer, rock cans, or semi-dump.
- GROUP 5: Slip-in or pup.
- GROUP 6: End dumps (unlicensed); tractor trailer (hauling equipment).

a. An employee who has completed 1 but less than 2 years service- 1 week's paid vacation; 2 but less than 10 years service - 2 weeks paid vacation; 10 but less than 15 years service - 3 weeks paid vacation; and 15 or more years service - 4 weeks paid vacation.

 ENGI0003L 09/04/2000

	Rates	Fringes
DREDGING:		
CLAMSHELL OR DIPPER DREDGES:		
GROUP 1	29.89	14.18
GROUP 2	29.23	14.18
GROUP 3	28.83	14.18
GROUP 4	27.17	14.18

DREDGING CLASSIFICATIONS

- GROUP 1: Clamshell or Dipper Operator.
- GROUP 2: Mechanic or Welder; Watch Engineer.
- GROUP 3: Barge Mate; Deckmate.
- GROUP 4: Bargeman; Deckhand; Fireman; Oiler.

HYDRAULIC SUCTION DREDGES:

GROUP 1	29.53	14.18
GROUP 2	29.38	14.18
GROUP 3	29.23	14.18
GROUP 4	29.17	14.18
GROUP 5	28.83	14.18
GROUP 6	28.72	14.18
GROUP 7	27.17	14.18

DREDGING CLASSIFICATIONS

- GROUP 1: Leverman.
- GROUP 2: Watch Engineer (steam or electric).
- GROUP 3: Mechanic or Welder.
- GROUP 4: Dozer Operator.
- GROUP 5: Deckmate.
- GROUP 6: Winchman (Stern Winch on Dredge).

GROUP 7: Deckhand (can operate anchor scow under direction of Deckmate); Fireman; Leveeman; Oiler.

DERRICKS:

GROUP 1	29.89	14.18
GROUP 2	29.23	14.18
GROUP 3	28.83	14.18
GROUP 4	27.17	14.18

DERRICK CLASSIFICATIONS

GROUP 1: Operators (Derricks, Piledrivers and Cranes).
 GROUP 2: Saurman Type Dragline (over 5 cubic yards).
 GROUP 3: Deckmate; Saurman Type Dragline (up to and including 5 yards).
 GROUP 4: Deckhand, Fireman, Oiler.

BOAT OPERATORS:

Master Boat Operator	29.53	14.18
Boat Operator	29.38	14.18
Boat Deckhand	27.17	14.18

 IRON0625A 09/03/2001

	Rates	Fringes
IRONWORKERS	26.00+a	20.01

a. Employees will be paid \$.50 per hour more while working in tunnels and coffer dams; \$1.00 per hour more when required to work under or are covered with water (submerged) and when they are required to work on the summit of Mauna Kea, Mauna Loa or Haleakala.

 LABO0368A 09/03/2001

	Rates	Fringes
LABORERS:		
GROUP 1	22.85	11.20
GROUP 2	21.25	11.20
GROUP 3	23.85	11.20
GROUP 4	23.35	11.20
GROUP 5	22.35	11.20
GROUP 6	15.25	6.95
MASON TENDERS	23.10	11.20

LABORERS CLASSIFICATIONS

GROUP 1: Asbestos Removal Worker (EPA certified workers); Asphalt Ironer, Raker, Luteman, and Handroller, and all types of Asphalt Spreader Boxes; Asphalt Shoveler; Assembly and Installation of Multiplates, Liner Plates, Rings, Mesh, Mats; Batching Plant (portable and temporary); Boring Machine Operator (under streets and sidewalks); Buggymobile; Burning, Welding, Signalling, Choke Setting, and Rigging in connection with Laborers' work (except demolition); Chainsaw, Faller, Logloader, and Bucker; Compactors (Jackson and similar); Concrete Bucket Dumpman; Concrete Chipping; Concrete Chuteman/Hoseman (pouring

concrete) (the handling of the chute from ready-mix trucks for such jobs as walls, slabs, decks, floors, foundations, footings, curbs, gutters, and sidewalks); Concrete Core Cutter (Walls, Floors, and Ceiling); Concrete Curer (impervious membrane and form oiler); Concrete Grinding or Sanding; Concrete: Hooking on, signaling, dumping of concrete for treme work over water on caissons, pilings, abutments, etc.; Concrete: Mixing, handling, conveying, pouring, vibrating, otherwise placing of concrete or aggregates or by any other process; Concrete: Operation of motorized wheelbarrows or buggies or machines of similar character, whether run by gas, diesel, or electric power; Concrete Pump Machine (laying, coupling, uncoupling of all connections and cleaning of equipment); Concrete and/or Asphalt Saw (Walking or Handtype) (cutting walls or flatwork) (scoring old or new concrete and/or asphalt) (cutting for expansion joints) (streets and ways for laying of pipe, cable or conduit for all purposes); Concrete Shovelers/Laborers (Wet or Dry); Concrete Screeding for Rough Strike-Off; Rodding or striking-off, by hand or mechanical means prior to finishing; Concrete Vibrator Operator; Coring Holes: Walls, footings, piers or other obstructions for passage of pipes or conduits for any purpose and the pouring of concrete to secure the hole; Curbing, Concreting, and Asphalt; Curing of Concrete, mortar, and other materials by any mode or method; Cut Granite Curb Setter (setting, leveling and grouting of all precast concrete or stone curbs); Cutting and Burning Torch (demolition); Dri Pak-It Machine; Driller (Track, Diamond Core, and Wagon); Driller (Joydrill Model TWM-2A, Gardner Denver DH-143 and similar type drills); Driller (Mechanical) (not

covered elsewhere) (including multiple unit); (Ingersoll-Rand DM45E/DM50E/LM-100/LM-600C, Gardner-Denver SCH2500/SCH3500BV, Furukawa HCR-C300, Tamrock Drilltech CHA800/DHH 850 Tamrock Commando) (similar and replacement equipment thereof); Drilling for blasting; Operation of all rock and concrete drills and Jack Hammers, including handling, carrying, laying out of hose; (Ingersoll-Rand DM45E/DM50E/LM-100/LM-600C), Gardner-Denver SCH2500/SCH3500 BV, Furukawa HCR-C300, Tamrock Drilltech CHA 800/DHH 850/Tamrock Commando) (similar and replacement equipment thereof); Drilling (Mechanical) on the site or along the right-of-way as well as access roads, reservoirs, including areas adjacent or pertinent to construction sites); Falling, bucking, yarding, loading or burning of all trees or timber on construction site; Fence and/or Guardrail Erector; Forklift (9 ft. and under); Grating and Grill work for drains or other purposes; Green Cutter of concrete or aggregate in any form, by hand, mechanical means, grindstone or air and/or water; Grout: Spreading for any purpose; Guinea Chaser (Grade Checker) for general utility trenches, sitework, and excavation; Headerboard Man (Asphalt or Concrete); Heat Welder of Plastic (Laborers' AGC certified workers) (when work involves waterproofing for waterponds, artificial lakes and reservoir, or heat welding for sewer pipes); Heavy Highway Laborer (Rigging, signaling, handling, and installation of pre-cast catch basins, manholes, curbs and gutters); High Pressure Nozzleman - Hydraulic Monitor (over 100# pressure); Installation of Gilsulate 500XR; Jackhammer Operator; Jacking of slip forms; All semi and unskilled work connected therewithin; Laying of all multi-cell conduit or multi-purpose pipe; Magnesite and Mastic Workers (Wet or Dry)(including mixer operator); Mortar Man; Mortar Mixer (Block, Brick, Masonry, and Plastering); Nozzleman (Sandblasting and/or Water Blasting); Operation, Manual or Hydraulic jacking of shields and the use of such other mechanical equipment as may be necessary; Pavement Breakers; Paving, curbing and surfacing of

streets, ways, courts, under and overpasses, bridges, approaches, slope walls, and all other labor connected therewith; Pilecutters; Pipe Assessment in place, bolting and lining up of sectional metal or other pipe including corrugated pipe; Pipelayer performing all services in the laying and installation of pipe from the point of receiving pipe in the ditch until completion of operation, including any and all forms of tubular material, whether pipe, metallic or non-metallic, conduit, and any other stationary-type of tubular device used for conveying of any substance or element, whether water, sewage, solid, gas, air, or other product whatsoever and without regard to the nature of material from which tubular material is fabricated; No-joint pipe and stripping of same, Pipewrapper, Caulker, Bander, Kettlemen, and men applying asphalt, Laykold, treating Creosote and similar-type materials (6-inch) pipe and over); Piping: resurfacing and paving of all ditches in preparation for laying of all pipes; Pipe laying of lateral sewer pipe from main or side sewer to buildings or structure (except Contactor may direct work be done under proper supervision); Pipe laying, leveling and marking of the joint used for main or side sewers and storm sewers; Laying of all clay, terra cotta, ironstone, vitrified concrete or other pipe for drainage; Placing and setting of water mains, gas mains

and all pipe including removal of skids; Plaster Mortar Mixer/ Pump; Pneumatic Impact Wrench; Portable Sawmill Operation: Choker setters, off bearers, and lumber handlers connected with clearing; Posthole Digger (Hand Held, Gas, Air and Electric); Power Broom Sweepers (Small); Preparation and Compaction of roadbeds for railroad track laying, highway construction, and the preparation of trenches, footings, etc., for cross-country transmission by pipelines, electrical transmission or underground lines or cables (by mechanical means); Raising of structure by manual or hydraulic jacks or other methods and resetting of structure in new locations, including all concrete work; Ramming or compaction; Riprap, Stonepaver, and Rock Slinger (includes placement of stacked concrete, wet or dry and loading, unloading, signaling, slinging and setting of other similar materials); Rotary Scarifier (including multiple head concrete chipping Scarifier); Salamander Heater, Drying of plaster, concrete mortar or other aggregate; Sandblaster (Nozzleman) handling, placing and operation of nozzle; Scaffold Erector; Scaffolds: (Swing and hanging) including maintenance thereof; Scaler; Septic Tank/Cesspool and Drain Fields Digger and Installer; Shredder/Chipper (tree branches, brush, etc.); Stripping and Setting Forms; Stripping of Forms: Other than panel forms which are to be re-used in their original form, and stripping of forms on all flat arch work; Tampers (Barko, Wacker, and similar type); Tank Scaler and Cleaners; Tarman; Tree Climbers and Trimmers; Trencher (includes hand-held, Davis T-66 and similar type); Trucks (flatbed up to and including 2 1/2 tons when used in connection with on-site Laborers' work; Trucks (Refuse and Garbage Disposal) (from job site to dump); Vibra-Screed (Bull Float in connection with Laborers' work); Well Points, Installation of or any other dewatering system.

