

Project Manual For:

**Port Heiden Fuel Header Upgrade
Project No. 21124**



**State of Alaska
Alaska Energy Authority
813 W Northern Lights Blvd, Anchorage, Alaska 99503**

Advertising Date: May 5, 2021

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DIVISION 00 – BIDDING AND CONTRACT REQUIREMENTS (yellow)

<u>Section</u>	<u>Form</u>	<u>Date</u>
<u>Invitation</u> (yellow)		
00 02 00 INVITATION TO BID	25D-7	(8/01)
<u>Bid Notices</u> (yellow)		
00 10 00 INFORMATION TO BIDDERS	25D-3	(7/88)
00 10 10 SUPPLEMENTARY INFORMATION TO BIDDERS		(12/88)
00 10 10 SPECIAL NOTICE TO BIDDERS		
00 11 50 WORKER MEALS AND LODGING, OR PER DIEM		(5/13)
00 12 00 REQUIRED DOCUMENTS	25D-4	(4/12)
00 12 90 FEDERAL EEO BID CONDITIONS	25A-301	(8/01)
<u>Forms</u> (yellow)		
00 14 40 EEO-1 CERTIFICATION	25A-304	(8/01)
00 31 00 PROPOSAL	25D-9A	(07/03)
00 32 00 BID SCHEDULE		
00 41 00 BID BOND	25D-14	(8/01)
00 42 00 BID MODIFICATION	25D-16	(8/01)
00 43 00 SUBCONTRACTOR LIST	25D-5	(10/12)
00 51 00 CONSTRUCTION CONTRACT	25D-10A	(8/01)
00 61 00 PERFORMANCE BOND	25D-13	(8/01)
00 62 00 PAYMENT BOND	25D-12	(8/01)
00 67 00 CONTRACTOR'S QUESTIONNAIRE	25D-8	(8/01)
<u>Contract Provisions and Specifications</u> (white)		
00 70 00 GENERAL CONDITIONS		
00 80 00 SUPPLEMENTARY CONDITIONS		
00 90 00 FEDERAL TERMS AND CONDITIONS		
00 95 00 STATE LABORERS' AND MECHANICS' MINIMUM RATES OF PAY		
State wage rates can be obtained at http://www.labor.state.ak.us/lss/pamp600.htm . Use the State wage rates that are in effect 10 days before Bid Opening. The AUTHORITY will include a paper copy of the State wage rates in the signed Contract.		
00 95 50 FEDERAL WAGE RATES		
Federal wage rates can be obtained at http://www.wdol.gov/dba.aspx#0 for the State of Alaska. Use the federal wage rates that are in effect 10 days before bid opening. The AUTHORITY will include a paper copy of the State wage rates in the signed Contract.		

DIVISION 01 – GENERAL REQUIREMENTS

Section 01 11 00	Summary of Work
Section 01 11 17	Intent of Documents
Section 01 12 19	Contractor’s Certification of Subcontracts
Section 01 20 13	Applications for Payment
Section 01 25 13	Product Substitution Procedures
Section 01 26 57	Change Order Procedures
Section 01 29 73	Schedule of Values
Section 01 31 19	Project Meetings
Section 01 32 16	Construction Progress Schedule
Section 01 33 00	Submittal Procedures
Section 01 33 23	Shop Drawings, Product Data, and Samples
Section 01 42 19	Reference Standards
Section 01 45 00	Quality Control
Section 01 50 00	Construction Facilities and Temporary Controls
Section 01 51 19	Temporary Fuel Storage and Dispensing
Section 01 55 26	Traffic Control
Section 01 57 13	Temporary Erosion and Sediment Control
Section 01 60 13	Material and Equipment
Section 01 64 00	Receipt of Owner Furnished Materials
Section 01 71 23.16	Construction Surveying
Section 01 77 19	Closeout Requirements
Section 01 78 39	Project Record Documents
Section 01 94 00	Decommissioning Fuel Piping

DIVISION 02 – EXISTING CONDITIONS (NOT USED)

DIVISION 03 – (NOT USED)

DIVISION 04 (NOT USED)

DIVISION 05 – METALS

Section 05 50 00	Metal Fabrications
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DIVISION 06 – 08 (NOT USED)

DIVISION 09 – FINISHES

Section 09 96 00.03	Field Applied Pipeline Repair Coating
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DIVISION 10 – SPECIALTIES

Section 10 44 16.13	Portable Fire Extinguishers
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DIVISION 11 – EQUIPMENT

Section 11 80 00	Spill Response Equipment
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DIVISIONS 12 – 22 (NOT USED)

DIVISION 23 – HEATING, VENTILATING, AND AIR CONDITIONING (HVAC)

Section 23 11 00 Facility Fuel Piping

DIVISIONS 24 – 25 (NOT USED)

DIVISION 26 – ELECTRICAL

Section 26 05 26 Grounding and Bonding

DIVISIONS 27 – 30 (NOT USED)

DIVISION 31 – EARTHWORK

Section 31 20 00 Earth Moving

DIVISION 32 – EXTERIOR IMPROVEMENTS

Section 32 92 00 Seeding

DIVISION 33 – UTILITIES

Section 33 05 26.13 Signage

DRAWINGS..... (Bound Separately)

ALASKA ENERGY AUTHORITY

INVITATION TO BID

for Construction Contract

Date May 5, 2021

**Port Heiden Fuel Header Upgrade
Project No. 21124**

Location of Project: Port Heiden, Alaska

Contracting Officer: Lois Lemus

Issuing Office: ALASKA ENERGY AUTHORITY (AUTHORITY)

State Funded []

Federal Aid []

Description of Work: This Denali Commission, and State appropriate funded contract is for relocating the existing barge fuel header and above-ground fuel header pipelines, installing a new pipeline road crossing, furnishing and installing new pipe coating on damaged sections of the above-grade fuel header pipelines and stored pipe. The Contractor is to provide the construction and completion of every detail of work described in the Contract Documents and shown in the Drawings. The Contractor shall furnish all labor, materials, supervision, equipment, tools, transportation, quality control, and supplies required to complete the work.

The Engineer's Estimate is between **\$300,000.00 and \$400,000.00**

All work shall be Final Completion: **October 31, 2022**

Bidders are invited to submit single bid, for furnishing all labor, equipment, and materials and for performing all work for the project described above. Bids will be opened publicly on **May 26, 2021** at **2:00 pm** local time, **Due to the COVID-19 the bid opening will be conducted telephonically.** Potential bidder may attend telephonically by calling **1-907-313-5678**, when prompted enter **367 504 410#**

SUBMISSION OF BIDS

ALL BIDS INCLUDING ANY AMENDMENTS OR WITHDRAWALS MUST BE RECEIVED PRIOR TO BID OPENING. BIDS SHALL BE SUBMITTED ON THE FORMS FURNISHED AND MUST BE MARKED AS FOLLOWS:

Bid for Project:
Port Heiden Fuel Header Upgrade
Project Number: 21124

ATTN: Lois Lemus Contracting Officer
Alaska Energy Authority
813 West Northern Lights Blvd.
Anchorage, AK 99503

Mailed Bids, amendments or withdrawals transmitted must be received in the above specified post office box no later than 4 hours prior to the scheduled time of bid opening. **Hand-delivered bids**, amendments or withdrawals must be received in the **Bid Drop Box in front of the Alaska Energy Authority**, prior to the scheduled time of bid opening. **Emailed bids** amendments or withdrawals transmitted must be received in the email inbox prior to the scheduled time of bid opening, addressed to **Lois Lemus**, Email: procurement@aidea.org

A bid guaranty is required with each bid in the amount of 5% of the amount bid. (Alternate bid items as well as supplemental bid items appearing on the bid schedule shall be included as part of the total amount bid when determining the amount of bid guaranty required for the project.)

The Authority hereby notifies all bidders that it will affirmatively insure that in any contract entered into pursuant to this Invitation, Disadvantaged Business Enterprises (DBEs) will be afforded full opportunity to submit bids and will not be discriminated against on the grounds of race, color, national origin, or sex in consideration for an award.

NOTICE TO BIDDERS

Bidders are hereby notified that data to assist in preparing bids is available as follows:

See attached Special Notice to Bidders for this project.

Electronic Plans and Specifications may be ordered, for the price of \$0.00 from:

Alaska Energy Authority
813 West Northern Lights Blvd.
Anchorage, AK 99503

Phone: (907) 771-3909

All questions relating to design features, constructability, quantities, or other technical aspects of the project should be directed to the following. Bidders requesting assistance in viewing the project must make arrangements at least 48 hours in advance with:

Bill Price, Project Manager Phone: (907) 771- 3027

Fax: (907) 771-3044

³ All questions relating to design features, constructability, quantities, or other technical aspects of the project and questions concerning bidding procedures should be directed to:

Lois Lemus
Contracting Officer
813 West Northern Lights Blvd.
Anchorage, AK 99503

Phone: (907) 771-3909 Email: llemus@aidea.org

The Bid Calendar, Planholder lists, and Bid Results information are available on the Internet at:
<http://www.akenergyauthority.org/> under **Procurement Opportunities**.

Reminder: 3 AAC 109.220 requires all Bidders to have a valid Alaska Business License and an Alaska Contractor's Certificate of Registration prior to award.

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ALASKA ENERGY AUTHORITY

INVITATION TO BID

for Construction Contract

Date May 5, 2021

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Location of Project: Port Heiden, Alaska

Contracting Officer: Lois Lemus

Issuing Office: ALASKA ENERGY AUTHORITY (AUTHORITY)

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Description of Work: This Denali Commission, and State appropriate funded contract is for relocating the existing barge fuel header and above-ground fuel header pipelines, installing a new pipeline road crossing, furnishing and installing new pipe coating on damaged sections of the above-grade fuel header pipelines and stored pipe. The Contractor is to provide the construction and completion of every detail of work described in the Contract Documents and shown in the Drawings. The Contractor shall furnish all labor, materials, supervision, equipment, tools, transportation, quality control, and supplies required to complete the work.

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Project Number: 21124

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Alaska Energy Authority
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Reminder: 3 AAC 109.220 requires all Bidders to have a valid Alaska Business License and an Alaska Contractor's Certificate of Registration prior to award.

ALASKA ENERGY AUTHORITY
INFORMATION TO BIDDERS

The Authority is concerned over the manner in which bids are submitted. Bidders are requested to study and follow the bid assembly instructions as to the method and form for submitting bids so there will be no reason to reject a bid.

EXAMINATION OF CONTRACT REQUIREMENTS

Bidders are expected to examine carefully the plans, specifications and all other documents incorporated in the contract to determine the requirements thereof before preparing bids.

Any explanation desired by bidders regarding the meaning or interpretation of drawings and specifications must be requested in writing and with sufficient time allowed for a reply to reach them before the submission of their bids. Oral explanations or instructions given before the award of the contract will not be binding. Any interpretation made will be in the form of an addendum to the specifications or drawings and will be furnished to all bidders and its receipt by the bidder shall be acknowledged.

CONDITIONS AT SITE OF WORK

Bidders are expected to visit the site to ascertain pertinent local conditions such as the location, accessibility and character of the site, labor conditions, the character and extent of the existing work within or adjacent thereto, and any other work being performed thereon.

PREPARATION OF BIDS

- (a) Bids shall be submitted on the forms furnished, and must be manually signed in ink. The person signing the proposal must initial any erasures or changes made to the bid.
- (b) The bid schedule will provide for quotation of a price or prices for one or more pay items which may include unit price or lump sum items and alternative, optional or supplemental price schedules or a combination thereof which will result in a total bid amount for the proposed construction.

Where required on the bid form, bidders must quote on all items and **THEY ARE WARNED** that failure to do so will disqualify them. When quotations on all items are not required, bidders should insert the words "no bid" in the space provided for any item not requiring a quotation and for which no quotation is made.
- (c) The bidder shall specify the price or prices bid in figures. On unit price contracts the bidder shall also show the products of the respective unit prices and quantities written in figures in the column provided for the purpose and the total amount of the proposal obtained by adding the amounts of the several items. All the figures shall be in ink or typed.
- (d) Neither conditional nor alternative bids will be considered unless called for.
- (e) Unless specifically called for, telegraphic or telefacsimile bids will not be considered.
- (f) Bid Schedule form should be enclosed in a separate sealed envelope and enclosed with all other bidding forms required at the opening.

BID SECURITY

All bids shall be accompanied by a bid security in the form of an acceptable Bid Bond (Form 25D-14), or a certified check, cashier's check or money order made payable to the Alaska Energy Authority. The amount of the bid security is specified on the Invitation To Bid.

Bid Bonds must be accompanied by a legible Power of Attorney.

If the bidder fails to furnish an acceptable bid security with the bid, the bid shall be rejected as non-responsive. Telegraphic notification of execution of Bid Bond does not meet the requirements of bid security accompanying the bid. An individual surety will not be accepted as a bid security.

The Authority will hold the bid securities of the two lowest bidders until the Contract has been executed, after which they will be returned. All other bid securities will be returned as soon as practicable.

BIDDERS QUALIFICATIONS

Before a bid is considered for award, the bidder may be requested by the Authority to submit a statement of facts, in detail, as to his previous experience in performing comparable work, his business and technical organization, financial resources, and plant available to be used in performing the contemplated work.

SUBMISSION OF BIDS

Bids must be submitted as directed on the Invitation To Bid. Do not include in the envelope any bids for other work.

ADDENDA REQUIREMENTS

The bid documents provide for acknowledgement individually of all addenda to the drawings and/or specifications on the signature page of the Proposal. All addenda shall be acknowledged on the Proposal or by telegram prior to the scheduled time of bid opening. If the bidder received no addenda, the word "None" should be shown as specified.