GROUP 2: Air Blasting; Appliance Handling (job site) (after delivery and unloading in storage area); Asphalt Laborer; Asphalt Plant Laborer; Backfill work connected with the installation of Gilsulate 500XR; Backfilling, Grading and all other labor connected therewith; Boring Machine; Bridge Laborer; Burning of all debris (crates, boxes, packaging waste materials); Cemetary Laborers; Chainman, Rodmen, and Grade Markers; Cleaning and Clearing of all debris; Cleaning, clearing, grading and/or

removal for streets, highways, roadways, aprons, runways, sidewalks, parking areas, airports, approaches, and other similar installations; Cleaning or reconditioning of streets, ways, sewers and waterlines, all maintenance work and work of an unskilled and semi-skilled nature; Cleanup of Grounds and Buildings (other than "Light Clean-Up") (Janitorial Laborer); Clean-up of right-of-way; Clearing and slashing of brush or trees by hand or mechanical cutting; Concrete Bucket Tender (Groundman) hooking and unhooking of bucket; Concrete Forms; moving, cleaning, oiling and carrying to the next point of erection of all forms; Concrete Products Plant Laborers; Conveyor Tender (conveying of building materials); Cribbers, Shorer, Lagging, Sheeting, and Trench Jacking and Bracing, Hand-Guided Lagging Hammer Whaling Bracing; Crushed Stone Yards and Gravel and Sand Pit Laborers and all other similar plants; Demolition, Wrecking and Salvage Laborers: Wrecking and dismantling of buildings and

all structures, with use of cutting or wrecking tools, burning or cutting, breaking away, cleaning and removal of all masonry, wood or metal fixtures for salvage or scrap, All hooking, unhooking, signaling of materials for salvage or scrap removed by crane or derrick; Digging under streets, roadways, aprons or other paved surfaces; Driller, Chuck Tender, Outside Nipper; Dry-packing of concrete (plugging and filling of she-bolt holes); Excavation, Preparation of street ways and bridges; Fence and/or Guardrail Erector; Dismantling and/or re-installation of all fence; Finegrader; Firewatcher; Flagman (Coning, preparing, establishing and removing portable roadway barricade devices); Signal Men on all construction work defined herein, including Traffic Control Signal Men at construction site; Garbage and Debris Handlers and Cleaners; Gas, Pneumatic, and Electric Tools, not listed Group 1 (except Rototiller); General Clean-up: sweeping, cleaning, washdown, wiping of construction facility, and equipment (other than "Light Clean-up" [Janitorial] Laborer); General Excavation and Grading (all labor connected therewith); Digging of trenches, ditches and manholes and the leveling, grading and other preparation prior to laying pipe or conduit for any purpose; Excavations and foundations for buildings, piers, foundations and holes, and all other construction; General Laborer; Guniting Operator; Junk Yard Laborers (same as Salvage Yard); Landscape Nursery Laborers; Laser Beam "Target Man" in connection with Laborers' work; Layout Person for Plastic (when work involves waterproofing for waterponds, artificial lakes and reservoirs); Limbers, Brush Loaders, and Pilers; Loading, Unloading, carrying, distributing and handling of all rods and material for use in reinforcing concrete construction (except when a derrick or outrigger operated by other than hand power is used); Loading, unloading, sorting, stockpiling, handling and distribution of water mains, gas mains and all pipes; Loading and unloading of all materials, fixtures, furnishings and appliances from point of delivery to stockpile to point of installation; hooking and signalling from truck, conveyance or stockpile; Material Yard Laborers; Parks and Sports arenas and all recreational center employees; Pipelayer Tender; Pipewrapper, Caulker, Bander, Kettlemen, and men applying asphalt, Laykold, Creosote, and similar-type materials (pipe under 6 inches); Plasterer Laborer (including Hod Carrier); Preparation, construction and maintenance of roadbeds and sub-grade for all paving, including excavation, dumping, and spreading of sub-grade material; Prestressed or precast concrete slabs, walls, or sections: all loading, unloading, stockpiling, hooking on of such slabs, walls or sections; Quarry Laborers; Railroad, Streetcar, and Rail Transit Maintenance and Repair; Removal of surplus material;

Roustabout; Rubbish Trucks in connection with Building Construction Projects (excluding clearing, grubbing, and excavating); Salvage Yard: All work connected with cutting, cleaning, storing, stockpiling or handling of materials, all cleanup, removal of debris, burning, back-filling and landscaping of the site; Scaffolds: Erection, planking and removal of all scaffolds used for support for lathers, plasters, brick layers, masons, and other construction trades crafts; Scaffolds: (Specially designed by carpenters) laborers shall tend said carpenter on erection and dismantling thereof, preparation for

foundation or mudsills, maintenance; Scraping of floors; Screeds: Handling of all screeds to be reused; handling, dismantling and conveyance of screeds; Setting, leveling and securing or bracing of metal or other road forms and expansion joints; Sheeting Piling/trench shoring (handling and placing of skip sheet or wood plank trench shoring); Ship Scalers; Shipwright; Sign Erector (subdivision traffic, regulatory, and street-name signs); Sloper; Slurry Seal Crews (Mixer Operator, Applicator, Squeegee Man, Shuttle Man, Top Man); Snapping of wall ties and removal of tie rods; Soil Test operations of semi and unskilled labor such as filling sand bags; Stripper (Asphalt, Concrete or other Paved Surfaces); Tagging and Signaling of all building materials into high-rise units; Tool Room Attendant (Job Site); Traffic Delineating Device Applicator; Underpinning, lagging, bracing, propping and shoring, loading, signaling, right-of-way clearance along the route of movement, The clearance of new site, excavation of foundation when moving a house or structure from old site to new site; Utilities employees; Water Man; Waterscape/Hardscape Laborers; Wire Mesh Pulling (all concrete pouring operations); Wrecking, stripping, dismantling and handling concrete forms an false work.

GROUP 3: Licensed Powdermen.

GROUP 4: Gunnite Operator; High Scaler (working suspended), Pipelaying.

GROUP 5: Window Washer (Outside) (Working from bosun's chair and/or cable-suspended scaffold or work platform).

GROUP 6: Light Clean-Up.

LABO0368B 10/01/2001

	Rates	Fringes
LANDSCAPE AND IRRIGATION LABORERS:		
Group 1	17.36	5.37
Group 2	17.86	5.37
Group 3	14.26	5.37

LABORERS CLASSIFICATIONS

GROUP 1: Installation of non-potable permanent or temporary irrigation water systems performed for the purposes of Landscaping and Irrigation architectural horticultural work; the installation of drinking fountains and permanent or temporary irrigation systems using potable water for Landscaping and Irrigation architectural horticultural purposes only. This work includes (a) the installation of all heads, risers, valves, valve boxes, vacuum breakers (pressure and non-pressure), low voltage electrical lines and, provided such work involves electrical wiring that will carry 24 volts or less, the installation of

sensors, master control panels, display boards, junction boxes, conductors, including all other components for controllers, (b) and metallic (copper, brass, galvanized, or similar) pipe, as

well as PVC or other plastic pipe including all work incidental thereto, i.e., unloading, handling and distribution of all pipes fittings, tools, materials and equipment, (c) all soldering work in connection with the above whether done by torch, soldering iron, or other means; (d) tie-in to main lines, thrust blocks (both precast and poured in place), pipe hangers and supports incidental to installation of the entire irrigation system, (e) making of pressure tests, start-up testing, flushing, purging, water balancing, placing into operation all irrigation equipment, fixtures and appurtenances installed under this agreement, and (f) the fabrication, replacement, repair and servicing of landscaping and irrigation systems. Operation of hand-held gas, air, electric, or self-powered tools and equipment used in the performance of Landscape and Irrigation work in connection with architectural horticulture; Choke-setting, signaling, and rigging for equipment operators on job-site in the performance of such Landscaping and Irrigation work; Concrete work (wet or dry) performed in connection with such Landscaping and Irrigation work. This work shall also include the setting of rock, stone, or riprap in connection with such Landscape, Waterscape, Rockscape, and Irrigation work; Grubbing, pick and shovel excavation, and hand rolling or tamping in connection with the performance of such Landscaping and Irrigation work; Sprigging, handseeding, and planting of trees, shrubs, ground covers, and other plantings and the performance of all types of gardening and horticultural work relating to said planting; Operation of flat bed trucks (up to and including 2 1/2 tons).

GROUP 2: Layout of irrigation and other non-potable irrigation water systems and the layout of drinking fountains and other potable irrigation water systems in connection with such Landscaping and Irrigation work. This includes the layout of all heads, risers, valves, valve boxes, vacuum breakers, low voltage electrical lines, hydraulic and electrical controllers, and metallic (coppers, brass, galvanized, or similar) pipe, as well as PVC or other plastic pipe. This work also includes the reading and interpretation of plans and specifications in connection with the layout of Landscaping, Rockscape, Waterscape, and Irrigation work; Operation of Hydro-Mulching machines (sprayman and driver), Drillers, Trenchers (riding type, Davis T-66, and similar) and fork lifts used in connection with the performance of such Landscaping and Irrigation work; Tree climbers and chain saw tree trimmers, Sporadic operation (when used in connection with Landscaping, Rockscape, Waterscape, and Irrigation work) of Skid-Steer Loaders (Bobcat and similar), Cranes (Bantam, Grove, and similar), Hoptos, Backhoes, Loaders, Rollers, and Dozers (Case, John Deere, and similar), Water Trucks, Trucks requiring a State of **Hawaii** Public Utilities Commission Type 5 and/or type 7 license, sit-down type and "gang" mowers, and other self-propelled, sit-down operated machines not listed under Landscape & Irrigation Maintenance Laborer; Chemical spraying using self-propelled power spraying equipment (200 gallon capacity or more).

GROUP 3: Maintenance of trees, shrubs, ground covers, lawns and

other planted areas, including the replanting of trees, shrubs, ground covers, and other plantings that did not "take" or which

are damaged; provided, however, that re-planting that requires the use of equipment, machinery, or power tools shall be paid for at the rate of pay specified under Landscape and Irrigation Laborer, Group 1; Raking, mowing, trimming, and pruning, including the use of "weed eaters", hedge trimmers, vacuums, blowers, and other hand-held gas, air, electric, or self-powered tools, and the operation of lawn mowers (Note: The operation of sit-down type and "gang" mowers shall be paid for at the rate of pay specified under Landscape & Irrigation Laborer, Group 2); Guywiring, staking, propping, and supporting trees; Fertilizing, Chemical spraying using spray equipment with less than 200 gallon capacity, Maintaining irrigation and sprinkler systems, including the staking, clamping, and adjustment of risers, and the adjustment and/or replacement of sprinkler heads, (Note: the cleaning and gluing of pipe and fittings shall be paid for at the rate of pay specified under Landscape & Irrigation Laborer(Group 1); Watering by hand or sprinkler system and the performance of other types of gardening, yardman, and horticultural-related work.

LABO0368C 09/04/2000

	Rates	Fringes
UNDERGROUND LABORERS:		
GROUP 1	21.45	10.74
GROUP 2	22.95	10.74
GROUP 3	23.45	10.74
GROUP 4	24.45	10.74
GROUP 5	24.80	10.74
GROUP 6	25.05	10.74
GROUP 7	25.50	10.74

- GROUP 1: Watchmen; Change House Attendant
- GROUP 2: Swamper; Brakeman; Bull Gang-Muckers, Trackmen; Dumpmen (any method); Concrete Crew (includes rodding and spreading); Grout Crew; Reboundmen
- GROUP 3: Chucktenders and Cabetenders; Powderman (Prime House); Vibratorman, Pavement Breakers
- GROUP 4: Miners - Tunnel (including top and bottom man on shaft and raise work); Timberman, Retimberman (wood or steel or substitute materials thereof); Blasters, Drillers, Powderman (in heading); Headman; Cherry Pickerman (where car is lifted); Nipper; Grout Gunmen; Grout Pumpman & Potman; Gunite, Shotcrete Gunmen & Potmen; Concrete Finisher (in tunnel); Concrete Screed Man; Bit Grinder; Steel Form Raisers & Setters; High Pressure Nozzleman; Nozzleman (on slick line); Sandblater-Potman (combination work assignment interchangeable); Tugger
- GROUP 5: Shaft Work & Raise (below actual or excavated ground level); Diamond Driller; Gunite or Shotcrete Nozzleman
- GROUP 6: Shifter
- GROUP 7: Shifter (Shaft Work & Raiser)

PAIN1791A 01/01/2002

	Rates	Fringes
PAINTERS:		
Brush	25.55	19.35
Sandblaster; Spray	26.05	19.35

PAIN1889A 01/01/2001		
	Rates	Fringes
GLAZIERS	23.07	17.30

PAIN1926B 02/25/2001		
	Rates	Fringes
SOFT FLOOR LAYERS	22.90	15.50

* PAIN1944A 01/01/2002		
	Rates	Fringes
TAPERS	31.75	12.05

PLAS0630A 09/03/2001		
	Rates	Fringes
PLASTERERS	26.31	15.76

PLAS0630B 09/03/2001		
	Rates	Fringes
CEMENT MASONS:		
Cement Masons	25.47	15.76
Trowel Machine Operators	25.62	15.76

PLUM0675A 01/06/2002		
	Rates	Fringes
PLUMBERS, PIPEFITTERS, STEAMFITTERS & SPRINKLER FITTERS	29.80	16.45

ROOF0221A 05/02/1999		
	Rates	Fringes
ROOFERS	25.00	11.46

SHEE0293A 08/26/2001		
	Rates	Fringes
SHEET METAL WORKERS	32.97	13.61

SUHI1001A 09/15/1997		
	Rates	Fringes
DRAPERY INSTALLERS	13.60	1.20

SUHI2001A 09/15/1997		
	Rates	Fringes
FENCE ERECTORS (Chain Link)	9.33	1.65

RIGGERS; WELDERS - Receive rate prescribed for craft performing operation to which rigging or welding is incidental.

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

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

WAGE DETERMINATION APPEALS PROCESS

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

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

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

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

Branch of Construction Wage Determinations

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

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

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

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

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U. S. Department of Labor

200 Constitution Avenue, N. W.
Washington, D. C. 20210

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

RESPONSES TO QUESTIONS
SUBMITTED BY PLANHOLDERS
FOR
RFP NO. DACA83-02-R-0004

Q1. Section 00120, Proposal Submission Requirements and Evaluation Factors, ¶ 2.1.3 Volume III, Subcontracting Plan (Large Business Concern), page 00120-2, provides that the large business offeror is to submit a subcontracting plan per FAR 52.219-9 in Volume III, and further provides that "Volume III will not be evaluated or rated."

Said § 00120, ¶ 2.5.7.2, Subfactor B -- Past performance in complying with small business subcontracting plan goals, page 00120-9, states:

If the offeror is a large business concern, the offeror shall submit a small business subcontracting plan in accordance with FAR 52.219-9.
Said § 00120, ¶ 2.2 Proposal Presentation, page 00120-3 states:

Information pertaining to more than one evaluation factor or Subfactor should be repeated in the tab for each factor and subfactor.

Please advise whether the Small Business Plan separately contained in Volume II is also to be included as a separate tabbed item in Factor V, Subfactor B?"

A1. No, a separate Small Business Subcontracting Plan is not required to be submitted in response to Subfactor B.

Q2. Section 00120, ¶ 2.5.7.1, Subfactor A -- Extent of proposed small business subcontracting participation in the performance of the proposed contract, page 00120-9, states:

Identify in terms of dollar value and percentage of the *total proposed contract price* (emphasis added), the work to be subcontracted to small business concerns, SDB concerns, women-owned small business concerns, HUBZone small business concerns, veteran owned small business concerns

Paragraph 2.5.7.1.1 Evaluation Standards, page 00120-9 references USACE subcontracting goals as 62% of the *total subcontract value* (emphasis added) to SB, 10% of the total subcontract value (emphasis added) will go to SDB, and 5% of the total subcontract value (emphasis added) will go to WOSB.

Please advise whether the USACE referenced subcontracting goals (emphasis added) are percentages of the prime contract or "total proposed contract price" or are percentages of the totals of all subcontracting - both large and small - the prime contractor will let to others."

A2. Subcontracting goals are the percentages of the total amount to be subcontracted to both large and small subcontractors.

Q3. Please advise whether the USACE has subcontracting goals for HUBZone, veteran owned small business (VOSB), and service disabled veteran owned small business (SDVOSB)."

A3. USACE has a SDVOSB goal of 3%, however, it will not be used as an evaluation standard under this solicitation.

Q4. Paragraph 2.5.7 3 Subfactor C -- Extent of participation of small disadvantaged business (SDB) concerns . . . in the authorized North American Industrial Classification System (NAICS) Industry Subsection, pages 00120-9-10 references targets "in each of the applicable, authorized NAICS Industry subsection, for SDB participation." At present, offeror is informed and believes that there are at least twenty-six (26) separate NAICS subsections that may provide the type of services and/or type of equipment, materials, etc. that offeror, if awarded the contract, may let. For illustration purposes, these separate NAICS subsection include from such concerns as fuel (454319), waste collection (562111), demolition (235940), and drilling (235810). Assume hypothetically that of these twenty-six (26) separate NAICS subsections, offeror can identify on SBA PRONet at least one (1) SDB per NAICS subsection that is listed as performing eighteen (18) of these separate NAICS subsections. Assume further, but again hypothetically, that these SDB's are either in Hawaii or perform services nationally.

Please advise if, under the hypothetical circumstances presented, offeror is then to provide specific SDB targets expressed as dollars and percentage of total contract value in each of these separate NAICS subsections identified.

A4. Yes

Q5. If offeror is not to provide specific SDB targets expressed as dollars and percentage of total contract value in each of the separate NAICS subsections for which offeror will subcontract, please advise the correct manner in which offerors are to respond to said Subfactor C."

A5. Provide a narrative justification as to why none identified.

Q6. Radiation Safety Officer, 01351-9, para 1.11.3.2)b. Site Safety and Health Officer is required by the last sentence in this paragraph to comply with the definition of a Radiation Safety Officer on radioactive waste cleanup project per EM 385-1-1. Is this project considered to be a Radioactive Waste Cleanup Project?

A6. This project is not considered to be a Radioactive Waste Cleanup Project. The only radioactive materials anticipated are for the contractor supplied pipe weld testing equipment which will require coordination with the Hickam AFB for bringing it on Base.

Q7. Barricaded, fenced and plated, 01351-17, para 1.25 This paragraph describes Excavation and Trench Safety. The Description Of Work for this specification section states "...while performing cleanup activities on uncontrolled hazardous waste sites." (01351-2, 1.2). When demolishing the UST and existing hydrant and control pits the work area will be protected, as described, from unnecessary entry, due to the fact the work for this project is located on an active restricted airfield and therefore is a protected area and as such does not require plating or other protection. Please advise if this interpretation is correct.

A7. Your interpretation is incorrect. Plating and/or other protective measures may be required. The active airfield is accessible by authorized AF personnel and measures must be taken to preclude accidents as a result of open excavations/trenches.

Q8. NPDES Permit & Special Environmental Requirements 01354-5,para 1.4.2 and 1.4.3 Please provide the government National Pollutant Discharge Elimination System and air quality under EPA Title V operating permits for storm water drainage that are indicated in the above paragraph to be "included at the end of this section" . Also

provide the “special environmental requirements” that were not provided. So that we can review these documents prior to bid.

A8. The Government has completed the NPDES Notice of Intent, Form G, for construction de-watering and has submitted it to the State of Hawaii – Department of Health, Clean Water Branch. We are also in the process of preparing the NPDES Notice of Intent, Form C, but has not as yet completed this action. The EPA Title V permit is available for your review in Am-0002. No other special environmental requirements are known at this time.

Q9. Archaeologist 01354-8, para 3.1.3 and C-1, note 6
Please clarify a conflict between the specifications and drawings regarding the whether the contractor or the Base is responsible to provide the services of a professional archaeologist. The Environmental Protection specification requires that the contractor to retain and pay for the required services that will be approved by the Base. On drawing C-1, note 6 indicates that the contractor to have “close coordination with a qualified archaeologist, hired by the Corps of Engineers...”. We are aware that the specifications take precedence over the drawings, but due to the cost involved we would appreciate a clarification to all of the bidders.

A9. The Government will be providing the Archaeologist to implement the Archeological Monitoring Plan during construction excavation activities. Section 01354, paragraph 3.1.3 will be amended to reflect this clarification.

Q10. Management Action Plan (MAP), 01450-2, para 1.4.1
The Site History paragraph references a MAP for Hickam AFB, dated December 2000 by 15 CES/CEVR. Is this report available for us to review the environmental conditions on the base?

A10. The MAP is available for your review in Am-0002.

Q11. Jack-and-Bore versus Mircotunneling 01900-10 para 1.15.5.t., 02316-5, para 3.1.1.5 and 02441 and C-30 (Line C sta 43+00)C-43 (Line D-1 sta 17+17), C-58 (18” casing)
There appears to be an expensive conflict regarding the methodology required to install casing below the two existing box culverts. The Miscellaneous Provisions and Excavation, Trenching and Backfilling for Utility Systems specification sections refer to the less expensive and most often used method for this application “Jack-and-Bore” or “Horizontal Directional Drilling”, while a separate specification section describes a expensive operation for “Trenchless Excavation Using Microtunneling” for two 54 foot lengths of 18” casing at -4 elevation. Please consider correcting the conflict by deleting section 02441.

A11. There is no conflict in the specifications. Paragraphs in Sections 01900 and 02316 generally describe alternatives to open cut installation that are described in detail in Section 02441.