Every effort will be made by the Authority to insure that Contractors receive all addenda when issued. Addenda will be issued to the individual or company to whom bidding documents were issued. Addenda may be issued by any reasonable method such as hand delivery, mail, telefacsimile, telegraph, courier, and in special circumstances by phone. Addenda will be issued to the address, telefacsimile number or phone number as stated on the planholder's list unless picked up in person or included with the bid documents. It is the bidder's responsibility to insure that he has received all addenda affecting the Invitation To Bid. No claim or protest will be allowed based on the bidder's allegation that he did not receive all of the addenda for an Invitation To Bid.

All questions must be received 72 hours before the bid opening. Questions submitted after the deadline may be rejected by the Authority.

WITHDRAWAL OR REVISION OF BIDS

A bidder may withdraw or revise a bid after it has been deposited with the Authority, provided that the request for such withdrawal or revision is received by the designated office, in writing, by telegram, or by telefacsimile, before the time set for opening of bids.

Emailed or telefacsimile modifications shall include both the modification of the unit bid price and the total modification of each item modified, but shall not reveal the amount of the total original or revised bids. Form 25D-16 shall be used to submit such modifications.

RECEIPT AND OPENING OF BIDS

- (a) The Authority must receive all bids, including any amendment or withdrawal prior to the scheduled time of bid opening. Any bid, amendment, or withdrawal that has not actually been received by the Authority prior to the time of the scheduled bid opening will not be considered.
- (b) No responsibility will be attached to any officer or employee of the Authority for the premature opening of, or failure to open, a bid improperly addressed or identified.
- (c) The Authority reserves the right to waive any technicality in bids received when such waiver is in the interest of the State.

BIDDERS PRESENT

At the time fixed for bid opening, bids will be publicly opened and read for the information of bidders and others properly interested, who may be present either in person or by representative. The amount of the bid and the name of the bidder shall be compiled and distributed as soon as possible after bid opening. Bids are not open for public inspection until after the Notice of Intent to Award is issued.

BIDDERS INTERESTED IN MORE THAN ONE BID

If more than one bid is offered by any one party, by or in the name of his or their clerk or partner, all such bids will be rejected. A party who has quoted prices to a bidder is not thereby disqualified from quoting prices to other bidders or from submitting a bid directly for the work.

REJECTION OF BIDS

The Authority reserves the right to reject any and all bids when such rejection is in the best interest of the State; to reject the bid of a bidder who has previously failed to perform properly, or complete on time, contracts of a similar nature; to reject the bid of a bidder who is not, in the opinion of the Contracting Officer, in a position to perform the contract; and to reject a bid as non-responsive where the bidder fails to furnish the required documents, fails to complete required documents in the manner directed, or makes unauthorized alterations to the bid documents.

AWARD OF CONTRACT

- (a) The letter of award, if the contract is to be awarded, will be issued to the lowest responsible and responsive bidder as soon as practical and usually within 40 calendar days after opening of proposals.
- (b) The successful bidder will be notified of the Authority's intent to award the contract and requested to execute certain documents, including the contract form and bonds.
- (c) The contract will be awarded to the successful bidder following receipt by the Authority of all required documents, properly executed, within the time specified in the intent to award. Failure to enter into a contract within the specified time shall be grounds for forfeiture of the bid security and consideration of the second low bidder for award.

ALASKA ENERGY AUTHORITY

SUPPLEMENTARY INFORMATION TO BIDDERS

This document modifies or adds to the provisions of Alaska Energy Authority's form 25D-3, INFORMATION TO BIDDERS.

Following subject area "REJECTION OF BIDS", add the following subject area:

"CONSIDERATION OF PROPOSALS

After the Proposals are opened and read, they will be compared on the basis identified on the bid schedule and the apparent low Bidder announced. The apparent low Bidder shall, within 5 working days following identification as the apparent low Bidder, submit a list of all firms with which the prime CONTRACTOR intends to execute subcontracts for the performance of the Contract. The list shall include the name, business address, Alaska business license number and contractor's registration number of each proposed Subcontractor.

Upon confirmation of the contents of the proposal the low Bidder will be identified by the AUTHORITY in writing. If the low Bidder differs from the apparent low Bidder then the requirements for Subcontractor listing, as noted above, shall become effective upon the low Bidder at the time of identification.

If a Bidder fails to list a Subcontractor or lists more than one Subcontractor for the same portion of Work and the value of that Work is in excess of one-half of one percent of the total bid, the Bidder agrees that it shall be considered to have agreed to perform that portion of Work without the use of a Subcontractor and to have represented that the Bidder is qualified to perform the Work.

A Bidder who attempts to circumvent the requirements of this section by listing as a Subcontractor another contractor who, in turn, sublets the majority of the Work required under the Contract, violates this section.

If a Contract is awarded to a Bidder who violates this section, the Bidder agrees that the Contracting Officer may:

- (1) cancel the Contract without any damages accruing to the State; or
- (2) after notice and a hearing, assess a penalty on the Bidder in an amount that does not exceed 10 percent of the value of the Subcontract at issue.

A Bidder may replace a listed Subcontractor who:

- (1) fails to comply with AS 08.18;
- (2) files for bankruptcy or becomes insolvent;
- (3) fails to execute a contract with the Bidder involving performance of the Work for which the Subcontractor was listed and the Bidder acted in good faith;
- (4) fails to obtain bonding;
- (5) fails to obtain insurance acceptable to the State;
- (6) fails to perform the Contract with the Bidder involving Work for which the Subcontractor was listed;
- (7) must be substituted in order for the prime CONTRACTOR to satisfy required State and Federal affirmative action requirements;
- (8) refuses to agree or abide with the bidder's labor agreement; or
- (9) is determined by the Contracting Officer to be nonresponsive."

Modify subject area "AWARD OF CONTRACT" as follows:

Subparagraph (a) substitute the word "generally" for the phrase "as soon as practical and"

Subparagraph (b) delete and substitute the following:

"All Bidders will be notified of the AUTHORITY's intent to Award the Contract and the successful Bidder will be requested to execute certain documents, including the Contract form and bonds."

Special Notice to Bidders

1. A non-mandatory pre-bid meeting is scheduled for **May 12, 2021, 2:00 pm. Due to the COVID-19 the pre-bid meeting will be conducted telephonically.** Potential bidder may attend telephonically by calling **1-907-313-5678**, when prompted enter **533 144 842#**. If calling in, please be respectful of other callers and call from a phone that can be muted so as to cancel out background noise and the possibility of feedback. Contact the Contracting Officer, Lois Lemus, at (907) 771-3909 for more information. This is not a mandatory meeting, and there will not be a scheduled site visit prior to the bid opening.

REQUIRED DOCUMENTS

REQUIRED FOR BID. Bids will not be considered if the following documents are not completely filled out and submitted at the time of bidding:

1. **Bid Form (Form 25D-9)**
 2. **Bid Schedule**
 3. **Bid Security**
 4. Any bid revisions must be submitted by the bidder prior to bid opening on the following form:
Bid Modification (Form 25D-16)
-

REQUIRED AFTER NOTICE OF APPARENT LOW BIDDER. The apparent low bidder is required to complete and submit the following document within 5 working days after receipt of written notification:

1. **Subcontractor List (Form 25D-5)**
-

REQUIRED FOR AWARD. In order to be awarded the contract, the successful bidder must completely fill out and submit the following documents within the time specified in the intent to award letter:

1. **Construction Contract (Form 25D-10A)**
2. **Payment Bond (Form 25D-12)**
3. **Performance Bond (Form 25D-13)**
4. **Contractor's Questionnaire (Form 25D-8)**
5. **EEO-1 Certification (25A-304)**
6. **Certificate of Insurance (from carrier)**

FEDERAL EEO BID CONDITIONS

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246). FOR ALL NON-EXEMPT FEDERAL AND FEDERALLY-ASSISTED CONSTRUCTION CONTRACTS TO BE AWARDED IN THE STATE OF ALASKA

1. Definitions. As used in these specifications:
 - a. “**Covered area**” means the geographical area described in the solicitation from which this contract resulted;
 - b. “**Director**” means Director, Office of Federal Contract Compliance Programs (OFCCP), United States Department of Labor (DOL), or any persons to whom the Director delegates authority;
 - c. “**Employer**” identification number” means the Federal Social Security number used on the Employer’s Quarterly Federal Tax Return, U.S. Treasury Department Form 941.
 - d. “**Minority**” includes:
 - (1) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (2) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race);
 - (3) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (4) American Indian or Alaska Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the Contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the DOL in the covered area, either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades that have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or subcontractors toward a goal in an approved Plan does not excuse any covered Contractor’s or subcontractor’s failure to make good faith efforts to achieve the Plan goals and timetables.
4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7(a) through 7(p) of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.

Covered construction contractors performing construction work in geographical areas where they do not have a federal or federally-assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any OFCCP office or from federal procurement contracting officers.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period of an approved training program and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities.
7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
 - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligations to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
 - b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
 - c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.
 - d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
 - e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the DOL. The Contractor shall provide notice of these programs to the sources compiled under 7(b) above.
 - f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

- g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendent, general foreman, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and dispositions of the subject matter.
 - h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
 - i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
 - j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's workforce.
 - k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
 - l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
 - m. Ensure that seniority practices, job classifications, work assignments and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
 - n. Ensure that all facilities and company activities are nonsegregated except that separate or single-used toilet, necessary changing facilities and necessary sleeping facilities shall be provided to assure privacy between the sexes.
 - o. Document and maintain a record of all solicitations of offers for subcontractors from minority and female construction contractors and suppliers, including circulations of solicitations to minority and female contractor associations and other business associations.
 - p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations 7(a) through 7(p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any or more of its obligations under 7(a) through 7(p) of these specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female work force participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9. A single goal for minorities and a separate goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized.)
10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.
11. The Contractor shall not enter into any subcontract with any person or firm debarred from government contracts pursuant to Executive Order 11246.
12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the OFCCP. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunities. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.
14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic apprentice, trainees, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that the existing records satisfy this requirement, Contractors shall not be required to maintain separate records.
15. Nothing herein provided shall be construed as a limitation upon the application of other laws that establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Programs).
16. The Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
17. The Contractor shall provide written notification to the Department, for all subcontracts documents as follows: the name, address and telephone number of subcontractors and their employer identification number; the estimated dollar amount of the subcontracts; estimated starting and completion dates of the subcontracts; and the geographical area in which the contract is to be performed.

This written notification shall be required for all construction subcontracts in excess of \$10,000 at any tier for construction work under the contract resulting from this project's solicitation.
18. As used in the Bid Notice, and in the contract resulting from this project's solicitation, the "covered area" is the State of Alaska.

STATE OF ALASKA
ALASKA ENERGY AUTHORITY

EEO-1 CERTIFICATION

Federal- Contracts
Port Heiden Fuel Header Upgrade
Project No. 21124

This certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor [41 CFR 60-1.7 (b) (1)] and must be completed by the successful Bidder and each proposed Subcontractor participating in this contract.

PLEASE CHECK APPROPRIATE BOXES

The Bidder Proposed Subcontractor hereby CERTIFIES:

PART A. Bidders and proposed Subcontractors with 50 or more year-round employees and a federal contract amounting to \$50,000 or more are required to submit one federal Standard Report Form 100 during each year that the two conditions exist (50 employees and a \$50,000 federal contract).

The company named below (Part C) is exempt from the requirements of submitting the Standard Report Form 100 this year.

NO (go to PART B) YES (go to PART C)

Instructions and blank Standard Report Form 100's may be obtained from a local U.S. Department of Labor office, or by writing to:

The Joint Reporting Committee
P.O. Box 779
Norfolk, Virginia 23501

Telephone number: (757) 461-1213

PART B. The company named below has submitted the Standard Report Form 100 this year.

NO YES

Note: Bidders and proposed Subcontractors who have not filed the required Standard Report Form 100 and are not exempt from filing requirements will not be awarded this contract or subcontract until Form 100 has been filed for the current year ending June 30.

PART C.

Signature of Authorized Company Representative

Title

Company Name

Company Address (Street or PO Box, City, State, Zip)

()

Date

Phone Number

PROPOSAL
of

NAME _____

ADDRESS _____

To the CONTRACTING OFFICER, ALASKA ENERGY AUTHORITY:

In compliance with your Invitation To Bid dated **May 5, 2021**, the Undersigned proposes to furnish and deliver all the materials and do all the work and labor required in the construction of Project:

Project Name

Port Heiden Fuel Header Upgrade

Project No. 21124

Located at **Port Heiden, Alaska**, according to the plans and specifications and for the amount and prices named herein as indicated on the Bid Schedule consisting of 2 sheet(s), which is made a part of this Bid.

The Undersigned declares that he has carefully examined the contract requirements and that he has made a personal examination of the site of the work; that he understands that the quantities, where such are specified in the Bid Schedule or on the plans for this project, are approximate only and subject to increase or decrease, and that he is willing to perform increased or decreased quantities of work at unit prices bid under the conditions set forth in the Contract Documents.

The Undersigned hereby agrees to execute the said contract and bonds within fifteen calendar days, or such further time as may be allowed in writing by the Contracting Officer, after receiving notification of the acceptance of this proposal, and it is hereby mutually understood and agreed that in case the Undersigned does not, the accompanying bid guarantee shall be forfeited to the Alaska Energy Authority, as liquidated damages, and the said Contracting officer may proceed to award the contract to others.

The Undersigned agrees to commence the work after the effective date of Notice to Proceed and, Final Completion the work by: **October 31, 2022** unless extended in writing by the Contracting Officer.

The Undersigned proposes to furnish Payment Bond in the amount of 100% (of the contract) and Performance Bond in the amount of 100% (of the contract), as surety conditioned for the full, complete and faithful performance of this contract.

The Undersigned acknowledges receipt of the following addenda to the drawings and/or specifications (give number and date of each).