Q12. Pipe Bedding, 02316-3, para 2.1.6 and C-51, detail B
The pipe bedding material callout for the exterior coated stainless steel pipe to be in accordance with “ASTM C33” (concrete aggregate) with a gradation of 100 passing the 3/8” sieve”. Our experience with installing thousands of feet of exterior coated pipe and other utilities throughout the US and Hawaii is that the C33 product is extremely expensive as well as design overkill for the intended purpose. We have

successfully used a local Hawaiian product by the name of “3B Fine” (ASTM D448) as bedding on previous exterior coated pipe projects. The 3B Fine product complies with the exterior coating manufacturer’s pipe bedding requirements. The cost savings on the project could be \$150,000 to \$200,000 if the 3B Fine product is allowed to be used for the pipe bedding. Please consider changing the pipe bedding requirement.

A12. Use of 3B fine of pipe bedding is acceptable provided that you provide a certification that the aggregate meets the exterior coating pipe manufacturer’s pipe bedding requirements.

Q13. Hydrant Fuel Pit, 15050-14, para 2.12.1 & 2.12.2 and S-31 & C-51

There appears to be a conflict between the specification (2.12.12, line 27) requiring the pit surface elevation to be installed 2” below the top of adjacent concrete and the details on contract drawings S-31 and C-51, which show the pit surface to be installed even with the surrounding concrete that is sloped up to a 2” crown in a 3’ perimeter of the pit lid. The drawings indicate our recommended installation elevation. Please clarify.

Also, based on conversations with numerous contractors NO hydrant pits are truly “waterproof”. We respectfully request that the wording be changed to “water resistant”, which is obtainable with a gasketed pit cover.

A13. Section 15050 will be modified to clarify position of lid with respect to surrounding pavement.

Q14. Level Gauges for PRT & DTs, 15050-11, para 2.11 & 13204-9, para 2.5 and M-37, M-38 & E-29

There is no specification for the level gauges for the Product Recovery Tank and the Diesel Tanks. The drawings show “Liquid Level Indicator and Temperature Transmitters”. This is similar to the requirement for the Operating Tanks specified in section 13205-15, para 2.10.4 “Servo Tank Level Gauging System”. Unless advised otherwise we will consider that this is the same type required for the PRT and Diesel Tanks. We recommend that you provide this same information to the other bidders.

A14. Your interpretation is correct. Use Servo System per Section 13205, paragraph 2.10.4.

Q15. Double Block and Bleed Valves, 15060-14 , para 2.3.2

There are places on the drawings where the DBBV are noted as “ss”. See detail 1/M34, valves on M-13, M-14, detail 2/M21, M-22, 1/M25 and so on. The specification states “stainless steel or carbon steel body”. Stainless steel body DB&B valves are extremely expensive. We have installed over 25 fuel systems for the Federal Government throughout the past 25 years, several of which were Type III Hydrant Fuel systems like this project. All of this projects included DBBV, but none have required stainless steel bodies. Given the price difference of more than 5 times the cost between chrome-plated carbon steel and stainless steel, plus a number of 50+ DBBV on this job it appears to be an exorbitant cost for the project. Please consider changing all of the “ss” callouts on DBBV to “cs”.

A15. Provide “ss” as specified and shown in the contract documents.

Q16. Pig Launcher 15060-14, para 2.9 and M-25

Please advise if the Pig Launchers are intended to be installed for this project. The contract drawings indicate the pig launchers will be installed in the “future”. The Fuel

Equipment specification section lists the requirements for pig launchers and receivers. Unless we are advised otherwise the pig launcher and receiver will be considered as future installed items.

A16. The launchers/receivers provided under this project are only for the cleaning pigs. The long barrels for smart pigging are shown in dashed lines to indicate "future".

Q17. Size of Vent and Drain pipe

Detail C/M-40 shows the low point drain and high point vent piping. There is a statement that the vents and drains on 10" pipe and larger are to be 2" size. Drawing M-5 shows the P&ID of the Receipt line to the storage tank. There are (2) manual air vents down stream of the filter separator discharge header. The header is 10" and yet the vents are shown as 1". One of the vents is shown on drawing M-20 and shows an automatic air vent. The same vent is shown on detail 6/M-21, as a manual 1" vent. There are also automatic air vents shown on the pump and filter separator headers. The only dimension given is on the manual valve which is shown as 2". The specifications, section 15060 para. 2.12, state that the automatic air vents are 1". We will use 1" vents where shown and 2" on 10" pipe and larger unless otherwise noted.

A17. Use 1" on air vents and 2" on low point drains for larger pipes.

Q18. Soil Report 02300 Earthwork and C-59

Was a soil report prepared for this project? If so, can one be made available for our review prior to bid?

A18. A geo-technical report was completed and can be made available for your review at our office. Please call Ms. Jody Muraoka at (808) 438-8575 to review the geo-technical report.

Q19. Construction sub-phasing project schedule D-2

We understand from the site visit yesterday that a reasonable construction schedule will be agreed between the contractor and the Base personnel in lieu of the detailed sub-phasing tables on the demolition layout drawings. We are in full agreement with this decision.

A19. During the pre-proposal conference, it was noted the alternate phasing may be considered but it will have to be beneficial to the Government and also minimize impacts to the airfield operations. However, you should prepare your bid in accordance with the specified phasing schedule depicted on the contract documents.

Q20. Please specify what area of the project is Section 02761, Fuel-Resistant(Coal Tar) Sealer applicable.

A20. Fuel-Resistant Sealer is to be used on all new AC pavement as indicated on Details A and B of sheet C-54.

Q21. Section 09900, Painting-General, paragraph 3.10, painting schedules, specify that aluminum, aluminum alloy, and other non-ferrous metal are to be painted. Are exterior stainless steel pipings and fittings and other stainless steel items which are consider as non-ferrous to be finish painted.

A21. Exterior stainless steel items should not be painted.

Q22. Sheet No. M-13 has a match-line that refers to Sheet No. M-14. When these drawings are “matched” Operating Tank No. 3 appears to breach the intermediate dike wall. It appears that the dimensions are incorrect on these drawings. Please provide clarification.

A22. The match line depicted on Sheets M-13 and M-14 is incorrect and does not properly depict the correct relationship of Operation Tank #3 to the dike. The 16" and 10" SS pipes should have extended out further. The layout of the Operating Tanks are as depicted on Sheet M-3.

SECTION TABLE OF CONTENTS

DIVISION 15 - MECHANICAL

SECTION 15050

MECHANICAL EQUIPMENT, FUELING

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GUIDE SPECIFICATION FOR CONSTRUCTION

SECTION 15050

MECHANICAL EQUIPMENT, FUELING

PART 1 GENERAL

1.1 REFERENCES

Waiver to Use MilStds and MilSpecs in Air Force Fuel Projects,
HQ AFCESA/CESM (01/29/96).

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

ASME INTERNATIONAL (ASME)

ASME B16.5 (1996) Pipe Flanges and Flanged Fittings
NPS 1/2 through NPS 24

ASME B40.1 (1991) Gauges--Pressure Indicating Dial
Type--Elastic Element

AMERICAN PETROLEUM INSTITUTE (API)

API RP 1615 (1996) Installation of Underground
Petroleum Storage Systems

API STD 2000 (1992) Venting Atmospheric and Low
Pressure Storage Tanks (Nonrefrigerated
and Refrigerated)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 182/A 182M (2000) Forged or Rolled Alloy-Steel Pipe
Flanges, Forged Fittings and Valves and
Parts for High-Temperature Service

ASTM C 827 (1987) Standard Test Method for Change in
Height at Early Ages of Cylindrical
Specimens of Cementitious Mixtures

ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA 40 CFR Part 280 Underground Storage Tanks; Technical
Requirements and State Program Approval,
Final Rules

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 30 (1990) Flammable and Combustible Liquids Code

NFPA 70 (1996) National Electric Code

MILITARY SPECIFICATIONS (MS)

MS MIL-P-24441 (Rev. B, 1991; Supp. 1) General Specification for Paint, Epoxy - Polyamide

MS MIL-T-83133 (Rev. C, 1990; Amend. 1) Turbine Fuels, Aviation, Kerosene Types, NATO F-34(JP-8) and NATO F-35

MILITARY STANDARDS (MIL-STD)

MIL-STD-130 (Rev. G, 1988) Identification Marking of U.S. Military Property

MIL-STD-161 (Rev. F, 1985; Notice 2) Identification Methods for Bulk Petroleum Products Systems Including Hydrocarbon Missile Fuels

SOCIETY OF AUTOMOTIVE ENGINEERS (SAE)

SAE AMS 3275A (1994) Acrylonitrile Butadiene (NRB) Rubber Sheet, Non-Asbestos Fiber Fuel and Oil Resistant

STEEL TANK INSTITUTE (STI)

STI P3 (1987) Exterior Corrosion Protection of Underground Steel Storage Tanks

UNDERWRITERS LABORATORIES (UL)

UL 58 (1986) Steel Underground Tanks for Flammable and Combustible Liquids

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-03 Product Data

Pressure Gages; G

Automatic Pump Controls; G

Meters; G

Product Recovery Tank and Accessories; G

Hydrant Outlet Pits; G

Isolation Valve Pits; G

High Point Vent Pits; G

Low Point Drain Pits; G

Operating Tank Level Switches; G

Water Draw-Off System; G

Venturi Tubes; G

Differential Pressure Transmitter; G

Unloading Level Switches; G

SD-02 Shop Drawings

Detail drawings consisting of illustrations, schedules, performance charts, instructions, brochures, diagrams, and other information to illustrate the requirements and operation of the equipment and systems.

Meters; G

Venturi Tubes; G

Water Draw-off System; G

Product Recovery Tank and Accessories; G

Hydrant Outlet Pits; G

Isolation Valve Pits; G

High Point Vent Pits; G

Low Point Drain Pits; G

Product Recovery Tank ; G

Provide the product recovery tank drawings as one package with the design analysis. Shop fabrication drawings shall include type of material, configuration, thickness, and necessary details of construction of the steel tank and vault. Shop drawings shall also show the steel grating and supports.

SD-06 Test Reports

Tank Tightness Test Reports; G

Leak Detection Monitor; G

SD-07 Certificates

System Supplier Qualifications and Experience Statement; G

Valve List; G

Coating; G

U.L. Labeled; G

STI P3 Label; G

Hydrant Outlet Pits; G

Isolation Valve Pits; G

High Point Vent Pits; G

Low Point Drain Pits; G

Hydrant Outlet Frame and Cover; G

Isolation Valve Frame and Cover; G

High Point Vent Frame and Cover; G

Low Point Drain Frame and Cover; G

SD-10 Operation and Maintenance Data

Operation and maintenance information shall be submitted for the equipment items or systems listed below. Refer to Section 01730 FACILITY OPERATION AND MAINTENANCE MANUAL for the information to be submitted for various type of equipment and systems.

Pressure Gages

Automatic Pump Controls

Pressure Indicating Transmitters

Unloading Level Switches

Flow Switches

Venturi Tubes

Differential Pressure Transmitter

Meters

Orifice Meter

Hydrant Outlet Pits

Isolation Valve Pits

High Point Vent Pits

Low Point Drain Pits

Product Recovery Tank and Accessories

Water Draw-off System

PART 2 PRODUCTS

2.1 DESIGN CONDITIONS

Components shall be suitable for use with JP-8 turbine fuel; specific gravity 0.81 at 60 degrees F., viscosity 1.62 CS at 60 degrees F., Reid vapor pressure less than 0.05 psi, MS MIL-T-83133. Components to be ANSI Class 150 (275 PSIG at 100 degrees F.) unless noted otherwise. Components to be suitable for outside, unsheltered location, and to function normally in ambient temperatures between 63 degrees F. and 86 degrees F.