Addendum Number	Date Issued

Addendum Number	Date Issued

Addendum Number	Date Issued

NON-COLLUSION AFFIDAVIT

The Undersigned declares, under penalty of perjury under the laws of the United States, that neither he nor the firm, association, or corporation of which he is a member, has, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this bid.

The Undersigned has read the foregoing proposal and hereby agrees to the conditions stated therein by affixing his signature below:

Signature

Name and Title of Person Signing

Telephone Number

Fax Number

BID SCHEDULE

**Port Heiden Fuel Header Upgrade
Project No. 21124**

Bidders Please Note: Before preparing this bid schedule, read carefully, "Information to Bidders", and the following:

The Bidder shall insert a fixed price in figures opposite each pay item that appears on the bid schedule to furnish all labor, material, equipment, supervision and provide all work for each item listed. No price is to be entered or tendered for any item not appearing in the bid schedule. In case of error in the extension of prices in the bid, the unit prices will govern.

Contract award shall be made on the basis of the Total Base Bid.

Bidders are required to bid on all bid items. Conditioned or qualified bids will be considered non-responsive.

See Specification Section 01 11 00 Summary of Work and drawings for detailed descriptions of each bid item.

Item	Description	Quantity	Unit	Unit Price	Extended Total Amount
BASE BID:					
1	Mobilization and Demobilization	1	LS	\$	\$
2	Decommission Existing Barge Fuel Header and Fuel Header Pipelines	1	LS	\$	\$
3	Clean, Inspect, and Repair Existing Pipelines	1	LS	\$	\$
4	Install Pipelines	1	LS	\$	\$
5	Furnish Spill Response Equipment	1	LS	\$	\$
Total Base Bid:				\$	

2. Acknowledge all addenda

Addendum No	Date Issued	Addendum No	Date Issued	Addendum No	Date Issued

3. BIDDER'S NOTICE: By signature on this form, the Bidder certifies that:

- a. The price(s) submitted are independent and without collusion.
- b. The Bidder will comply with the laws of the State of Alaska;
- c. The Bidder will comply with applicable portions of the Federal Civil Rights Act of 1964;
- d. The Bidder will comply with the Equal Employment Opportunity Act and the regulations issued there under by the State and Federal Government; and
- e. The Bidder has reviewed all terms and conditions in this Invitation to Bid.

If any Bidder fails to comply with any of these requirements, the Authority may reject its bid, terminate the contract, or consider the Vendor in default.

Company Submitting Bid	Telephone Number
Address	Fax Number
Authorized Signature	E-mail Address
Print Name	Alaska Business License number: _____ EXPRES DATE: _____
	Alaska Contractor's Registration # _____ EXPRES DATE: _____

End of Bid Schedule.

ALASKA ENERGY AUTHORITY

BID BOND

For

Port Heiden Fuel Header Upgrade

Project No. 21124

DATE BOND EXECUTED: _____

PRINCIPAL (Legal name and business address):

TYPE OF ORGANIZATION:

PRINCIPAL (Legal name and business address):	[] Individual [] Partnership [] Joint Venture [] Corporation
STATE OF INCORPORATION:	

SURETY(IES) (Name and business address):

A.	B.	C.
PENAL SUM OF BOND:		DATE OF BID:

We, the PRINCIPAL and SURETY above named, are held and firmly bound to the State (State of Alaska), in the penal sum of the amount stated above, for the payment of which sum will be made, we bind ourselves and our legal representatives and successors, jointly and severally, by this instrument.

THE CONDITION OF THE FOREGOING OBLIGATION is that the Principal has submitted the accompanying bid in writing, date as shown above, on the above-referenced Project in accordance with contract documents filed in the office of the Contracting Officer, and under the Invitation To Bid therefore, and is required to furnish a bond in the amount stated above.

If the Principal's bid is accepted and he is offered the proposed contract for award, and if the Principal fails to enter into the contract, then the obligation to the State created by this bond shall be in full force and effect.

If the Principal enters into the contract, then the foregoing obligation is null and void.

PRINCIPAL

Signature(s)	1.	2.	3.
Name(s) & Title(s) (Typed)	1.	2.	3.

Corporate Seal

See Instructions on Reverse

CORPORATE SURETY(IES)

Surety A	Name of Corporation	State of Incorporation	Liability Limit \$
Signature(s)	1.	2.	Corporate Seal
Name(s) & Titles (Typed)	1.	2.	

Surety B	Name of Corporation	State of Incorporation	Liability Limit \$
Signature(s)	1.	2.	Corporate Seal
Name(s) & Titles (Typed)	1.	2.	

Surety C	Name of Corporation	State of Incorporation	Liability Limit \$
Signature(s)	1.	2.	Corporate Seal
Name(s) & Titles (Typed)	1.	2.	

INSTRUCTIONS

1. This form shall be used whenever a bid bond is submitted.
2. Insert the full legal name and business address of the Principal in the space designated. If the Principal is a partnership or joint venture, the names of all principal parties must be included (e.g., "Smith Construction, Inc. and Jones Contracting, Inc. DBA Smith/Jones Builders, a joint venture"). If the Principal is a corporation, the name of the state in which incorporated shall be inserted in the space provided.
3. Insert the full legal name and business address of the Surety in the space designated. The Surety on the bond may be any corporation or partnership authorized to do business in Alaska as an insurer under AS 21.09. Individual sureties will not be accepted.
4. The penal amount of the bond may be shown either as an amount (in words and figures) or as a percent of the contract bid price (a not-to-exceed amount may be included).
5. The scheduled bid opening date shall be entered in the space marked Date of Bid.
6. The bond shall be executed by authorized representatives of the Principal and Surety. Corporations executing the bond shall also affix their corporate seal.
7. Any person signing in a representative capacity (e.g., an attorney-in-fact) must furnish evidence of authority if that representative is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved.
8. The states of incorporation and the limits of liability of each surety shall be indicated in the spaces provided.
9. The date that bond is executed must not be later than the bid opening date.

CONSTRUCTION CONTRACT
Port Heiden Fuel Header Upgrade
Project No. 21124

This CONTRACT, between the ALASKA ENERGY AUTHORITY, herein called the Authority, acting by and through its Contracting Officer, and

Company Name

Company Address (Street or PO Box, City, State, Zip)

a/an Individual Partnership Joint Venture Sole Proprietorship Corporation incorporated under the laws of the State of _____, its successors and assigns, herein called the Contractor, is effective the date of the signature of the Contracting Officer on this document.

WITNESSETH: That the Contractor, for and in consideration of the payment or payments herein specified and agreed to by the Department, hereby covenants and agrees to furnish and deliver all the materials and to do and perform all the work and labor required in the construction of the above-referenced project at the prices bid by the Contractor for the respective estimated quantities aggregating approximately the sum of

Dollars (\$ _____), and such other items as are mentioned in the original Bid, which Bid and prices named, together with the Contract Documents are made a part of this Contract and accepted as such.

It is distinctly understood and agreed that no claim for additional work or materials, done or furnished by the Contractor and not specifically herein provided for, will be allowed by the Authority, nor shall the Contractor do any work or furnish any material not covered by this Contract, unless such work is ordered in writing by the Authority. In no event shall the Authority be liable for any materials furnished or used, or for any work or labor done, unless the materials, work, or labor are required by the Contract or on written order furnished by the Authority. Any such work or materials which may be done or furnished by the Contractor without written order first being given shall be at the Contractor's own risk, cost, and expense and the Contractor hereby covenants and agrees to make no claim for compensation for work or materials done or furnished without such written order.

The Contractor further covenants and agrees that all materials shall be furnished and delivered and all labor shall be done and performed, in every respect, to the satisfaction of the Authority, on or before,

Final Completion: December 31, 2021

It is expressly understood and agreed that in case of the failure on the part of the Contractor, for any reason, except with the written consent of the Authority, to complete the furnishing and delivery of materials and the doing and performance of the work before the aforesaid date, the Authority shall have the right to deduct from any money due or which may become due the Contractor, or if no money shall be due, the Authority shall have the right to recover _____ Dollars _____ per day for each calendar day elapsing between the time stipulated for the completion and the actual date of completion in accordance with the terms hereof; such deduction to be made, or sum to be recovered, not as a penalty but as liquidated damages.

The bonds given by the Contractor in the sum of \$_____ Payment Bond, and \$_____ Performance Bond, to secure the proper compliance with the terms and provisions of this Contract, are submitted herewith and made a part hereof.

IN WITNESS WHEREOF, the parties hereto have executed this Contract and hereby agree to its terms and conditions.

CONTRACTOR

Company Name

Signature of Authorized Company Representative

Typed Name and Title

Date

(Corporate Seal)

ALASKA ENERGY AUTHORITY

Signature of Contracting Officer

Typed Name

Date

ALASKA ENERGY AUTHORITY

PERFORMANCE BOND

Bond No. _____

For
**Port Heiden Fuel Header Upgrade
Project No. 21124**

KNOW ALL WHO SHALL SEE THESE PRESENTS:

That _____
of _____ as Principal,
and _____
of _____ as Surety,
firmly bound and held unto the State of Alaska in the penal sum of _____ Dollars

(\$ _____) good and lawful money of the United States of America for the payment whereof, well and truly to be paid to the State of Alaska, we bind ourselves, our heirs, successors, executors, administrators, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said Principal has entered into a written contract with said State of Alaska, on the _____ of _____ A.D., 20____, for construction of the above-named project, said work to be done according to the terms of said contract.

Now, THEREFORE, the conditions of the foregoing obligation are such that if the said Principal shall well and truly perform and complete all obligations and work under said contract and if the Principal shall reimburse upon demand of the Alaska Energy Authority any sums paid him which exceed the final payment determined to be due upon completion of the project, then these presents shall become null and void; otherwise they shall remain in full force and effect.

IN WITNESS WHEREOF, we have hereunto set our hands and seals at _____, _____ this _____ day of _____ A.D., 20_____.

Principal: _____

Address: _____

By: _____

Contact Name: _____

Phone: () _____

Surety: _____

Address: _____

By: _____

Contact Name: _____

Phone: () _____

The offered bond has been checked for adequacy under the applicable statutes and regulations:

Alaska Energy Authority Authorized Representative

Date

See Instructions on Reverse

INSTRUCTIONS

1. This form shall be used whenever a performance bond is required. There shall be no deviation from this form without approval from the Contracting Officer.
2. The full legal name, business address, phone number, and point of contact of the Principal and Surety shall be typed on the face of the form. Where more than a single surety is involved, a separate form shall be executed for each surety.
3. The penal amount of the bond, or in the case of more than one surety the amount of obligation, shall be typed in words and in figures.
4. Where individual sureties are involved, a completed Affidavit of Individual Surety shall accompany the bond. Such forms are available upon request from the Contracting Officer.
5. The bond shall be signed by authorized persons. Where such person is signing in a representative capacity (e.g., an attorney-in-fact), but is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved, evidence of authority must be furnished.

ALASKA ENERGY AUTHORITY

PAYMENT BOND

Bond No. _____

For
**Port Heiden Fuel Header Upgrade
Project No. 21124**

NOW ALL WHO SHALL SEE THESE PRESENTS:

That _____
of _____ as Principal,
and _____
of _____ as Surety,
firmly bound and held unto the State of Alaska in the penal sum of _____ Dollars

(\$ _____) good and lawful money of the United States of America for the payment whereof, well and truly to be paid to the State of Alaska, we bind ourselves, our heirs, successors, executors, administrators, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said Principal has entered into a written contract with said State of Alaska, on the _____ of _____ A.D., 20____, for construction of the above-referenced project, said work to be done according to the terms of said contract.

Now, THEREFORE, the conditions of the foregoing obligation are such that if the said Principal shall comply with all requirements of law and pay, as they become due, all just claims for labor performed and materials and supplies furnished upon or for the work under said contract, whether said labor be performed and said materials and supplies be furnished under the original contract, any subcontract, or any and all duly authorized modifications thereto, then these presents shall become null and void; otherwise they shall remain in full force and effect.

IN WITNESS WHEREOF, we have hereunto set our hands and seals at _____, _____ this _____ day of _____ A.D., 20____.

Principal: _____

Address: _____

By: _____

Contact Name: _____

Phone: () _____

Surety: _____

Address: _____

By: _____

Contact Name: _____

Phone: () _____

The offered bond has been checked for adequacy under the applicable statutes and regulations:

Alaska Energy Authority Authorized Representative

Date

See Instructions on Reverse

INSTRUCTIONS

1. This form, for the protection of persons supplying labor and material, shall be used whenever a payment bond is required. There shall be no deviation from this form without approval from the Contracting Officer.
2. The full legal name, business address, phone number, and point of contact of the Principal and Surety shall be typed on the face of the form. Where more than a single surety is involved, a separate form shall be executed for each surety.
3. The penal amount of the bond, or in the case of more than one surety the amount of obligation, shall be typed in words and in figures.
4. Where individual sureties are involved, a completed Affidavit of Individual Surety shall accompany the bond. Such forms are available upon request from the Contracting Officer.
5. The bond shall be signed by authorized persons. Where such persons are signing in a representative capacity (e.g., an attorney-in-fact), but is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved, evidence of authority must be furnished.

CONTRACTOR'S QUESTIONNAIRE

**Port Heiden Fuel Header Upgrade
Project No. 21124**

A. FINANCIAL

1. Have you ever failed to complete a contract due to insufficient resources?

No Yes If YES, explain:

2. Describe any arrangements you have made to finance this work: _____

B. EQUIPMENT

1. Describe below the equipment you have available and intend to use for this project.

ITEM	QUAN.	MAKE	MODEL	SIZE/ CAPACITY	PRESENT MARKET VALUE

2. What percent of the total value of this contract do you intend to subcontract? _____ %

3. Do you propose to purchase any equipment for use on this project?
[] No [] Yes If YES, describe type, quantity, and approximate cost:

4. Do you propose to rent any equipment for this work?
[] No [] Yes If YES, describe type and quantity:

5. Is your bid based on firm offers for all materials necessary for this project?
[] Yes [] No If NO, please explain:

C. EXPERIENCE

1. Have you had previous construction contracts or subcontracts with the Authority?
[] Yes [] No

Describe the most recent or current contract, its completion date, and scope of work:

2. List, as an attachment to this questionnaire, other construction projects you have completed, the dates of completion, scope of work, and total contract amount for each project completed in the past 12 months.