2.2 COMPOSITION OF MATERIALS

Materials in contact with the fuel shall be noncorrosive. No zinc-coated metals, brass, bronze, iron, lead or lead alloys, copper or copper alloys, or other light metal alloys containing more than 4% copper shall be used in contact with the fuel.

2.3 ELECTRICAL WORK

Motors, manual or automatic motor control equipment except where installed in motor control centers, and protective or signal devices required for the operation specified herein shall be provided under this section in accordance with Section 16415 ELECTRICAL WORK, INTERIOR. Any wiring required for the operation specified herein, but not shown on the electrical plans, shall be provided under this section in accordance with Section 16415 ELECTRICAL WORK, INTERIOR.

2.4 MATERIALS AND EQUIPMENT

All items of material and equipment shall be new and of the best quality used for the purpose in commercial practice and shall be products of reputable manufacturers. Each major component of equipment shall have the manufacturer's name, address and catalog number on a plate securely affixed in a conspicuous place. The nameplate of a distributing agent only will not be acceptable. The gears, couplings, projecting set screws, keys and other rotating parts located so that any person may come in close proximity thereto shall be fully enclosed or properly guarded. Equipment, assemblies and parts shall be marked for identification in accordance with MIL-STD-130 and MIL-STD-161. Valve identification tags made of brass, stainless steel,

or engraved anodized aluminum, indicating valve number and normally open (NO) or normally closed (NC) shall be installed on valves. Tags shall be 1-3/8 inch minimum diameter, and marking shall be stamped or engraved. Indentations shall be black, for reading clarity. Tags shall be attached to valves with No 12 AWG, copper wire, stainless or aluminum hanging wires, or chrome-plated beaded chain designed for that purpose. Submit valve list with valve type, valve identification number and location.

2.4.1 System Supplier

The entire fuel delivery system, including but not limited to pumps, pump control panel, filter separators, computer hardware and software, venturi tubes, transmitters, hydraulic control valves, and all field instrumentation, shall be furnished by a single system supplier, henceforth referred to as **the "Supplier"**, that is regularly engaged in the supplying of such equipment for aircraft hydrant refueling system construction. The Supplier shall be responsible to the contractor for satisfactory start-up and operation of the entire system, and shall assist the Contractor to ensure proper installation of all piping, mechanical equipment and controls. Deviations from these specified Supplier responsibilities will not be accepted. **Offeror shall provide** a System Supplier Qualifications and Experience Statement **with its proposal**. The Supplier shall also be responsible to the contractor for Scheduling all Contractor, Sub-Contractor and manufacturer's service personnel during system start-up and final commissioning (Section 15899).

- a. **The Supplier shall provide and integrate the Pump Control and Annunciation System (Section 15970) with all sensors, transmitters and controlled equipment, so that the hydrant system operates as designed to provide safe and efficient aircraft refueling.**
- b. The Supplier shall review contract drawings and specifications, and identify design problems, deficiencies and/or enhancements for Government review, prior to ordering materials and equipment.
- c. The Supplier shall communicate with the Major Command Fuels Engineer, construction agent, and Architect-Engineers, to clearly understand the design intent and to verify that all design expectations are achievable. The Supplier shall also communicate with the system operators regarding auxiliary equipment intended for use with the system (refueling trucks, hydrant hose carts, hydrant servicing vehicles, portable pantographs, etc), and verify system compatibility and proper calibration settings.
- d. The Supplier shall provide and integrate suitable components (regardless of manufacturer) to provide an efficient, accurate repeatable and reliable system that meets all specified performance characteristics.
- e. The Supplier shall work with the Contractor and Sub-Contractors to ensure that equipment and materials are stored and installed properly to prevent damage, minimize air entrapment, and maintain cleanliness of the installed system.

- f. The Supplier shall work closely with both mechanical and electrical subcontractors to insure proper installation of equipment, instrumentation, wiring and coordination between trades.
- g. The Supplier shall work closely with the Contractor during system start-up and commissioning activities per Section 15899, FUELING SYSTEMS START-UP. The Supplier shall conduct **an** on-site verification of proper equipment installation, programming, wiring, calibration, set-point adjustments, hydraulic control settings, pressure relief settings, alarm settings, etc, prior to initial fuel receipt. The Supplier shall assist the Contractor with developing the System Start-up Plan, shall coordinate the work of manufacturer's field technicians, shall **oversee the** system performance tests and final performance demonstration, and provide a 7-channel recorder to plot the system profile during those operations. The Supplier shall also coordinate government-provided equipment and manpower support for start-up and commissioning activities.
- h. The Supplier shall provide equipment data for inclusion in the Operations and Maintenance Manuals for the project per Section 01730, OPERATION AND MAINTENANCE SUPPORT INFORMATION (OMSI) which is clear and detailed enough to facilitate both installation and maintenance.
- i. The Supplier shall participate in Contractor-provided training on the system per Section 01730, OPERATION AND MAINTENANCE SUPPORT INFORMATION (OMSI) to insure that Government operators and maintenance personnel are proficient in their respective areas of responsibility prior to system acceptance. As a minimum, the Supplier shall provide training on the control system (computer hardware, computer software, electronics sensors and transmitters, auto control valves, etc) that enables the Base Liquid Fuels Maintenance Shop to properly accomplish maintenance, annual calibrations, diagnostic testing, troubleshooting, and repairs.

2.5 PRESSURE GAGES

Pressure gages shall conform to ASME B40.1 with metal cases and 4-inch diameter white dials. Gages shall be bottom connected, without back flanges. A pulsation dampener, adjustable to the degree of dampening required, shall be provided for each gage. Range of gages shall be as indicated. A ball valve shall be provided for each pressure gage. Gages shall have all parts immersed in silicone oil. Gages shall be labeled with the calibration date. Range for each pressure gage is as indicated on the drawings.

2.6 GASKETS

Gaskets shall be in accordance with Section 15060 PIPE, MANUAL VALVES, AND FITTINGS, FUELING SYSTEM.

2.7 BOLTS AND NUTS

Bolts and nuts shall be in accordance with Section 15060 PIPE, MANUAL VALVES, AND FITTINGS, FUELING SYSTEM.

2.8 AUTOMATIC PUMP CONTROLS

The pressure and flow transmitters specified in this paragraph shall be obtained from a single supplier of such products. The same supplier shall also furnish the associated venturi tubes and GPM meter. The supplier shall be responsible for furnishing components that are compatible and that operate as a system to perform the required pump control functions. Control tubing between controls/instruments and fuel lines shall be installed to eliminate air entrapment. Control tubing shall be as specified in Section 15060 PIPE, MANUAL VALVES, AND FITTINGS, FUELING SYSTEM. Each item of equipment specified hereafter shall have manufacturer's authorized service personnel present to assist in PERFORMANCE TESTING as specified in Section 15899 FUELING SYSTEMS START-UP.

Items specified under this paragraph shall be submitted for approval concurrently with items specified in Section 15970 PUMP CONTROL AND ANNUNCIATION SYSTEM.

2.8.1 Pressure Indicating Transmitters

Pressure indicating transmitters shall consist of a capacitance sensor operating on a differential in pressure of fuel (one side being open to atmospheric pressure). The output shall be a 4 - 20 mA dc, linear signal between 0 - 100% of the input. It simultaneously will produce a digital HART (Highway Addressable Remote Transducer) output signal. Loop power shall be provided from remote power supply located in the pump control panel (PCP).

a. Transmitter body shall be stainless steel with stainless steel diaphragm capsule process connecting to a 1/2 inch NPT. Drain and vent valves to be stainless steel. Accuracy shall be ± 20 percent of calibrated span including combined effects of linearity, hysteresis and repeatability.

b. One pressure indicating dial shall be supplied with each pair of transmitters. Pressure indicating dials shall consist of a bellows type pressure sensing element operating on a differential in pressure of fuel (one side being open to atmospheric pressure) and a mechanical indicator (driven by the bellows unit). The bellows shall be dual opposed, liquid filled, rupture-proof type with bellows movement converted to rotation and transmitted by a torque tube. Bellows housing shall be stainless steel and shall have a rated working pressure of not less than 500 psi with a minimum differential pressure range of 0 to 250 psi. Liquid used to fill the bellows shall be suitable for the expected minimum ambient temperature. The indicating dial shall be at least 6 inches in diameter with a weatherproof glass cover. The case shall be finished with a weather resistant epoxy resin enamel. The indicating pointer shall traverse a 270 degrees arc. The scales shall be graduated over the selected pressure ranges so that the pressure can be read in pounds per square inch gage (psig). Indicator accuracy shall be 0.75 percent of full scale. Pressure indicating dial shall be provided with suitable over-range protection.

c. Pressure transmitters shall be UL, FM, or CSA listed for Class 1, Division 1, Group D hazardous environment as defined by NFPA 70, with maximum temperature rating T2D (419 degrees F). Each transmitter and dial shall be supplied with a factory assembled two valve stainless steel manifold. Vent valves shall be furnished on upper ports of each transmitter and dial. Pressure transmitters and the indicating dial shall be suitable for mounting on a 2-inch pipe stand. Complete installation shall be in accordance with manufacturer's recommendations.

d. Provide a HART (Highway Addressable Remote Transducer) protocol interface handheld calibration device.

2.8.2 Flow Switches

Switches shall be actuating vane type flow switch with single adjustable set-point. Switches shall mount on ASME B16.5 Class 150 raised face flange. Provide snap action switch mechanism U.L. listed for Class I, Division 1, Group D hazardous locations. Switches to be double pole double throw (DPDT). Switch power shall be 120 volts, single phase, 60 hertz, 10 amps minimum.

2.8.3 Venturi Tubes

a. The venturi tubes shall be provided in conjunction with Section 15970 PUMP CONTROL AND ANNUNCIATION SYSTEM.

b. Start-up, adjustments and calibration, and instruction of personnel in the operation and maintenance of the venturi tubes shall be considered as a required portion of the controls package.

c. The venturi tubes shall be low loss differential pressure producers consisting of a short housing piece and a fully machined, contoured throat section providing a restriction at the center, with both inlet approach and exit having geometrically symmetrical curves. They shall be velocity head, impact, differential producing devices designed to measure differential pressure of JP-8 fuel. They shall be constructed of 304L stainless steel with ANSI Class 150 flanges on each end and be suitable for operation of 275 psig at 100 degrees F. They shall be of sufficient thickness to with-stand the same stresses as the upstream and downstream piping. Each venturi tube shall have a minimum of four 1/2-inch connections. An individual head-capacity curve shall be furnished for each venturi tube.

d. Operating conditions for the venturi tubes shall be as follows:

- (1) Issue Venturi Tube. Minimum inlet-to-throat differential pressure at 3,000 gpm: 200 in. H2O.
- (2) Return Venturi Tube. Minimum inlet-to-throat differential pressure at 600 gpm: 200 in. H2O.