I hereby certify that the above statements are true and complete.

Name of Contractor

Name and Title of Person Signing

Signature

Date

ALASKA ENERGY AUTHORITY
SECTION 00 70 00
GENERAL CONDITIONS

- ARTICLE 1 DEFINITIONS
- ARTICLE 2 AUTHORIZATION AND LIMITATIONS
- 2.1 Authorities and Limitations
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ARTICLE 1 - DEFINITIONS

Wherever used in the Contract Documents the following terms, or pronouns in place of them, are used, the intent and meaning, unless a different intent or meaning is clearly indicated, shall be interpreted as set forth below.

The titles and headings of the articles, sections, and subsections herein are intended for convenience of reference.

Terms not defined below shall have their ordinary accepted meanings within the context which they are used. Words which have a well-known technical or trade meaning when used to describe work, materials or equipment shall be interpreted in accordance with such meaning. Words defined in Article 1 are to be interpreted as defined.

Addenda - All clarifications, corrections, or changes issued graphically or in writing by the AUTHORITY after the Advertisement but prior to the opening of Proposals.

Advertisement - The public announcement, as required by law, inviting bids for Work to be performed or materials to be furnished.

Application for Payment - The form provided by the AUTHORITY which is to be used by the CONTRACTOR in requesting progress or final payments and which is to include such supporting documentation as is required by the Contract Documents.

Approved or Approval - Means written approval by the Contracting Officer or his authorized representative as defined in Article 2.1. 'Approved' or 'Approval' as used in this contract document shall mean that the Authority has received a document, form or submittal from the Contractor and that the Authority has taken "No exceptions" to the item submitted. Unless the context clearly indicates otherwise, approved or approval shall not mean that the Authority approves of the methods or means, or that the item or form submitted meets the requirements of the contract or constitutes acceptance of the Contractor's work. Where approved or approval means acceptance, then such approval must be set forth in writing and signed by the contracting officer or his designee.

A.S - Initials which stand for Alaska Statute.

Authority - The Alaska Energy Authority (AEA). References to "Contracting Agency" means the AUTHORITY. The AUTHORITY is acting as an agent for Owner.

Award - The acceptance, by the AUTHORITY, of the successful bid.

Bid Bond - A type of Proposal Guaranty.

Bidder - Any individual, firm, corporation or any acceptable combination thereof, or joint venture submitting a bid for the advertised Work.

Calendar Day - Every day shown on the calendar, beginning and ending at midnight.

Change Order - A written order by the AUTHORITY directing changes to the Contract Documents, within their general scope.

Consultant - The person, firm, or corporation retained directly by the AUTHORITY to prepare Contract Documents, perform construction administration services, or other Project related services. References to Authority's Consultants shall include Engineer.

Contingent Sum Work Item - When the bid schedule contains a Contingent Sum Work Item, the Work covered shall be performed only upon the written Directive of the Project Manager. Payment shall be made as provided in the Directive.

Contract - The written agreement between the AUTHORITY and the CONTRACTOR setting forth the obligations of the parties and covering the Work to be performed, all as required by the Contract Documents.

Contract Documents - The Contract form, Addenda, the bidding requirements and CONTRACTOR's bid (including all appropriate bid tender forms), the bonds, the Conditions of the Contract and all other Contract requirements, the Specifications, and the Drawings furnished by the AUTHORITY to the CONTRACTOR, together with all Change Orders and documents approved by the Contracting Officer, for inclusion, modifications and supplements issued on or after the Effective Date of the Contract.

Contracting Officer - The person authorized by the Executive Director to enter into and administer the Contract on behalf of the AUTHORITY; who has authority to make findings, determinations and decisions with respect to the Contract and, when necessary, to modify or terminate the Contract. The Contracting Officer is identified on the construction Contract.

Contractor - The individual, firm, corporation or any acceptable combination thereof, contracts with the AUTHORITY for performance of the Work.

Contract Price - The total moneys payable by the AUTHORITY to the CONTRACTOR under the terms of the Contract Documents.

CONTRACTOR's Release – CONTRACTOR's written notification to the AUTHORITY specifying final payment due and releasing the AUTHORITY of any and all claims.

Contract Time - The number of Calendar Days following issuance of Notice-to-Proceed in which the project shall be rendered Substantially Complete, or if specified as a calendar date, the Substantial Completion date specified in the Contract Documents.

Controlling Item - Any feature of the Work on the critical path of a network schedule.

Defective - Work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents.

Directive - A written communication to the CONTRACTOR from the Contracting Officer interpreting or enforcing a Contract requirement or ordering commencement of an item of Work.

Drawings - The Drawings which show the character and scope of the Work to be performed and which have been furnished by the AUTHORITY and are by reference made a part of the Contract Documents.

Engineer - The person, firm, or corporation retained directly by the AUTHORITY to prepare Contract Documents, perform construction administration services, or other Project related services.

Equipment - All machinery together with the necessary supplies for upkeep and maintenance, and also tools and apparatus necessary for the proper construction and acceptable completion of the work.

Final Completion - The Project has progressed to the point that all required Work is complete..

Furnish - To procure, transport, and deliver to the project site materials, labor, or equipment, for installation or use on the project.

General Requirements - Sections of Division 1 of the Specifications which contain administrative and procedural requirements as well as requirements for temporary facilities which apply to Specification Divisions 2 through 16.

Holidays - In the State of Alaska, Legal Holidays occur on:

1. New Years Day - January 1
2. Martin Luther King's Birthday - Third Monday in January
3. President's Day - Third Monday in February
4. Seward's Day - Last Monday in March
5. Memorial Day - Last Monday in May
6. Independence Day - July 4
7. Labor Day - First Monday in September
8. Alaska Day - October 18
9. Veteran's Day - November 11
10. Thanksgiving Day - Fourth Thursday in November
11. Christmas Day - December 25
12. Every Sunday
13. Every day designated by public proclamation by the President of the United States or the Governor of the State as a legal Holiday.

If any Holiday listed above falls on a Saturday, Saturday and the preceding Friday are both legal Holidays. If the Holiday should fall on a Sunday, except (12) above, Sunday and the following Monday are both legal Holidays. See Title 44, Alaska Statutes.

Install - Means to build into the Work, ready to be used in complete and operable condition and in compliance with Contract Documents.

Interim Work Authorization - A written order by the Project Manager initiating changes to the Contract within its general scope, until a subsequent Change Order is executed.

Invitation for Bids - A portion of the bidding documents soliciting bids for the Work to be performed.

Materials - Any substances specified for use in the construction of the project.

Notice of Intent to Award - The written notice by the AUTHORITY to all Bidders identifying the apparent successful Bidder and establishing the AUTHORITY's intent to execute the Contract when all conditions required for execution of the Contract are met.

Notice to Proceed - A written notice to the CONTRACTOR to begin the Work and establishing the date on which the Contract Time begins.

Onsite Project Representative - The Engineer's authorized representative assigned to make detailed observations relating to contract performance.

Owner – Means Grantee for whom the ALASKA ENERGY AUTHORITY is acting as an agent of.

Payment Bond - The security furnished by the CONTRACTOR and his Surety to guarantee payment of the debts covered by the bond.

Performance Bond - The security furnished by the CONTRACTOR and his Surety to guarantee performance and completion of the Work in accordance with the Contract.

Pre-construction Conference - A meeting between the CONTRACTOR, Project Manager and the Engineer, and other parties affected by the construction, to discuss the project before the CONTRACTOR begins work.

Project Manager - The authorized representative of the Contracting Officer who is responsible for administration of the Contract.

Procurement Manager/Officer - The person authorized by the Contracting Officer to administer the Contract on behalf of the AUTHORITY; who has authority to make findings, determinations and decisions with respect to the Contract and, when necessary present such to the Contracting Officer, to modify or terminate the Contract.

Project - The total construction, of which the Work performed under the Contract Documents, is the whole or a part, where such total construction may be performed by more than one CONTRACTOR.

Proposal - The offer of a Bidder, on the prescribed forms, to perform the Work at the prices quoted.

Proposal Guaranty - The security furnished with a Proposal to guarantee that the bidder will enter into a Contract if his Proposal is accepted by the AUTHORITY.

Quality Assurance (QA) - Where referred to in the technical specifications (Divisions 2 through 16), Quality Assurance refers to measures to be provided by the CONTRACTOR as specified.

Quality Control (QC) - Tests and inspections by the CONTRACTOR to insure the acceptability of materials incorporated into the work. QC test reports are used as a basis upon which to determine whether the Work conforms to the requirements of the Contract Documents and to determine its acceptability for payment.

Regulatory Requirements - Laws, rules, regulations, ordinances, codes and/or orders.

Schedule of Values - Document submitted by the CONTRACTOR and reviewed by the Contracting Officer, which shall serve as the basis for computing payment and for establishing the value of separate items of Work which comprise the Contract Price.

Shop Drawings - All drawings, diagrams, illustrations, schedules and other data which are specifically prepared by or for the CONTRACTOR to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by a Supplier and submitted by the CONTRACTOR to illustrate material, equipment, fabrication, or erection for some portion of the Work. Where used in the Contract Documents, "Shop Drawings" shall also mean "Submittals".

Specifications - Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative and procedural details applicable thereto.

Subcontractor - An individual, firm, or corporation to whom the CONTRACTOR or any other Subcontractor sublets part of the Contract.

Substantial Completion - Although not fully completed, the Work (or a specified part thereof) has progressed to the point where it is sufficiently complete, in accordance with the Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended. The terms "Substantially Complete" and "Substantially Completed" as applied to any Work refer to Substantial Completion thereof.

Supplemental Agreement - A written agreement between the CONTRACTOR and the AUTHORITY covering work that is not within the general scope of the Contract.

Supplementary Conditions - The part of the Contract Documents which amends or supplements these General Conditions.

Supplier - A manufacturer, fabricator, distributor, material man, or vendor of materials or equipment.

Surety - The corporation, partnership, or individual, other than the CONTRACTOR, executing a bond furnished by the CONTRACTOR.

Unit Price Work - Work to be paid for on the basis of unit prices.

Utility - The privately, publicly or cooperatively owned lines, facilities and systems for producing, transmitting or distributing communications, power, electricity, light, heat, gas, oil, crude products, water, steam, waste, storm water not connected with highway or street drainage, and other similar commodities, including publicly owned fire and police signal systems, street lighting systems, and railroads which directly or indirectly serve the public or any part thereof. The term "utility" shall also mean the utility company, inclusive of any wholly owned or controlled subsidiary."

Work - Work is the act of, and the result of, performing services, furnishing labor, furnishing and incorporating materials and equipment into the Project and performing other duties and obligations, all as required by the Contract Documents. Such Work, however incremental, will culminate in the entire completed Project, or the various separately identifiable parts thereof.

ARTICLE 2 – AUTHORIZATION AND LIMITATIONS

2.1 Authorities and Limitations

- 2.1.1 The Contracting Officer alone shall have the power to bind the AUTHORITY and to exercise the rights, responsibilities, authorities and functions vested in the Contracting Officer by the Contract Documents. The Contracting Officer shall have the right to designate in writing authorized representatives to act for him. Wherever any provision of the Contract Documents specifies an individual or organization, whether governmental or private, to perform any act on behalf of or in the interest of the AUTHORITY that individual or organization shall be deemed to be the Contracting Officer's authorized representative under this Contract but only to the extent so specified.
- 2.1.2 The CONTRACTOR shall perform the Work in accordance with any written order (including but not limited to instruction, direction, interpretation or determination) issued by an authorized representative in accordance with the authorized representative's authority to act for the Contracting Officer. The CONTRACTOR assumes all the risk and consequences of performing the Work in accordance with any order (including but not limited to instruction, direction, interpretation or determination) of anyone not authorized to issue such order, and of any order not in writing.
- 2.1.3 The performance or nonperformance of the Contracting Officer or his authorized representative, shall not give rise to any contractual obligation or duty to the CONTRACTOR, any Subcontractor, any Supplier, or any other organization performing any of the Work or any Surety representing them.

2.2 Evaluations by Contracting Officer:

- 2.2.1 The Contracting Officer or his authorized representative will decide all questions which may arise as to:
- a. Quality and acceptability of materials furnished;
 - b. Quality and acceptability of Work performed;
 - c. Compliance with the schedule of progress;
 - d. Interpretation of Contract Documents;
 - e. Acceptable fulfillment of the Contract on the part of the CONTRACTOR.
- 2.2.2 In order to avoid cumbersome terms and confusing repetition of expressions in the Contract Documents the terms "as ordered", "as directed", "as required", "as approved" or terms of like effect or import are used, or the adjectives "reasonable", "suitable", "acceptable", "proper" or "satisfactory" or adjectives of like effect or import are used it shall be understood as if the expression were followed by the words "the Contracting Officer".

When such terms are used to describe a requirement, direction, review or judgment of the Contracting Officer as to the Work, it is intended that such requirement, direction, review or judgment will be solely to evaluate the Work for compliance with the Contract Documents (unless there is a specific statement indicating otherwise).

2.2.3 The use of any such term or adjective shall not be effective to assign to the AUTHORITY any duty of authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraphs 2.3 or 2.4.

2.3 Means & Methods:

The means, methods, techniques, sequences or procedures of construction, or safety precautions and the program incident thereto, and the failure to perform or furnish the Work in accordance with the Contract Documents are the sole responsibility of the CONTRACTOR.

2.4 Visits to Site/Place of Business:

The Contracting Officer will make visits to the site and approved remote storage sites at intervals appropriate to the various stages of construction to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. The Contracting Officer may, at reasonable times, inspect that part of the plant or place of business of the CONTRACTOR or Subcontractor that is related to the performance of the Contract. Such observations or the lack of such observations shall in no way relieve the CONTRACTOR from his duty to perform the Work in accordance with the Contract Documents.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.1 Incomplete Contract Documents:

The submission of a bid by the Bidder is considered a representation that the Bidder examined the Contract Documents to make certain that all sheets and pages were provided and that the Bidder is satisfied as to the conditions to be encountered in performing the Work. The AUTHORITY expressly denies any responsibility or liability for a bid submitted on the basis of an incomplete set of Contract Documents.

3.2 Copies of Contract Documents:

The AUTHORITY shall furnish to the CONTRACTOR up to six copies of the Contract Documents. Additional copies will be furnished, upon request, at the cost of reproduction.

3.3 Scope of Work:

The Contract Documents comprise the entire Contract between the AUTHORITY and the CONTRACTOR concerning the Work. The Contract Documents are complementary; what is called for by one is as binding as if called for by all. The Contract Documents will be construed in accordance with the Regulatory Requirements of the place of the Project.

It is specifically agreed between the parties executing this Contract that it is not intended by any of the provisions of the Contract to create in the public or any member thereof a third party benefit, or to authorize anyone not a party to this Contract to maintain a suit pursuant to the terms or provisions of the Contract.

3.4 Intent of Contract Documents:

3.4.1 It is the intent of the Contract Documents to describe a functionally complete Project to be constructed in accordance with the Contract Documents. Any Work, materials or equipment that may reasonably be inferred from the Contract Documents as being required to produce the

intended result will be supplied, without any adjustment in Contract Price or Contract Time, whether or not specifically called for.

- 3.4.2 Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the Regulatory Requirements of any governmental authority, whether such reference be specific or by implication, shall mean the edition stated in the Contract Documents or if not stated the latest standard specification, manual, code or Regulatory Requirements in effect at the time of Advertisement for the Project (or, on the Effective Date of the Contract if there was no Advertisement). However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the duties and responsibilities of the AUTHORITY and the CONTRACTOR, or any of their consultants, agents or employees from those set forth in the Contract Documents, nor shall it be effective to assign to the AUTHORITY or any of the AUTHORITY's Consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraphs 2.3.

3.5 Discrepancy in Contract Documents:

- 3.5.1 Before undertaking the Work, the CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures, and dimensions shown thereon and all applicable field measurements. Work in the area by the CONTRACTOR shall imply verification of figures, dimensions and field measurements. If, during the above study or during the performance of the Work, the CONTRACTOR finds a conflict, error, discrepancy or omission in the Contract Documents, or a discrepancy between the Contract Documents and any standard specification, manual, code, or Regulatory Requirement which affects the Work, the CONTRACTOR shall promptly report such discrepancy in writing to the Contracting Officer. The CONTRACTOR shall obtain a written interpretation or clarification from the Contracting Officer before proceeding with any Work affected thereby. Any adjustment made by the CONTRACTOR without this determination shall be at his own risk and expense. However, the CONTRACTOR shall not be liable to the AUTHORITY for failure to report any conflict, error or discrepancy in the Contract Documents unless the CONTRACTOR had actual knowledge thereof or should reasonably have known thereof.

3.5.2 Discrepancy - Order of Precedence:

When conflicts errors or discrepancies within the Contract Documents exist, the order of precedence from most governing to least governing will be as follows:

- Contents of Addenda
- Supplementary Conditions
- General Conditions
- General Requirements
- Technical Specifications
- Drawings
- Recorded dimensions will govern over scaled dimensions
- Large scale details over small scale details
- Schedules over plans
- Architectural drawings over structural drawings Structural drawings over mechanical and electrical drawings

3.6 Clarifications and Interpretations:

The Contracting Officer will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents as the Contracting Officer may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents.

3.7 Reuse of Documents:

Neither the CONTRACTOR nor any Subcontractor, or Supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with the AUTHORITY shall have or acquire any title to or ownership rights in any of the Contract Documents (or copies thereof) prepared by or for the AUTHORITY and they shall not reuse any of the Contract Documents on extensions of the Project or any other project without written consent of the Contracting Officer.

Contract Documents prepared by the CONTRACTOR in connection with the Work shall become the property of the AUTHORITY.

ARTICLE 4 - LANDS AND PHYSICAL CONDITIONS

4.1 Availability of Lands:

The AUTHORITY shall furnish as indicated in the Contract Documents, the lands upon which the Work is to be performed, rights-of-way and easements for access thereto, and such other lands which are designated for use of the CONTRACTOR in connection with the Work. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by the AUTHORITY, unless otherwise provided in the Contract Documents. The CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment. The CONTRACTOR shall provide all waste and disposal areas, including disposal areas for hazardous or contaminated materials, at no additional cost to the AUTHORITY.

4.2 Visit to Site:

The submission of a bid by the CONTRACTOR is considered a representation that the CONTRACTOR has visited and carefully examined the site and is satisfied as to the conditions to be encountered in performing the Work and as to the requirements of the Contract Documents.

4.3 Explorations and Reports:

Reference is made to the Supplementary Conditions for identification of those reports of explorations and tests of subsurface conditions at the site that have been utilized by the AUTHORITY in preparation of the Contract Documents. The CONTRACTOR may for his purposes rely upon the accuracy of the factual data contained in such reports, but not upon interpretations or opinions drawn from such factual data contained therein or for the completeness or sufficiency thereof. Except as indicated in the immediately preceding sentence and in paragraphs 4.4 and 9.9, CONTRACTOR shall have full responsibility with respect to surface and subsurface conditions at the site.

4.4 Utilities:

- 4.4.1 The horizontal and vertical locations of known underground utilities as shown or indicated by the Contract Documents are approximate and are based on information and data furnished to the AUTHORITY by the owners of such underground utilities.
- 4.4.2 The CONTRACTOR shall have full responsibility for:
- a. Reviewing and checking all information and data concerning utilities.
 - b. Locating all underground utilities shown or indicated in the Contract Documents which are affected by the Work.
 - c. Coordination of the Work with the owners of all utilities during construction.
 - d. Safety and protection of all utilities as provided in paragraph 6.17.
 - e. Repair of any damage to utilities resulting from the Work in accordance with 4.4.4 and 4.5.
- 4.4.3 If Work is to be performed by any utility owner, the CONTRACTOR shall cooperate with such owners to facilitate the Work.
- 4.4.4 In the event of interruption to any utility service as a result of accidental breakage or as result of being exposed or unsupported, the CONTRACTOR shall promptly notify the utility owner and the Project Manager. If service is interrupted, repair work shall be continuous until the service is restored. No Work shall be undertaken around fire hydrants until provisions for continued service has been approved by the local fire authority.

4.5 Damaged Utilities:

When utilities are damaged by the CONTRACTOR, the utility owner shall have the choice of repairing the utility or having the CONTRACTOR repair the utility. In the following circumstances, the CONTRACTOR shall reimburse the utility owner for repair costs or provide at no cost to the utility owner or the AUTHORITY, all materials, equipment and labor necessary to complete repair of the damage:

- a. When the utility is shown or indicated in the Contract Documents.
- b. When the utility has been located by the utility owner.
- c. When no locate was requested by the CONTRACTOR for utilities shown or indicated in the Contract Documents.
- d. All visible utilities.
- e. When the CONTRACTOR could have, otherwise, reasonably been expected to be aware of such utility.

4.6 Utilities Not Shown or Indicated:

If, while directly performing the Work, an underground utility is uncovered or revealed at the site which was not shown or indicated in the Contract Documents and which the CONTRACTOR could not reasonably have been expected to be aware of, the CONTRACTOR shall, promptly after

becoming aware thereof and before performing any Work affected thereby (except in an emergency as permitted by paragraph 6.19) identify the owner of such underground utility and give written notice thereof to that owner and to the Project Manager. The Project Manager will promptly review the underground utility to determine the extent to which the Contract Documents and the Work should be modified to reflect the impacts of the discovered utility. The Contract Documents will be amended or supplemented in accordance with paragraph 9.2 and to the extent necessary through the issuance of a change document by the Contracting Officer. During such time, the CONTRACTOR shall be responsible for the safety and protection of such underground utility as provided in paragraph 6.17. The CONTRACTOR may be allowed an increase in the Contract Price or an extension of the Contract Time, or both, to the extent that they are directly attributable to the existence of any underground utility that was not shown or indicated in the Contract Documents and which the CONTRACTOR could not reasonably have been expected to be aware of.

4.7 Survey Control:

The AUTHORITY will identify sufficient horizontal and vertical control data to enable the CONTRACTOR to survey and layout the Work. All survey work shall be performed under the direct supervision of a registered land surveyor when required by paragraph 7.8. Copies of all survey notes shall be provided to the AUTHORITY at an interval determined by the Project Manager. The Project Manager may request submission on a weekly or longer period at his discretion. Any variations between the Contract Documents and actual field conditions shall be identified in the survey notes. Survey notes are to be in a format acceptable to the AUTHORITY.

ARTICLE 5 - BONDS, INSURANCE, AND INDEMNIFICATION

5.1 Delivery of Bonds:

When the CONTRACTOR delivers the executed Contract to the Contracting Officer, the CONTRACTOR shall also deliver to the Contracting Officer such bonds as the CONTRACTOR may be required to furnish in accordance with paragraph 5.2.

5.2 Bonds:

5.2.1 The CONTRACTOR shall furnish Performance and Payment Bonds, each in an amount as shown on the Contract as security for the faithful performance and payment of all CONTRACTOR's obligations under the Contract Documents. These bonds shall remain in effect for one year after the date of Final Acceptance and until all obligations under this Contract, except special guarantees as per 12.7, have been met. All bonds shall be furnished on forms provided by the AUTHORITY (or copies thereof) and shall be executed by such Sureties as are authorized to do business in the State of Alaska. The Contracting Officer may at his option copy the Surety with notice of any potential default or liability.

5.3 Replacement of Bond and Surety:

If the Surety on any bond furnished in connection with this Contract is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.2, or otherwise becomes unacceptable to the AUTHORITY, or if any such Surety fails to furnish reports as to his financial condition as requested by the AUTHORITY, the CONTRACTOR shall within five days thereafter substitute another bond and Surety, both of which must be acceptable to AUTHORITY.

An individual Surety may be replaced by a corporate Surety during the course of the Contract period. If the Surety desires to dispose of the collateral posted, the AUTHORITY may, at its option, accept substitute collateral.

5.4 Insurance Requirements:

5.4.1 The CONTRACTOR shall provide evidence of insurance with a carrier or carriers satisfactory to the AUTHORITY covering injury to persons and/or property suffered by the Alaska Energy Authority or a third party, as a result of operations which arise both out of and during the course of this Contract by the CONTRACTOR or by any Subcontractor. This coverage will also provide protection against injuries to all employees of the CONTRACTOR and the employees of any Subcontractor engaged in Work under this Contract.

5.4.2 The CONTRACTOR shall maintain in force at all times during the performance of Work under this agreement the following policies and minimum limits of liability. Where specific limits and coverages are shown, it is understood that they shall be the minimum acceptable. The requirements of this paragraph shall not limit the CONTRACTOR's responsibility to indemnify under paragraph 5.5. Additional insurance requirements specific to this Contract are contained in the Supplementary Conditions, when applicable.

a. Workers' Compensation Insurance: The Contractor shall provide and maintain, for all employees of the Contractor engaged in work under this contract, Workers' Compensation Insurance as required by AS 23.30.045. The Contractor shall be responsible for Workers' Compensation Insurance for any subcontractor who provides services under this contract, to include:

1. Waiver of subrogation against the Authority and Employer's Liability Protection in the amount of \$500,000 each accident/\$500,000 each disease.
2. If the Contractor directly utilizes labor outside of the State of Alaska in the prosecution of the work, "Other States" endorsement shall be required as a condition of the contract.
3. Whenever the work involves activity on or about navigable waters, the Workers' Compensation policy shall contain a United States Longshoreman's and Harbor Worker's Act endorsement, and when appropriate, a Maritime Employer's Liability (Jones Act) endorsement with a minimum limit of \$1,000,000.

b. Commercial General Liability Insurance: on an occurrence policy form covering all operations by or on behalf of the CONTRACTOR with combined single limits not less than:

1. If the CONTRACTOR carries a *Comprehensive General Liability* policy, the limits of liability shall not be less than a Combined Single Limit for bodily injury, property damage and Personal Injury Liability of:
\$1,000,000 each occurrence
\$2,000,000 aggregate
2. If the CONTRACTOR carries a *Commercial General Liability* policy, the limits of liability shall not be less than:
\$1,000,000 each occurrence (Combined Single Limit for bodily injury and property damage)

\$1,000,000 for Personal Injury Liability

\$2,000,000 aggregate for Products-Completed Operations

\$2,000,000 general aggregate

The Authority and the Owner shall be named as “Additional Insured” under all liability coverages listed above.

- c. Automobile Liability Insurance: covering all vehicles used by the Contractor in the performance of services under this agreement with combined single limits not less than:

\$1,000,000 each occurrence

- d. Builder’s Risk Insurance: Coverage shall be on an “All Risk” completed value basis including “quake and flood” and protect the interests of the AUTHORITY, the CONTRACTOR and Subcontractors at all tiers. Coverage shall include all materials, supplies and equipment that are intended for specific installation in the Project while such materials, supplies and equipment are located at the Project site, in transit from port of arrival to job site, or while temporarily located away from the Project site.