- (3) Venturi tubes discharge coefficient "C" to be greater than or equal to 0.97 over pipe Reynolds number range between 200,000 and 1,000,000 and shall be independent of Beta over a Beta range of 0.4 to 0.75. Pressure loss shall be less than 24 percent of differential pressure generated by the venturi tube. Repeatability of the discharge coefficient "C" shall be 2 percent for Reynolds number range of 10,000 to 1,000,000.

- (4) Provide two portable GPM Meters, one for each size of venturi. The meters shall be complete with valves, hoses and connecting disconnects, and carrying case. The meters shall have stainless steel bellows, mounting bracket, 500 psi swp, 6-inch dial with 270 degrees arc. Dial shall read GPM Jet Fuel. Range of scale shall be 1.5 times GPM flow requirement. The venturi manufacturer shall provide the portable meters with the venturi in order to be compatible. The venturi tubes shall also be provided with a suitable table to convert inches differential pressure to gallons per minute.

2.8.4 Differential Pressure Transmitter

Differential pressure transmitter shall consist of a capacitance sensor operating on a differential in pressure of fuel. The output shall be a 4 - 20mA dc, square root signal between a minimum of 4 - 100% of the input. It may be linear between 0 - 4%. It simultaneously will produce a digital HART (Highway Addressable Remote Transducer) output signal. Loop power shall be provided from remote power supply located in the pump control panel (PCP).

- a. Transmitter body shall be stainless steel with stainless steel diaphragm capsule process connecting to a 1/2 inch NPT. Drain and vent valves to be stainless steel. Accuracy shall be " 0.20 percent of calibrated span including combined effects of linearity, hysteresis and repeatability.

- b. One differential pressure dial shall be supplied with each pair of transmitters. Differential pressure dial shall consist of a bellows type pressure sensing element, operating on a differential in pressure of fuel, and a mechanical indicator, driven by the bellows unit. The bellows shall be dual opposed, liquid filled, rupture-proof type with bellows movement converted to rotation and transmitted by a torque tube. Displacement of bellows shall be 1.5 cubic inches for full scale travel. Bellows housing shall be stainless steel and shall have a rated working pressure of not less than 500 psi. Liquid used to fill the bellows shall be suitable for the expected minimum ambient temperature. The indicating dial shall be at least 6 inches in diameter with a weatherproof glass cover. The case shall be finished with a weather resistant epoxy resin enamel. The indicating pointer shall traverse a 270 degree arc. The scales shall be graduated

over the selected pressure ranges so that the flow rate can be accurately read in gallons per minute. Indicator accuracy shall be 0.5 percent of full scale. Differential pressure indicating dial shall be provided with built-in pulsation damper and suitable over-range protection.

c. Differential pressure ranges shall be selected as necessary to operate in conjunction with associated venturi tube:

(1) Issue Venturi Tube - 0 to 3000 GPM (full range)

(2) Return Venturi Tube - 0 to 800 (full range)

Each venturi tube shall have two transmitters and one indicating dial per function and shall be installed as indicated on the drawings.

d. Differential pressure transmitters shall be UL, FM, or CSA listed for Class 1, Division 1, Group D hazardous environment as defined by NFPA 70, with maximum temperature rating T2D (419 degrees F). Each transmitter and indicating dial shall be supplied with a factory assembled five valve stainless steel manifold. Vent valves shall be furnished on upper ports of each transmitter and indicating dial. Differential pressure transmitters and the indicating dial shall be suitable for mounting on a 2-inch pipe stand. Complete installation shall be in accordance with manufacturer's recommendations. Provide calibration meter for differential pressure transmittals.

2.9 METERS

Meter shall be a one-way flow, positive displacement type meter designed for a continuous flow of 600 GPM at the truck fill stand. Meter shall have ANSI Class 150 flanges and body working pressure of not less than 200 psig and shall be suitable for hydrostatic testing of 275 psig. Meter shall be factory calibrated for JP-8 jet fuel and capable of being calibrated in the field. The register shall have a non-setback total indicator and a setback type run indicator so that individual runs can be registered without affecting the total of all runs as shown on the indicator. The total indicator shall have a minimum of seven figures and the setback run indicator shall have a minimum of six figures. The register shall read in gallons and the smallest unit of indicated delivery shall be 1 gallon. Accuracy shall be within +0.3 percent between ten percent and maximum rated flow. Provide temperature volume compensation for the register. Provide a ticket printer with Zero Start. Meters shall be provided with a suitable drain at the bottom, equipped with a ball valve.

2.9.1 Pressure Loss

Pressure loss through the meter shall not exceed 3 psi at 600 gpm flow rate.

2.9.2 Materials of Construction

Materials of construction shall be stainless steel, aluminum or nonferrous

material except meter case may be steel with electrolyses nickel plated internals coated to 3 mil thickness. No ferrous or zinc-coated material bronze, brass or other copper bearing alloys shall be used in contact with the fuel.

2.10 ORIFICE METER

Provide a 4-inch orifice meter complete with a local electronic display in gallons per minute. The orifice flanges shall be stainless steel in accordance with ASTM A 182/A 182M and meet the ANSI 150 lb. class. The orifice plate shall be 304/304L stainless steel and sized to measure flow rates from 700 gpm to 300 gpm. Differential pressure transmitter shall read the pressures from tapped point on the orifice flanges. Refer to paragraph 2.8.4 of this Section for requirements for differential pressure transmitter. Tubing to the transmitter shall be stainless steel. Provide a valve manifold with air venting and draining. Components in contact with the JP-8 shall be compatible with jet fuel.

2.11 PRODUCT RECOVERY TANK AND ACCESSORIES

2.11.1 Tank Construction

Product recovery tank shall be a U.L. labeled, double wall, steel tank, with interstitial monitor. Tank shall be provided with calibrated gage stick and strapping chart. Tank shall be provided with a steel vault attached to tank. Vault shall be provided with a rolling pit cover and removable access grating.

2.11.1.1 Steel Tank With Vault

a. The design, fabrication, erection, testing, and inspection of the double wall tank shall conform to the requirements of UL 58, Standard for Safety, Steel Underground Tanks for Flammable and Combustible Liquids, Type II. The exterior tank walls shall be separated from the interior walls by standoffs. Provide Drawings. Provide tank tightness test reports.

b. Tank manufacturer shall design the steel vault with the tank. The steel vault shall be 1/4-inch thick steel and designed to support the weight of the rolling cover.

c. Material shall be carbon steel plate.

d. Lifting lugs shall be located at the balance points.

e. Provide anchor straps to attach tank to hold down slab. Straps shall be separated from the tank by a pad made of inert insulating material. Number and location of straps shall be as indicated on the drawings.

f. Tank capacity, connections and appurtenance shall be as shown on the drawings and as described under "Monitor."

g. A complete system of cathodic protection shall be provided for the tank and vault in accordance with Section STI P3 System Requirements.

h. The interior and exterior surfaces of tank and vault shall be coated for corrosion protection. The interior surface shall be coated in accordance with MS MIL-P-24441, Formulas 150, 151, and 152. The exterior surface shall be coated in accordance with STI P3 and the tank shall bear the STI P3 label. Provide a test station between tank and anode.

2.11.1.2 Leak Detection Monitor

a. An annular space shall be provided between the primary and secondary shells to allow for the free flow and containment of all leaked product from the primary tank.

b. The tank shall be provided with a leak monitoring system capable of sensing leaks in the secondary containment space and in the vault. The system shall detect a leak of fuel through the inner shell to the area between the inner and outer shells or a leak of ground water through the outer shell into the area between the inner and outer shells. The detector and any equipment in the area of the fuel tanks and valve pits shall be intrinsically safe or explosion proof. The system shall be a continuous surveillance type. The sensor shall be intrinsically safe discriminating type and shall be connected to a remote panel. Totally flooded containment space reservoir system shall not be permitted. The panel shall provide an audible and visible alarm if a leak is detected and shall indicate if the leak is fuel or water. The alarm shall be manually reset at the panel. An inert gas that is heavier than air shall be used in containment space of the tanks to prevent the forming of condensation. Contractor shall provide instructions and equipment required for calibration of the monitoring system. Contractor shall also provide calibration maintenance schedule. Access shall be provided to the tank sensor for testing and maintenance. The control panel shall be located where shown on the plans. Remote alarm shall be provided at the pump control panel(PCP), see Section 15970, PUMP CONTROL AND ANNUNCIATOR SYSTEM. This control panel shall have a sign located adjacent to it indicating that the alarm indicates a leak in the fuel tank or the vault. The Contractor shall provide system operating instructions inside of the control panel.

c. Monitoring shall be continuous and shall be remotely indicated. The control console shall generate a visual and audible alarm and shall provide one DPDT contact closure on alarm for remote alarm annunciation.

2.11.1.3 Tank Appurtenances and Fittings

Tank appurtenances and fittings shall be provided as indicated. Nozzles for appurtenances and steel vault shall be as indicated or per manufacturer's recommendations and shall be installed plumb with all above grade flange faces level. Gravity fill line shall be provided with locking cap. The flange on the Product Recovery Pump pumpway shall be an ASME Class 150 flange.

2.11.1.4 Tank Vent

Tank vent shall be stainless steel pipe. Vent shall be a breather (pressure-vacuum) with hinged or guided pallets. Moving or striking parts

shall be nonferrous metal. Design shall be such that moisture cannot collect on the pallet. Size pressure and vacuum relief vent in accordance with API STD 2000. Vent opening shall be covered with insect screen and terminate 12 feet aboveground.

2.11.1.5 Manway

A 36-inch round manway shall have U.L. listed gasket with bolted cover. A fiberglass or stainless steel ladder shall be provided inside the tank at the manway.

2.11.1.6 Sampling and Gauging hatch

A sampling and gauging hatch shall be provided and shall consist of a foot-operated, hinged cover with a flexible sealing ring and provision for padlocking. The hatch shall be non-sparking and shall have a flanged connection for installation on 4-inch steel pipe. Provide a datum plate beneath gauge opening, and stencil reference height on gauge/sampling hatch piping.

2.11.1.7 Product Recovery Pump (PRP-1)

Refer to Section 15140 PUMPS, FUELING SYSTEM

2.11.1.8 Electric Pump

The electric pump shall be a sliding vane type rotary pump. The pump construction shall permit the removal of the rotor and sliding vanes without disconnecting the pump. Pump capacity shall be 5 gallons per minute with a 15 feet suction head and a discharge head of 25 feet. The pump and motor shall be mounted on a cast iron or steel subbase. The motor shall have sufficient power for the service required, shall be of a type approved by the pump manufacturer shall be suitable for available electric service, shall be totally enclosed, fan cooled, TEFC, and shall conform to the requirements specified in Section 16415, ELECTRICAL WORK, INTERIOR. Pump shall be provided with stainless suction screen, stainless steel pipe, and aluminum 1 1/2-inch cam type quick disconnect with dust cap.