In addition to providing the above coverages the CONTRACTOR shall require that all indemnities obtained from any SUBCONTRACTORS be extended to include the Authority and Owner as an additional named indemnitees. CONTRACTOR shall further require that the Authority and the Owner be named as additional insured on all liability insurance policies maintained by all SUBCONTRACTORS under their contracts with CONTRACTOR, and that an appropriate waiver of subrogation in favor of the Authority be obtained with respect to all other insurance policies.

- e. Other Coverages: As specified in the Supplementary Conditions, if required.

- 5.4.3 a. In addition to providing the above coverages the Contractor shall, in any contract or agreement with subcontractors performing work, require that all indemnities and waivers of subrogation it obtains, and that any stipulation to be named as an additional insured it obtains, also be extended to waive rights of subrogation against the AUTHORITY and the Owner and to add the ALASKA ENERGY AUTHORITY and the Owner as additional named indemnitees and as additional insured.
- b. Evidence of insurance shall be furnished to the AUTHORITY prior to the award of the contract. Such evidence, executed by the carrier's representative and issued to the AUTHORITY, shall consist of a certificate of insurance or the policy declaration page with required endorsements attached thereto which denote the type, amount, class of operations covered, effective (and retroactive) dates, and dates of expiration. Acceptance by the AUTHORITY of deficient evidence does not constitute a waiver of contract requirements.
- c. When a certificate of insurance is furnished, it shall contain the following statement: "This is to certify that the policies described herein comply with all aspects of the insurance requirements of (Project Name and Number)."

5.5 Indemnification:

The CONTRACTOR shall indemnify, save harmless, and defend the AUTHORITY, the

OWNER its agents and its employees from any and all claims, actions, or liabilities for injuries or damages sustained by any person or property arising directly or indirectly from the CONTRACTOR or SUBCONTRACTOR's performance of WORK under this Contract; however, this provision has no effect if, but only if, the sole proximate cause of the injury or damage is the AUTHORITY's negligence.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

6.1 Supervision of Work:

The CONTRACTOR shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. All Work under this Contract shall be performed in a skillful and workmanlike manner. The CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction.

6.2 Superintendence by CONTRACTOR:

The CONTRACTOR shall keep on the Work at all times during its progress a competent resident superintendent. The Project Manager shall be advised in writing of the superintendent's name, local address, and telephone number. This written advice is to be kept current until Final Acceptance by the AUTHORITY. The superintendent will be the CONTRACTOR's representative at the site and shall have full authority to act and sign documents on behalf of the CONTRACTOR.

All communications given to the superintendent shall be as binding as if given to the CONTRACTOR. The CONTRACTOR shall cooperate with the Project Manager in every way possible.

6.3 Character of Workers:

The CONTRACTOR shall provide a sufficient number of competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. The CONTRACTOR shall at all times maintain good discipline and order at the site. The Project Manager may, in writing, require the CONTRACTOR to remove from the Work any employee the Project Manager deems incompetent, careless, or otherwise detrimental to the progress of the Work, but the Project Manager shall have no duty to exercise this right.

6.4 CONTRACTOR to Furnish:

Unless otherwise specified in the General Requirements, the CONTRACTOR shall furnish and assume full responsibility for all materials, equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance testing, start-up and completion of the Work.

6.5 Materials and Equipment:

All materials and equipment shall be of specified quality and new, except as otherwise provided in the Contract Documents. If required by the Project Manager, the CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with the instructions of the applicable Supplier except as otherwise provided in the Contract Documents; but no provision of any such instructions will be

effective to assign to the AUTHORITY or any of the AUTHORITY's consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 2.3.

6.6 Anticipated Schedules:

- 6.6.1 Prior to submitting the CONTRACTOR's first Application for Payment the CONTRACTOR shall submit to the Project Manager for review an anticipated progress schedule indicating the starting and completion dates of the various stages of the Work.
- 6.6.2 Prior to submitting the CONTRACTOR's first Application for Payment, the CONTRACTOR shall submit to the Project Manager for review:

Anticipated schedule of Shop Drawing submissions; and

Anticipated Schedule of Values for all of the Work which will include quantities and prices of items aggregating the Contract Price and will subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work which will be confirmed in writing by the CONTRACTOR at the time of submission.

6.7 Finalizing Schedules:

Prior to processing the first Application for Payment the Project Manager and the CONTRACTOR will finalize schedules required by paragraph 6.6. The finalized progress schedule will be acceptable to the AUTHORITY as providing information related to the orderly progression of the Work to completion within the Contract Time; but such acceptance will neither impose on the AUTHORITY nor relieve the CONTRACTOR from full responsibility for the progress or scheduling of the Work. If accepted, the finalized schedule of Shop Drawing and other required submissions will be acknowledgment by the AUTHORITY as providing a workable arrangement for processing the submissions. If accepted, the finalized Schedule of Values will be acknowledgment by the AUTHORITY as an approximation of anticipated value of Work accomplished over the anticipated Contract Time. Receipt and acceptance of a schedule submitted by the CONTRACTOR shall not be construed to assign responsibility for performance or contingencies to the AUTHORITY or relieve the CONTRACTOR of his responsibility to adjust his forces, equipment, and work schedules as may be necessary to insure completion of the Work within prescribed Contract Time. Should the prosecution of the Work be discontinued for any reason, the CONTRACTOR shall notify the Project Manager at least 24 hours in advance of resuming operations.

6.8 Adjusting Schedules:

Upon substantial changes to the schedule or upon request the CONTRACTOR shall submit to the Project Manager for acceptance (to the extent indicated in paragraph 6.7 and the General Requirements) adjustments in the schedules to reflect the actual present and anticipated progress of the Work.

6.9 Substitutes or "Or-Equal" Items:

- 6.9.1 Whenever materials or equipment are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier the naming of the item is intended to establish the type, function and quality required. Unless the name is followed by

words indicating that substitution is limited or not permitted, materials or equipment of other Suppliers may be accepted by the Project Manager only if sufficient information is submitted by the CONTRACTOR which clearly demonstrates to the Project Manager that the material or equipment proposed is equivalent or equal in all aspects to that named. The procedure for review by the Project Manager will include the following as supplemented in the General Requirements.

- 6.9.2 Requests for review of substitute items of material and equipment will not be accepted by the Project Manager from anyone other than the CONTRACTOR.
- 6.9.3 If the CONTRACTOR wishes to furnish or use a substitute item of material or equipment, the CONTRACTOR shall make written application to the Project Manager for Approval thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified and be suited to the same use as the specified. The application will state that the evaluation and Approval of the proposed substitute will not delay the CONTRACTOR's timely achievement of Substantial or Final Completion, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with the AUTHORITY for Work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty.
- 6.9.4 All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which shall be considered by the AUTHORITY in evaluating the proposed substitute. The AUTHORITY may require the CONTRACTOR to furnish at the CONTRACTOR's expense additional data about the proposed substitute. The Project Manager may reject any substitution request which the Project Manager determines is not in the best interest of the OWNER.
- 6.9.5 Substitutions shall be permitted during or after the bid period as allowed and in accordance with Document 00 02 00 - Invitation for Bids, Document 00 70 00 – General Conditions, and Document 01 60 00 – Materials and Equipment.

6.10 Substitute Means and Methods:

If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents, the CONTRACTOR may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to the Project Manager, if the CONTRACTOR submits sufficient information to allow the Project Manager to determine that the substitute proposed is equivalent to that indicated or required by the Contract Documents. The procedure for review by the Project Manager will be similar to that provided in paragraph 6.9 as applied by the Project Manager and as may be supplemented in the General Requirements.

6.11 Evaluation of Substitution:

The Project Manager will be allowed a reasonable time within which to evaluate each proposed substitute. The Project Manager will be the sole judge of acceptability, and no substitute will be ordered, installed or utilized without the Contracting Officer's prior written Approval which will be evidenced by either a Change Order or a Shop Drawing Approved in accordance with Sections 6.20 and 6.21. The Contracting Officer may require the CONTRACTOR to furnish at the

CONTRACTOR's expense a special performance guarantee or other Surety with respect to any substitute.

6.12 Dividing the Work:

The divisions and sections of the Specifications and the identifications of any Drawings shall not control the CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

6.13 Subcontractors:

The CONTRACTOR may utilize the services of appropriately licensed Subcontractors on those parts of the Work which, under normal contracting practices, are performed by Subcontractors, in accordance with the following conditions:

- 6.13.1 The CONTRACTOR shall not award any Work to any Subcontractor without prior written Approval of the Contracting Officer. This Approval will not be given until the CONTRACTOR submits to the Contracting Officer a written statement concerning the proposed award to the Subcontractor which shall contain required Equal Employment Opportunity documents, evidence of insurance whose limits are acceptable to the CONTRACTOR, and an executed copy of the subcontract. All subcontracts shall contain provisions for prompt payment, release of retainage, and interest on late payment amounts and retainage as specified in AS 36.90.210. Contracts between subcontractors, regardless of tier, must also contain these provisions.
- 6.13.2 The CONTRACTOR shall be fully responsible to the AUTHORITY for all acts and omissions of the Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR just as CONTRACTOR is responsible for CONTRACTOR's own acts and omissions.
- 6.13.3 All Work performed for CONTRACTOR by a Subcontractor will be pursuant to an appropriate written agreement between CONTRACTOR and the Subcontractor which specifically binds the Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of the AUTHORITY and contains waiver provisions as required by paragraph 13.17 and termination provisions as required by Article 14.
- 6.13.4 Nothing in the Contract Documents shall create any contractual relationship between the AUTHORITY and any such Subcontractor, Supplier or other person or organization, nor shall it create any obligation on the part of the AUTHORITY to pay or to see to the payment of any moneys due any such Subcontractor, Supplier or other person or organization except as may otherwise be required by Regulatory Requirements. The AUTHORITY will not undertake to settle any differences between or among the CONTRACTOR, Subcontractors, or Suppliers.
- 6.13.5 The CONTRACTOR and Subcontractors shall coordinate their work and cooperate with other trades so to facilitate general progress of Work. Each trade shall afford other trades every reasonable opportunity for installation of their work and storage of materials. If cooperative work of one trade must be altered due to lack of proper supervision or failure to make proper provisions in time by another trade, such conditions shall be remedied by the CONTRACTOR with no change in Contract Price or Contract Time.

- 6.13.6 The CONTRACTOR shall include on his own payrolls any person or persons working on this Contract who are not covered by written subcontract, and shall ensure that all Subcontractors include on their payrolls all persons performing Work under the direction of the Subcontractor.

6.14 Use of Premises:

The CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workers to the Project limits and approved remote storage sites and lands and areas identified in and permitted by Regulatory Requirements, rights-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. The CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any land or areas contiguous thereto, resulting from the performance of the Work. Should any claim be made against the AUTHORITY by any such owner or occupant because of the performance of the Work, the CONTRACTOR shall hold the AUTHORITY harmless.

6.15 Structural Loading:

The CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall the CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.16 Record Documents:

The CONTRACTOR shall maintain in a safe place at the site one record copy of all Drawings, Specifications, Addenda, Directives, Change Orders, Supplemental Agreements, and written interpretations and clarifications (issued pursuant to paragraph 3.6) in good order and annotated to show all changes made during construction. These record documents together with all Approved samples and a counterpart of all Approved Shop Drawings will be available to the Project Manager for reference and copying. Upon completion of the Work, the annotated record documents, samples and Shop Drawings will be delivered to the Project Manager. Record documents shall accurately record variations in the Work which vary from requirements shown or indicated in the Contract Documents.

6.17 Safety and Protection:

The CONTRACTOR alone shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. The CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

- 6.17.1 All employees on the Work and other persons and organizations who may be affected thereby;
- 6.17.2 All the Work and materials and equipment to be incorporated therein, whether in storage on or off the site; and
- 6.17.3 Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation or replacement in the course of construction.

The CONTRACTOR shall comply with all applicable Regulatory Requirements of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. The

CONTRACTOR shall notify owners of adjacent property and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property. All damage, injury or loss to any property caused, directly or indirectly, in whole or in part, by the CONTRACTOR, any Subcontractor, Supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, shall be remedied by the CONTRACTOR with no change in Contract Price or Contract Time except as stated in 4.6, except damage or loss attributable to unforeseeable causes beyond the control of and without the fault or negligence of the CONTRACTOR, including but not restricted to acts of God, of the public enemy or governmental authorities. The CONTRACTOR's duties and responsibilities for the safety and protection of the Work shall continue until Final Acceptance (except as otherwise expressly provided in connection with Substantial Completion).

6.18 Safety Representative:

The CONTRACTOR shall designate a responsible safety representative at the site. This person shall be the CONTRACTOR's superintendent unless otherwise designated in writing by the CONTRACTOR to the Project Manager.

6.19 Emergencies:

In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, the CONTRACTOR, without special instruction or authorization from the AUTHORITY, is obligated to act to prevent threatened damage, injury or loss. The CONTRACTOR shall give the Project Manager prompt written notice if the CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby. If the AUTHORITY determines that a change in the Contract Documents is required because of the action taken in response to an emergency, a change will be authorized by one of the methods indicated in Paragraph 9.2, as determined appropriate by the Project Manager.

6.20 Shop Drawings and Samples:

- 6.20.1 After checking and verifying all field measurements and after complying with applicable procedures specified in the General Requirements, the CONTRACTOR shall submit to the Project Manager for review and Approval in accordance with the accepted schedule of Shop Drawing submissions the required number of all Shop Drawings, which will bear a stamp or specific written indication that the CONTRACTOR has satisfied CONTRACTOR's responsibilities under the Contract Documents with respect to the review of the submission. All submissions will be identified as the Project Manager may require. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to enable the Project Manager to review the information as required.
- 6.20.2 The CONTRACTOR shall also submit to the Project Manager for review and Approval with such promptness as to cause no delay in Work, all samples required by the Contract Documents. All samples will have been checked by and accompanied by a specific written indication that the CONTRACTOR has satisfied CONTRACTOR's responsibilities under the Contract Documents with respect to the review of the submission and will be identified clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which intended.
- 6.20.3 Before submission of each Shop Drawing or sample the CONTRACTOR shall have determined and verified all quantities, dimensions, specified performance criteria, installation

requirements, materials, catalog numbers and similar data with respect thereto and reviewed or coordinated each Shop Drawing or sample with other Shop Drawings and samples and with the requirements of the Work and the Contract Documents.

6.20.4 At the time of each submission the CONTRACTOR shall give the Project Manager specific written notice of each variation that the Shop Drawings or samples may have from the requirements of the Contract Documents, and, in addition, shall cause a specific notation to be made on each Shop Drawing submitted to the Project Manager for review and Approval of each such variation. All variations of the proposed Shop Drawing from that specified will be identified in the submission and available maintenance, repair and replacement service will be indicated. The submittal will also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such variation, including costs of redesign and claims of other Contractors affected by the resulting change, all of which shall be considered by the AUTHORITY in evaluating the proposed variation. If the variation may result in a change of Contract Time or Price, or Contract responsibility, and is not minor in nature; the CONTRACTOR must submit a written request for Change Order with the variation to notify the AUTHORITY of his intent. The AUTHORITY may require the CONTRACTOR to furnish at the CONTRACTOR's expense additional data about the proposed variation. The Project Manager may reject any variation request which the Project Manager determines is not in the best interest of the AUTHORITY.

6.21 Shop Drawing and Sample Review:

- 6.21.1 The Project Manager will review with reasonable promptness Shop Drawings and samples, but the Project Manager's review will be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents and shall not extend to means, methods, techniques, sequences or procedures of construction (except where a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents) or to safety precautions or programs incident thereto. The review of a separate item as such will not indicate acceptance of the assembly in which the item functions. The CONTRACTOR shall make corrections required by the Project Manager and shall return the required number of corrected copies of Shop Drawings and submit as required new samples for review. The CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by the Project Manager on previous submittals.
- 6.21.2 The Project Manager's review of Shop Drawings or samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless the CONTRACTOR has in writing advised the Project Manager of each such variation at the time of submission as required by paragraph 6.20.4. The Contracting Officer if he so determines, may give written Approval of each such variation by Change Order, except that, if the variation is minor and no Change Order has been requested a specific written notation thereof incorporated in or accompanying the Shop Drawing or sample review comments shall suffice as a modification. Approval by the Contracting Officer will not relieve the CONTRACTOR from responsibility for errors or omissions in the Shop Drawings or from responsibility for having complied with the provisions of paragraph 6.20.3.
- 6.21.3 The AUTHORITY shall be responsible for all AUTHORITY review costs resulting from the initial submission and the resubmittal. The CONTRACTOR shall, at the discretion of the AUTHORITY, pay all review costs incurred by the AUTHORITY as a result of any additional re-submittals.

6.21.4 Where a Shop Drawing or sample is required by the Specifications, any related Work performed prior to the Project Manager's review and Approval of the pertinent submission will be the sole expense and responsibility of the CONTRACTOR.

6.22 Maintenance During Construction:

The CONTRACTOR shall maintain the Work during construction and until Substantial Completion, at which time the responsibility for maintenance shall be established in accordance with paragraph 13.10.

6.23 Continuing the Work:

The CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with the AUTHORITY. No Work shall be delayed or postponed pending resolution of any disputes, disagreements, or claims except as the CONTRACTOR and the Contracting Officer may otherwise agree in writing.

6.24 Consent to Assignment:

The CONTRACTOR shall obtain the prior written consent of the Contracting Officer to any proposed assignment of any interest in, or part of this Contract. The consent to any assignment or transfer shall not operate to relieve the CONTRACTOR or his Sureties of any of his or its obligations under this Contract or the Performance Bonds. Nothing herein contained shall be construed to hinder, prevent, or affect an assignment of monies due, or to become due hereunder, made for the benefit of the CONTRACTOR's creditors pursuant to law.

6.25 Use of Explosives:

6.25.1 When the use of explosives is necessary for the prosecution of the Work, the CONTRACTOR shall exercise the utmost care not to endanger life or property, including new Work and shall follow all Regulatory Requirements applicable to the use of explosives. The CONTRACTOR shall be responsible for all damage resulting from the use of explosives.

6.25.2 All explosives shall be stored in a secure manner in compliance with all Regulatory Requirements, and all such storage places shall be clearly marked. Where no Regulatory Requirements apply, safe storage shall be provided not closer than 1,000 feet from any building, camping area, or place of human occupancy.

6.25.3 The CONTRACTOR shall notify each public utility owner having structures in proximity to the site of his intention to use explosives. Such notice shall be given sufficiently in advance to enable utility owners to take such steps as they may deem necessary to protect their property from injury. However, the CONTRACTOR shall be responsible for all damage resulting from the use of the explosives, whether or not, utility owners act to protect their property.

6.26 CONTRACTOR's Records:

6.26.1 Records of the CONTRACTOR and Subcontractors relating to personnel, payrolls, invoices of materials, and any and all other data relevant to the performance of this Contract, must be kept on a generally recognized accounting system. Such records must be available during normal work hours to the Contracting Officer for purposes of investigation to ascertain compliance with Regulatory Requirements and provisions of the Contract Documents.

- 6.26.2 Payroll records must contain the name and address of each employee, his correct classification, rate of pay, daily and weekly number of hours of work, deductions made, and actual wages paid. The CONTRACTOR and Subcontractors shall make employment records available for inspection by the Contracting Officer and representatives of the U.S. and/or State Department of Labor and will permit such representatives to interview employees during working hours on the Project.
- 6.26.3 Records of all communications between the AUTHORITY and the CONTRACTOR and other parties, where such communications affected performance of this Contract, must be kept by the CONTRACTOR and maintained for a period of three years from Final Acceptance. The AUTHORITY or its assigned representative may perform an audit of these records during normal work hours after written notice to the CONTRACTOR.

6.27 Load Restrictions

The CONTRACTOR shall comply with all load restrictions as set forth in the "Administrative Permit Manual", and Title 17, Chapter 25, of the Alaska Administrative Code in the hauling of materials on public roads, beyond the limits of the project, and on all public roads within the project limits that are scheduled to remain in use upon completion of the project.

Overload permits may, at the discretion of the State, be issued for travel beyond the project limits for purposes of mobilization and/or demobilization. Issuance of such a permit will not relieve the CONTRACTOR of liability for damage which may result from the moving of equipment.

The operation of equipment of such weight or so loaded as to cause damage to any type of construction will not be permitted. No overloads will be permitted on the base course or surface course under construction. No loads will be permitted on a concrete pavement, base or structure before the expiration of the curing period. The CONTRACTOR shall be responsible for all damage done by his equipment.

ARTICLE 7 - LAWS AND REGULATIONS

7.1 Laws to be Observed

The CONTRACTOR shall keep fully informed of all federal and state Regulatory Requirements and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the Work, or which in any way affect the conduct of the Work. The CONTRACTOR shall at all times observe and comply with all such Regulatory Requirements, orders and decrees; and shall protect and indemnify the AUTHORITY and its representatives against claim or liability arising from or based on the violation of any such Regulatory Requirement, order, or decree whether by the CONTRACTOR, Subcontractor, or any employee of either. Except where otherwise expressly required by applicable Regulatory Requirements, the AUTHORITY shall not be responsible for monitoring CONTRACTOR's compliance with any Regulatory Requirements.

7.2 Permits, Licenses, and Taxes

- 7.2.1 The CONTRACTOR shall procure all permits and licenses, pay all charges, fees and taxes, and give all notices necessary and incidental to the due and lawful prosecution of the Work. As a condition of performance of this Contract, the CONTRACTOR shall pay all federal, state and local taxes incurred by the CONTRACTOR, in the performance of this Contract. Proof of

payment of these taxes is a condition precedent to final payment by the AUTHORITY under this Contract.

- 7.2.2 The CONTRACTOR's certification that taxes have been paid (as contained in the *Release of Contract*) will be verified with the Department of Revenue and Department of Labor, prior to final payment.
- 7.2.3 If any federal, state or local tax is imposed, charged, or repealed after the date of bid opening and is made applicable to and paid by the CONTRACTOR on the articles or supplies herein contracted for, then the Contract shall be increased or decreased accordingly by a Change Order.

7.3 Patented Devices, Materials and Processes

If the CONTRACTOR employs any design, device, material, or process covered by letters of patent, trademark or copyright, the CONTRACTOR shall provide for such use by suitable legal agreement with the patentee or owner. The CONTRACTOR and the Surety shall indemnify and save harmless the AUTHORITY, any affected third party, or political subdivision from any and all claims for infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright, and shall indemnify the AUTHORITY for any costs, expenses, and damages which it may be obliged to pay by reason of any infringement, at any time during the prosecution or after the completion of the Work.

7.4 Compliance of Specifications and Drawings:

If the CONTRACTOR observes that the Specifications and Drawings supplied by the AUTHORITY are at variance with any Regulatory Requirements, CONTRACTOR shall give the Project Manager prompt written notice thereof, and any necessary changes will be authorized by one of the methods indicated in paragraph 9.2. as determined appropriate by the Project Manager. If the CONTRACTOR performs any Work knowing or having reason to know that it is contrary to such Regulatory Requirements, and without such notice to the Project Manager, the CONTRACTOR shall bear all costs arising there from; however, it shall not be the CONTRACTOR's primary responsibility to make certain that the Specifications and Drawings supplied by the AUTHORITY are in accordance with such Regulatory Requirements.

7.5 Accident Prevention:

The CONTRACTOR shall comply with AS 18.60.075 and all pertinent provisions of the Construction Code Occupational Safety and Health Standards issued by the Alaska Department of Labor.

7.6 Sanitary Provisions:

The CONTRACTOR shall provide and maintain in a neat and sanitary condition such accommodations for the use of his employees and AUTHORITY representatives as may be necessary to comply with the requirements of the State and local Boards of Health, or of other bodies or tribunals having jurisdiction.

7.7 Business Registration:

Comply with AS 08.18.011, as follows: "it is unlawful for a person to submit a bid or work as a contractor until he has been issued a certificate of registration by the Department of Commerce. A

partnership or joint venture shall be considered registered if one of the general partners or ventures whose name appears in the name under which the partnership or venture does business is registered."

7.8 Professional Registration and Certification:

All craft trades, architects, engineers and land surveyors, electrical administrators, and explosive handlers employed under the Contract shall specifically comply with applicable provisions of AS 08.18, 08.48, 08.40, and 08.52. Provide copies of individual licenses within seven days following a request from the Contracting Officer.

7.9 Local Building Codes:

The CONTRACTOR shall comply with AS 35.10.025 which requires construction in accordance with applicable local building codes to include the obtaining of required permits.

7.10 Air Quality Control:

The CONTRACTOR shall comply with all applicable provisions of AS 46.03.04 as pertains to Air Pollution Control.

7.11 Archaeological or Paleontological Discoveries:

When the CONTRACTOR's operation encounters prehistoric artifacts, burials, remains of dwelling sites, or paleontological remains, such as shell heaps, land or sea mammal bones or tusks, the CONTRACTOR shall cease operations immediately and notify the Project Manager. No artifacts or specimens shall be further disturbed or removed from the ground and no further operations shall be performed at the site until so directed. Should the Contracting Officer order suspension of the CONTRACTOR's operations in order to protect an archaeological or historical finding, or order the CONTRACTOR to perform extra Work, such shall be covered by an appropriate Contract change document.

7.12 Applicable Alaska Preferences: Not Applicable.

7.13 Preferential Employment: Not Applicable.

7.14 Wages and Hours of Labor:

7.14.1 One certified copy of all payrolls shall be submitted weekly to the State Department of Labor and, upon request, to the Contracting Officer to assure to assure compliance with AS 36.05.040, *Filing Schedule of Employees Wages Paid and Other Information*. The CONTRACTOR shall be responsible for the submission of certified copies of payrolls of all Subcontractors. The certification shall affirm that the payrolls are current and complete, that the wage rates contained therein are not less than the applicable rates referenced in these Contract Documents, and that the classification set forth for each laborer or mechanic conforms to the Work performed. The CONTRACTOR and his Subcontractors shall attend all hearings and conferences and produce such books, papers, and documents all as requested by the Department of Labor. Should federal funds be involved, the appropriate federal agency shall also receive a copy of the CONTRACTOR's certified payrolls. Regardless of project funding source, copies of all certified payrolls supplied to the State Department of Labor by the CONTRACTOR shall be supplied also to the Project Manager upon request, including submittals made by, or on behalf of, subcontractors.

7.14.2 The following labor provisions shall also apply to this Contract:

- a. The CONTRACTOR and his Subcontractors shall pay all employees unconditionally and not less than once a week;
- b. wages may not be less than those stated under AS 36.05.010, regardless of the contractual relationship between the CONTRACTOR or Subcontractors and laborers, mechanics, or field surveyors;
- c. the scale of wages to be paid shall be posted by the CONTRACTOR in a prominent and easily accessible place at the site of the Work;
- d. the AUTHORITY shall withhold so much of the accrued payments as is necessary to pay to laborers, mechanics, or field surveyors employed by the CONTRACTOR or Subcontractors the difference between
 1. the rates of wages required by the Contract to be paid laborers, mechanics, or field surveyors on the Work, and
 2. the rates of wages in fact received by laborers, mechanics or field surveyors.

7.14.3 Within three calendar days of award of a construction contract, the CONTRACTOR shall file a "Notice of Work" with the Department of Labor and shall pay all related fees. The Contracting Officer will not issue Notice to Proceed to the CONTRACTOR until such notice and fees have been paid to the Department of Labor. Failure of the CONTRACTOR to file the Notice of Work and pay fees within this timeframe shall not constitute grounds for an extension of contract time or adjustment of contract price.