2.11.1.9 Lockable Cap

A lockable cap shall be provided for the 2-inch gravity fill line.

2.11.1.10 Overfill Valve (OV-1)

Refer to Section 15101, CONTROL VALVES, FUELING SYSTEM

2.11.1.11 Tank Calibration

Provide a certified tank calibration chart in 1/8 inch increments reading in gallons.

2.12 HYDRANT OUTLET PITS AND ISOLATION VALVE PITS

Hydrant hose truck hydrant outlet pits and isolation valve pits shall be

prefabricated units that are the standard products of a firm regularly engaged in the manufacture of such products and shall essentially duplicate items that have been in satisfactory use for at least (3) years prior to bid opening. The basic pit shall consist of .50-inch-thick fiberglass walls and floor with main body dimensions as shown on the drawings. The pit shall contain twelve (minimum) integral concrete anchors or two integral anchors that run continuous on three sides of pit. The integral fiberglass top flange shall require no exposed corrosive material, weldments, or strongbacks within the pit to support the aluminum cover assembly. The manufacturer shall have had a minimum of three years successful experience in the production and usage of their fiberglass service pits and shall supply proof of experience at time of submittals. Pits shall be provided with a 2-inch pump-out line terminating with a male cam type bronze connector with female dustcap. Pits shall be provided with removable aluminum grating platform suitable for loading of 400 pounds per square foot. The grating shall cover the entire opening when the lid is in the open position.

2.12.1 Pit Cover

The pit cover assembly shall consist of a completely removable one-piece aluminum lid attached to a rigid frame which is an integral part of the fiberglass pit. The lid shall be attached to the frame with hinges which do not carry wheel loads applied to the top surface of the lid in its closed position. The lid shall be equipped with a device to hold the lid in its fully-opened position. This lid-staying device shall automatically engage when the lid is opened to its fully-opened position. The device shall also be provided with a quick-release mechanism designed to be operated with one hand. The lid shall be considered fully-open when it is rotated approximately 90 degrees from its closed position. Each cover lid shall move smoothly through its entire range of motion and shall be counterbalanced sufficiently to require an externally-applied opening force of 35 pounds (maximum) to be applied to the center of the long side of the cover (opposite the hinge side). Similarly, the maximum closing force required to be applied at the same point shall be approximately 50 pounds. In addition, the cover shall be counterbalanced in such a fashion that the cover will not close under its own weight if released when open to any angle greater than 70 degrees (from its closed position). Operation of the lid will not have spring assist. Lifting handles (two minimum) shall be provided for each lid. Each handle shall provide comfortable, secure grip for and average adult male's full (gloved) hand. All covers shall be provided with a latch, operable from the exterior of the vault, to securely hold the lid to the frame in the closed position. The latch will be capable of being released from either lifting handle. Tools shall not be required to engage (or disengage) the latch or the lid lifting handles. Latch and handle designs shall be weather-resistant with features to preclude freeze-up and the collection of dirt and precipitation. The pit and cover assemblies shall present a surface which is 2-inch below the concrete pavement upon completing their installation. Projections of the lid's hinges, lifting handles, or latches above the plane of the lid, whether temporary or permanent, shall not be allowed. The weight bearing flange surfaces of both the fiberglass pit liner and the aluminum cover lid shall be machined flat to assure uniform weight distribution. The word FUEL shall be integrally cast in raised letters on the top surface of each

lid. The lettering shall be a minimum of 1-inch high and raised to 0.0625-inch.

2.12.2 Pit Cover Materials, Design, and Testing

All cover lids and frames shall be designed using an appropriate cast aluminum alloy or rolled aluminum plate to support an aircraft wheel load simulated by a roving 200,000-pound test-load applied perpendicular to a 200-square-inch contact area (10 inches by 20 inches) of the cover's top surface. The aluminum alloy material selected for design shall be ductile, corrosion-resistant, impact-resistant, and suitable for the intended use. All covers shall be non-skid surface construction and free of injurious defects. Welding for the purpose of structural repair of casting defects shall not be allowed. Minor cosmetic welding is acceptable. The cover shall be capable of supporting the test-load without failure regardless of the location or orientation of the load. Localized yielding or cracking or excessive deformations shall be considered as failure. Actual load-tests shall be performed on a minimum of 10 percent of all the covers supplied. Load-tested units shall be randomly selected. Load-test conditions shall model field-installed conditions as nearly as practicable. The 200 Kip test-load shall be applied to the cover for a minimum duration of 5 minutes. Absolute maximum deflection of the cover lid under the test-load shall not exceed 1/180th of the minimum interior opening dimension of the fiberglass pit body. Maximum deflection of the cover lids) remaining after removal of the test load shall be ± 0.010 -inches to assure that no permanent set has taken place. Upon removal of the test-load, the cover lid and frame shall be carefully examined for cracks or localized areas of permanent deformation. All results shall be submitted for review and approval. A single failure to meet any of the stated criteria shall be considered sufficient grounds for the testing of 50 percent of the units. Provide test results from Hydrant Outlet Frame and Cover and Isolation Valve Frame and Cover. Provide a waterproof seal to prevent water from entering the pit through a closed lid.

2.12.3 Pipe Seal

The pipe penetrations through the pit wall shall be sealed by means of a Buna-N boot. The boot shall be secured to a metal collar welded to the pipe riser and to a steel pipe sleeve at the pit penetration by stainless steel clamps. Collar shall be fabricated from the same material as the pipe. Buna-N (Nitrile Butadiene) material shall be in accordance with SAE AMS 3275A.

2.12.4 Sleeve Seals

Sleeve seals indicated for sealing the annular space between pipe and pipe sleeves in concrete walls shall have sealing material resistant to brackish water and JP-8. Seals shall consist of an inner link type seal can be installed (or replaced) with the carrier pipe in place. All metal parts incorporated in the seal system shall be stainless steel. The seal system shall be capable of holding at least 10 psig of pressure without leaking.

2.12.5 Hydrant Outlet Pit Equipment

At the Contractor's option, hydrant pits may be furnished complete with hydrant control valves and shutoff valves assembled in a pipe riser. All valves and piping furnished by the pit manufacturer shall comply with the requirements specified herein. Control valves are specified in Section 15101, CONTROL VALVES, FUELING SYSTEM. All control valves shall be of the same manufacturer. Piping, fittings, valves and etc. shall comply with Section 15060, PIPE, MANUAL VALVES, AND FITTINGS, FUELING SYSTEM.

2.12.6 Isolation Valve Pit End Seal

End seals for isolation valve pits shall be furnished as shown on drawings. Provide polyethylene pipeline crossing insulator.

2.12.7 Isolation Valve Pit Equipment

At the Contractor's option, isolation valve pits may be furnished complete with isolation valves, high point vent valves or low point drain valves. All valves and piping furnished by the pit manufacturer shall comply with the requirements specified herein, piping, fittings, valves and etc. shall comply with Section 15060 PIPE, MANUAL VALVES, AND FITTINGS, FUELING SYSTEM.

2.13 HIGH POINT VENT PITS AND LOW POINT DRAIN PITS

2.13.1 Pit Assembly

Each pit shall incorporate the following items built into a self-contained assembly.

2.13.2 Pit

The basic pit shall consist of 0.25-inch wall fiberglass liner with a main body approximately 23-inches in diameter and a minimum of 37-inches deep. The pit shall contain four integral concrete anchors. The fiberglass top flange shall require no exposed corrosive material, weldments, or strongbacks within the pit to support the cast aluminum ring and cover assembly. The pits shall be the standard products of a firm regularly engaged in the manufacture of such product and shall essentially duplicate items that have been in satisfactory use for at least three (3) years prior to bid opening. Proof of experience shall be submitted.

2.13.3 Pit Cover, General Requirements

The pit cover shall include a removable outer ring frame and an interior 23.5-inch diameter (clear opening) hinged lid that opens 180 degrees. Each cover lid shall move smoothly through its entire range of motion and shall require a maximum opening force of 25 pounds to be applied at a single lifting handle. Each handle shall provide a comfortable, secure grip for an average adult male's full gloved hand. Tools shall not be required to engage the lifting handle. Projections of the lid's hinges or handles above the plane of the lid, whether temporary or permanent, shall not be allowed. The pit service shall be integrally cast in raised letters on the top surface of each lid. The lettering shall be a minimum of 1-inch high and raised to 0.0625-inch. The weight bearing flanges of the fiberglass pit liner and the aluminum cover frame (and lid) shall be machined to

assure uniform weight distribution.

2.13.4 Pit Cover Materials, Design, and Testing

The cover frames and lids shall be designed and manufactured by a qualified company having a minimum of five years successful experience in the production of similar airport apron slab fixtures. All cover lids and frames shall be designed using an appropriate cast aluminum alloy or rolled aluminum plate to support an aircraft wheel load simulated by a roving 200,000-pound test-load applied perpendicular to a 200-square-inch contact area (10 inches by 20 inches) of the cover's top surface. The aluminum alloy material selected for design shall be ductile, corrosion-resistant, impact-resistant, and suitable for the intended use. All covers shall be non-skid surface construction and free of injurious defects. Welding for the purpose of structural repair of casting defects shall not be allowed. Minor cosmetic welding is acceptable. The cover shall be capable of supporting the test-load without failure regardless of the location or orientation of the load. Localized yielding or cracking or excessive deformations shall be considered as failure. Actual load-tests shall be performed on a minimum of 10 percent of all the covers supplied. Load-tested units shall be randomly selected. Load-test conditions shall model field-installed conditions as nearly as practicable. The 200 Kip test-load shall be applied to the cover for a minimum duration of 5 minutes. Absolute maximum deflection of the cover lid under the test-load shall not exceed 1/180th of the interior diameter of the fiberglass pit body. Maximum deflection of the cover lids) remaining after removal of the test load shall be ± 0.010 -inches to assure that no permanent set has taken place. Upon removal of the test-load, the cover lid and frame shall be carefully examined for cracks or localized areas of permanent deformation. All results shall be submitted for review and approval. A single failure to meet any of the stated criteria shall be considered sufficient grounds for the testing of 50 percent of the units. Provide test results for aircraft rated High Point Vent Frame and Cover and aircraft rated Low Point Drain Frame and Cover.

2.13.5 Pipe Riser Seal

The riser pipe penetration through the pit floor shall be sealed by means of a Buna-N boot. The boot shall be secured to a metal collar welded to the pipe riser and to a flange at the floor opening by stainless steel clamps. Collar shall be fabricated from the same material as the pipe.

2.13.6 Pit Equipment

Piping, fittings, valves and couplers shall comply with Section 15060 PIPE, MANUAL VALVES, AND FITTINGS, FUELING SYSTEM.

2.14 OPERATING TANK LEVEL SWITCHES

System shall be designed and installed in such a way that the system shall be continuously and automatically self-checking without manual check. Electronic level sensors shall be thermistors or optic type, and be intrinsically safe Class I, Division 1, Group D for hazardous environments, with recognized FM, CSA or UL approval. Both high electronic level sensors

shall be contained in a single multi-sensor holder/junction box. The sensor holder/junction box shall be accessible from the tank top or stairway.

2.14.1 Electronic Level Alarms

Level alarms shall be mechanically and electrically independent and be totally isolated from the gauging system. Two electronic high level alarms and one low level alarm shall be provided for each tank. A High Level Alarm (HLA) shall be set at approximately 90 percent of the safe tank filling height and be arranged to actuate an audible alarm signal located where shown on the drawings and an indicator light at the control panel. A High High Level Alarm (HHLA) shall be set at approximately 95 percent of the safe filling height. HHLA shall actuate an audible and visual alarm where shown on the drawing and an indicator light at the control panel. A Low Level Alarm (LLA) shall be set at 4'-0" (1220) above bottom of tank shell. When the LLA is activated, the associated tank's GDP low level light shall light. If the outlet valve is not fully closed, the alarm annunciator's critical alarm sequence activates, fueling pumps running in automatic mode shall be disabled and no pump shall be allowed to start automatically. If all tanks are at low level, no fueling pumps shall start automatically. Alarms shall be annunciated at Pump Control Panel

2.15 WATER DRAW-OFF SYSTEM

A water draw-off system shall be provided for each Operating Tank. Water draw-off system shall gravity drain. Each system shall include tank, water draw-off pump, start/stop switch, disconnect switch, motor starter, and all necessary pipe, valves, and fittings.

2.15.1 Tank

Water draw-off tank shall be a 55-gallon fabricated stainless steel tank with supporting legs as shown. Tank and support legs shall be fabricated from Type 304 stainless steel.

2.15.2 Sight Glass

Sight glasses for tank shall be standard tubular gages with density ball and shut-off valves on each end. Wetter parts other than sight glass shall be stainless steel. If glass breakage should occur, a stainless steel ball in the valve shall close preventing product loss. Glass shall be protected by minimum of four guard rods.

2.15.3 Water Draw-Off Pump

Water Draw-off pump (WDP-3 and WDP-4) shall have the capacity of not less than 10 gpm against a total head of 55 feet when driven at 1800 rpm. The pump shall have flange connections and shall be constructed of stainless steel or aluminum so as to have no zinc, brass or other copper bearing alloys in contact with the fuel. The unit shall be explosion-proof, Class I, Division 1, Group D with maximum temperature rating of ("T2D" -419 degrees F). The motor shall not be overloading at any point on the pump curve. Contractor has the option of selecting either centrifugal or

positive displacement type pump with the restriction of the positive displacement type pump shall include a pressure relief between the discharge and suction protecting the pump from overloading.

2.15.4 Anchoring

All units of the water draw-off system shall be installed plumb and level and secured in place by anchor bolts.

2.16 UNLOADING LEVEL SWITCHES

- a. Level control switches on unloading standpipe as indicated.
- b. Wide differential with stainless steel displacers.
- c. Heavy-duty mercury contacts rated 5 amps at 120Vac.
- d. NEMA 7/9 enclosure for Class 1 hazardous location.
- e. Adjustable settings for low, high and high high pump control levels.

PART 3 EXECUTION

3.1 GENERAL

3.1.1 Installation

Install equipment and components in position, true to line, level and plumb, and measured from established benchmarks or reference points. Follow manufacturer's recommended practices for equipment installation. Provide required clearances between equipment components. Equipment, apparatus, and accessories requiring normal servicing or maintenance to be accessible.

3.1.2 Anchoring

Anchor equipment in place. Check alignment of anchor bolts before installing equipment and clean-out associated sleeves. Do not cut bolts because of misalignment. Notify Contracting Officer of errors and obtain the Contracting Officer's acceptance before proceeding with corrections. Cut anchor bolts of excess length to the appropriate length without damage to threads. Where anchor bolts or like devices have not been installed, provide appropriate self-drilling type anchors for construction condition.

3.1.3 Grouting

Equipment which is anchored to a pad to be grouted in place. Before setting equipment in place and before placing grout, clean surfaces to be in contact with grout, including fasteners and sleeves. Remove standing water, debris, oil, rust, and coatings which impair bond. Clean contaminated concrete by grinding. Clean metal surfaces of mill scale and rust by hand or power tool methods. Provide necessary formwork for placing and retaining grout. Grout to be non-metallic, non-shrink, fluid precision

grout of a hydraulic cementitious system with graded and processed silica aggregate, Portland cement, shrinkage compensating agents, plasticizing and water reducing agents; free of aluminum powder agents, oxidizing agents and inorganic accelerators, including chlorides; proportioned, pre-mixed and packaged at factory with only the addition of water required at the project site. Grouting shall be in accordance with ASTM C 827. Perform all grouting in accordance with equipment manufacturer's and grout manufacturer's published specifications and recommendations.

3.1.4 Leveling and Aligning

Level and align equipment in accordance with respective manufacturer's published data. Do not use anchor bolt, jack-nuts or wedges to support, level or align equipment. Install only flat shims for leveling equipment. Place shims to fully support equipment. Wedging is not permitted. Shims to be fabricated flat carbon steel units of surface configuration and area not less than equipment bearing surface. Shims to provide for full equipment support. Shim to have smooth surfaces and edges, free from burrs and slivers. Flame or electrode cut edges not acceptable.

3.1.5 Direct Drives

Alignment procedure follows:

3.1.5.1 Rotation Direction and Speed

Check and correct drive shaft rotation direction and speed.

3.1.5.2 End Play

Run drive shafts at operational speed. Determine whether axial end play exists. Run drive shaft at operational speed and mark drive shaft axial position when end play exists. Block drive shaft in operating position when aligning drive shaft with driven shaft.

3.1.5.3 Shaft Leveling and Radial Alignment

Check shaft leveling by placing a spirit level across the half faces. Radially align shafts by placing a straightedge across the two coupling half faces in both horizontal and vertical planes.

3.1.5.4 Angular Alignment and End Clearance

Check angular alignment and end clearance by inserting a feeler gage at 4 points, 90 degrees apart around outer edges of coupling halves.

3.1.5.5 Final Recheck

Check adjustments with dial indicator after completing recheck. Align shafts within 0.001 inch tolerance, except as other-wise required by more stringent requirements of equipment manufacturer.

3.2 INSTALLATION OF UNDERGROUND TANKS

Installation shall be per tank manufacturer's recommendations, API RP 1615, NFPA 30, EPA 40 CFR Part 280, state and local codes and as specified herein. If recommendations require tank to be filled, only fuel will be allowed in tanks. Water filling is not acceptable. Before being placed in service, tank shall be tightness tested in accordance with NFPA 30.

3.2.1 Coating

The coating shall be examined for flaws and tested for thickness. The Contractor shall provide the facilities, personnel, and equipment for testing for flaws and thickness. Thickness shall be measured electronically. Coating shall be tested directly before placement of the tank with an electric flaw detector, equipped with a bell, buzzer, or other type of audible signal that operates when a flaw is detected. The detector for the type of coating used shall have an operating voltage of 10,000 to 35,000 volts. Check of the holiday detector potential may be made by the Contracting Officer at any time to determine the suitability of the detector. Damaged areas shall be repaired with materials identical to those used originally, and after drying, shall be retested electrically.

3.2.2 Steel Tanks

a. Cover the concrete hold down slab with 12 inches of tank bedding backfill evenly graded and thoroughly compacted, prior to tank placement.

b. Each tank is to be unloaded and placed on the sand bed using cranes and the rigging procedures provided by the tank manufacturer. Use the tank lifting lugs for lifting the tank into place. The use of slings around the tank is not permitted, nor is the use of chock blocks of any sort. During handling, carefully inspect the tanks for coating damage and repair any damage whatsoever before proceeding. After placement, check each tank to ensure it is sloped as required. The elevation shall be confirmed.

c. Before proceeding with backfill, install the hold down straps and tighten the turnbuckles securely and evenly throughout the length of the tanks. The bottom and sides of the tanks to be fully and evenly supported by hand shoveling and tamping. Use tank bedding backfill up to 12 inches above the top of tank. Hand-guided power equipment can be used to place fill in 6-inch layers, compacted to a minimum of 95 percent maximum density, after the bottom quadrant is filled. A minimum of four density tests per tank to be performed. Clean, noncorrosive, well tamped gravel to be used for backfill from a point 12 inches above the tanks to finished grade.

d. Do not fill the tank, even partially, before the bottom quadrant is backfilled. The level of fuel product not to exceed the level of compacted backfill at any time.

e. Coordinate tank installation with the installation of cathodic

protection.

3.3 INSTALLATION OF FIBERGLASS PITS

The Contractor shall submit recommended installation procedures and setting tolerances from the pit manufacturer/supplier for the fiberglass pit and the aluminum cover. These procedures shall indicate recommended methods of supporting the pit in its proper position in the open excavation prior to and during concrete placement operations. Also, required installation tolerances, especially for flatness/levelness of the fiberglass pit lip, shall be provided. The Contractor shall follow these recommendations and shall apply other procedures as required to ensure the integrity of the pit liner and cover assemblies in their installed positions. All penetrations through the fiberglass pit liner shall be tightly sealed by suitable means to preclude water infiltration, with consideration for potential relative movements between the penetrating objects and the pit liner. Reference the Contract drawings for additional installation requirements.

3.4 POSTED OPERATING INSTRUCTIONS

For each designated system or equipment item, provide instructions for guidance of operating and maintenance personnel. Following approval of content, prepare these instructions in a form and scale that will be readily legible when displayed in appropriate locations, to be designated by the Contracting Officer and meet the following requirements:

3.4.1 Each System

For each system, include diagrams of equipment, piping, wiring and control. Define control sequences.

3.4.2 Each Tank

For each tank provide certified tank calibration chart in 1/8-inch increments reading in gallons.

3.4.3 Each Item

For each equipment item, include starting, adjustment, operation, lubrication, safety precautions and shut-down procedures. Identify procedures to be performed in event of equipment failure. Provide other instructions recommended by the manufacturer.

3.4.4 Diagrams

The Contractor shall provide a professionally prepared isometric piping diagram of the fueling system apparatus. Diagram shall be 36 inches x 54 inches and shall be color coded to match PCP color diagrams. Diagram shall show the entire facility and shall include all equipment and the operational sequences of all equipment with equipment numbers displayed. Diagram shall show all valves along with the valve numbers shown on the drawings and listed as normally open/closed. It shall be wall mounted under glass.

3.4.5 Volume of Fuel

The Contractor shall provide a certified system inventory of fuel in the pipe, tank, pumphouse, etc. The piping will show length of pipe, size of pipe, gallons per foot, and total gallons. Verify during initial fill.

-- End of Section --