7.15 Overtime Work Hours and Compensation:

Pursuant to 40 *U.S.C.* 327-330 and AS 23.10.060 -.110, the CONTRACTOR shall not require nor permit any laborer or mechanic in any workweek in which he is employed on any Work under this Contract to work in excess of eight hours in any Calendar Day or in excess of forty hours in such workweek on Work subject to the provisions of the *Contract Work Hours and Safety Standards Act* unless such laborer or mechanic receives compensation at a rate not less than one and one half times his basic rate of pay for all such hours worked in excess of eight hours in any Calendar Day or in excess of forty hours in such workweek whichever is the greater number of overtime hours. In the event of any violation of this provision, the CONTRACTOR shall be liable to any affected employee for any amounts due and penalties and to the AUTHORITY for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic employed in violation of this provision in the sum of \$10.00 for each Calendar Day on which such employee was required or permitted to be employed on such Work in excess of eight hours or in excess of the standard workweek of forty hours without payment of the overtime wages required by this paragraph.

7.16 Covenant Against Contingent Fees:

The CONTRACTOR warrants that no person or selling agent has been employed or retained to solicit or secure this Contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the CONTRACTOR for the purpose of securing business. For breach or violation of this warrant, the AUTHORITY shall have the right to annul this Contract without liability or, in its discretion, to deduct price of consideration from the Contract or otherwise

recover the full amount of such commission, percentage, brokerage, or contingent fee.

7.17 Officials Not to Benefit:

No member of or delegate to the U.S. Congress, the Alaska State Legislature or other state official shall be admitted to any share or part of this Contract, nor to any benefit that may arise there from. However, this provision shall not be construed to extend to this Contract if made with a corporation for its general benefit.

7.18 Personal Liability of Public Officials:

In carrying out any of the provisions thereof, or in exercising any power or authority granted to the Contracting Officer by the Contract, there will be no liability upon the Contracting Officer nor upon AUTHORITY employees authorized as his representatives, either personally or as officials of the AUTHORITY, it being always understood that in such matters they act as agents and representatives of the AUTHORITY.

ARTICLE 8 - OTHER WORK

8.1 Related Work at Site:

8.1.1 The AUTHORITY reserves the right at any time to contract for and perform other or additional work on or near the Work covered by the Contract.

8.1.2 When separate contracts are let within the limits of the Project, the CONTRACTOR shall conduct his Work so as not to interfere with or hinder the work being performed by other contractors. The CONTRACTOR when working on the same Project with other contractors shall cooperate with such other contractors. The CONTRACTOR shall join his Work with that of the others in an acceptable manner and shall perform it in proper sequence to that of others.

8.1.3 If the fact that other such work is to be performed is identified or shown in the Contract Documents the CONTRACTOR shall assume all liability, financial or otherwise, in connection with this Contract and indemnify and save harmless the AUTHORITY from any and all damages or claims that may arise because of inconvenience, delay, or loss experienced by the CONTRACTOR because of the presence and operations of other contractors.

8.1.4 If the fact that such other work is to be performed was not identified or shown in the Contract Documents, written notice thereof will be given to the CONTRACTOR prior to starting any such other work. If the CONTRACTOR believes that such performance will require an increase in Contract Price or Contract Time, the CONTRACTOR shall notify the Project Manager of such required increase within fifteen (15) calendar days following receipt of the Contracting Officer's notice. Should the Project Manager find such increase(s) to be justified, a Change Order will be executed.

8.2 Access, Cutting, and Patching:

The CONTRACTOR shall afford each utility owner and any other contractor who is a party to such a direct contract with the AUTHORITY (or the AUTHORITY, if the AUTHORITY is performing the additional work with the AUTHORITY's employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such work, and shall properly connect and coordinate the Work with the work of others. The CONTRACTOR shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work, the CONTRACTOR shall not endanger any work of others by cutting, excavating or otherwise altering

their work and will only cut or alter such other work with the written consent of the Project Manager. The duties and responsibilities of the CONTRACTOR under this paragraph are for the benefit of other contractors to the extent that there are comparable provisions for the benefit of the CONTRACTOR in said direct contracts between the AUTHORITY and other contractors.

8.3 Defective Work by Others:

If any part of the CONTRACTOR's Work depends for proper execution or results upon the work of any such other contractor, utility owner, or the AUTHORITY, the CONTRACTOR shall inspect and promptly report to the Project Manager in writing any delays, defects or deficiencies in such work that render it unavailable or unsuitable for such proper execution and results. The CONTRACTOR's failure to so report will constitute an acceptance of the other work as fit and proper for integration with CONTRACTOR's Work except for latent or non-apparent defects and deficiencies in the other work.

8.4 Coordination:

If the AUTHORITY contracts with others for the performance of other work at the site, Project Manager will have authority and responsibility for coordination of the activities among the various prime contractors.

ARTICLE 9 - CHANGES

9.1 AUTHORITY's Right to Change

Without invalidating the Contract and without notice to any Surety, the AUTHORITY may, at any time or from time to time, order additions, deletions or revisions in the Work within the general scope of the Contract, including but not limited to changes:

- 9.1.1 In the Contract Documents;
- 9.1.2 In the method or manner of performance of the Work;
- 9.1.3 In Authority-furnished facilities, equipment, materials, services, or site;
- 9.1.4 Directing acceleration in the performance of the Work.

9.2 Authorization of Changes within the General Scope.

Additions, deletions, or revisions in the Work within the general scope of the Contract as specified in 9.1 shall be authorized by one or more of following ways:

- 9.2.1 Directive (pursuant to paragraph 9.3)
- 9.2.2 A Change Order (pursuant to paragraph 9.4)
- 9.2.3 AUTHORITY's acceptance of Shop Drawing variations from the Contract Documents as specifically identified by the CONTRACTOR as required by paragraph 6.20.4.

9.3 Directive

- 9.3.1 The Contracting Officer shall provide written clarification or interpretation of the Contract Documents (pursuant to paragraph 3.6).
- 9.3.2 The Project Manager may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Time and are consistent with the overall intent of the Contract Documents.
- 9.3.3 The Project Manager may order the Contractor to correct Defective Work or methods which are not in conformance with the Contract Documents.
- 9.3.4 The Project Manager may direct the commencement or suspension of Work or emergency related Work (as provided in paragraph 6.19).
- 9.3.5 Upon the issuance of a Directive to the CONTRACTOR by the Project Manager, the CONTRACTOR shall proceed with the performance of the Work as prescribed by such Directive.
- 9.3.6 If the CONTRACTOR believes that the changes noted in a Directive may cause an increase in the Contract Price or an extension of Contract Time, the CONTRACTOR shall immediately provide written notice to the Project Manager depicting such increases before proceeding with the Directive, except in the case of an emergency. If the Project Manager finds the increase in Contract Price or the extension of Contract Time justified, a Change Order will be issued. If however, the Project Manager does not find that a Change Order is justified, the Project Manager may direct the CONTRACTOR to proceed with the Work. The CONTRACTOR shall cooperate with the Project Manager in keeping complete daily records of the cost of such Work. If a Change Order is ultimately determined to be justified, in the absence of agreed prices and unit prices, payment for such Work will be made on a "cost of the work basis" as provided in 10.4

9.4 Change Order

A change in Contract Time, Contract Price, or responsibility may be made for changes within the scope of the Work by Change Order. Upon receipt of an executed Change Order, the CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents except as otherwise specifically provided. Changes in Contract Price and Contract Time shall be made in accordance with Articles 10 and 11. A Change Order shall be considered executed when it is signed by the AUTHORITY.

9.5 Shop Drawing Variations

Variations by shop drawings shall only be eligible for consideration under 9.4 when the conditions affecting the price, time, or responsibility are identified by the CONTRACTOR in writing and a request for a Change Order is submitted as per 6.20.4.

9.6 Changes Outside the General Scope; Supplemental Agreement

Any change which is outside the general scope of the Contract, as determined by the Project Manager, must be authorized by a Supplemental Agreement signed by the appropriate representatives of the AUTHORITY and the CONTRACTOR.

9.7 Unauthorized Work:

The CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Time with respect to any work performed that is not required by the Contract Documents as amended, modified and supplemented as provided in this Article 9, except in the case of an emergency as provided in paragraph 6.19 and except in the case of uncovering Work as provided in paragraph 12.4.2.

9.8 Notification of Surety:

If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Time) is required by the provisions of any bond to be given to a Surety, the giving of any such notice will be the CONTRACTOR's responsibility, and the amount of each applicable bond will be adjusted accordingly.

9.9 Differing Site Conditions:

9.9.1 The CONTRACTOR shall promptly, and before such conditions are disturbed (except in an emergency as permitted by paragraph 6.19), notify the Project Manager in writing of: (1) subsurface or latent physical conditions at the site differing materially from those indicated in the Contract, and which could not have been discovered by a careful examination of the site, or (2) unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this Contract. The Project Manager shall promptly investigate the conditions, and if the Project Manager finds that such conditions do materially so differ and cause an increase or decrease in the CONTRACTOR's cost of, or time required for, performance of this Contract, an equitable adjustment shall be made and the Contract modified in writing accordingly.

9.9.2 Any claim for additional compensation by the CONTRACTOR under this clause shall be made in accordance with Article 15. In the event that the Contracting Officer and the CONTRACTOR are unable to reach an agreement concerning an alleged differing site condition, the CONTRACTOR will be required to keep an accurate and detailed record which will indicate the actual "cost of the work" done under the alleged differing site condition. Failure to keep such a record shall be a bar to any recovery by reason of such alleged differing site conditions. The Project Manager shall be given the opportunity to supervise and check the keeping of such records.

9.10 Interim Work Authorization

An Interim Work Authorization may be used to establish a change within the scope of the Work; however, only a Change Order shall establish associated changes in Contract Time and Price. Work authorized by Interim Work Authorization shall be converted to a Change Order. The basis of payment shall be as stated in the Interim Work Authorization, unless it states that the basis of payment has not been established and is to be negotiated, in which case the Cost of the Work shall be documented pursuant to Article 10.4, to establish a basis for negotiating a lump sum price for the Change Order.

ARTICLE 10 - CONTRACT PRICE; COMPUTATION AND CHANGE

10.1 Contract Price:

The Contract Price constitutes the total compensation (subject to authorized adjustments) payable to the CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by the CONTRACTOR shall be at his expense without change in the Contract Price. The Contract Price may only be changed by a Change Order or Supplemental Agreement.

10.2 Claim for Price Change:

Any claim for an increase or decrease in the Contract Price shall be submitted in accordance with the terms of Article 15, and shall not be allowed unless notice requirements of this Contract have been met.

10.3 Change Order Price Determination:

The value of any Work covered by a Change Order for an increase or decrease in the Contract Price shall be determined in one of the following ways:

10.3.1 Where the Work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved (subject to the provisions of subparagraphs 10.9.1 through 10.9.3, inclusive).

10.3.2 By mutual acceptance of a lump sum price that includes overhead and profit. The following maximum rates of cost markup (to cover both overhead and profit of the CONTRACTOR) shall be used in the negotiation of a Lump Sum Change Order:

- a. 17% - where a cost is borne directly by prime contractor (first tier contractor).
- b. 10% - where a cost is borne by a subcontractor (lower tier contractor).

Where the cost is borne by a subcontractor acting as a first tier contractor, the allowable overhead and profit markup for lump sum change orders shall not exceed 17%. Any lower tier subcontractors, including the CONTRACTOR in this case, for whom the first tier subcontractor performs the work, shall be allowed an overhead and profit markup that does not exceed 10%.

10.3.3 When 10.3.1 and 10.3.2 are inapplicable, on the basis of the "cost of the work" (determined as provided in paragraphs 10.4 and 10.5) plus a CONTRACTOR's fee for overhead and profit (determined as provided in paragraph 10.6).

10.3.4 Before a Change Order or Supplemental Agreement is approved, the CONTRACTOR shall submit cost or pricing data regarding the changed or extra Work. The CONTRACTOR shall certify that the data submitted is, to his best knowledge and belief, accurate, complete and current as of a mutually determined specified date and that such data will continue to be accurate and complete during the performance of the changed or extra Work.

10.4 Cost of the Work:

The term "cost of the work" means the sum of all costs necessarily incurred and paid by the CONTRACTOR in the proper performance of the Work. Except as otherwise may be agreed to in writing by the AUTHORITY, such costs shall be in amount no higher than those prevailing in the locality of the Project, shall include only the following items and shall not include any of the costs itemized in subparagraph 10.5:

- 10.4.1 Payroll costs for employees in the direct employ of the CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by the AUTHORITY and the CONTRACTOR. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workers' or workmen's compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. Such employees shall include manual workers up through the level of foreman but shall not include general foremen, superintendents, and non-manual employees. The expenses of performing Work after regular working hours, on Saturday, Sunday or legal holidays shall be included in the above to the extent authorized by the AUTHORITY.
- 10.4.2 Cost of all materials and equipment furnished and incorporated or consumed in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to the CONTRACTOR unless the AUTHORITY deposits funds with the CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to the AUTHORITY. All trade discounts, rebates and refunds and all returns from sale of surplus materials and equipment shall accrue to the AUTHORITY, and the CONTRACTOR shall make provisions so that they may be obtained.
- 10.4.3 Payments made by the CONTRACTOR to Subcontractors for Work performed by Subcontractors. If required by the AUTHORITY, CONTRACTOR shall obtain competitive quotes from Subcontractors or Suppliers acceptable to the CONTRACTOR and shall deliver such quotes to the AUTHORITY who will then determine which quotes will be accepted. If a subcontract provides that the Subcontractor is to be paid on the basis of "cost of the work" plus a fee, the Subcontractor' "cost of the work" shall be determined in the same manner as the CONTRACTOR's "cost of work" as described in paragraphs 10.4 through 10.5; and the Subcontractor's fee shall be established as provided for under subparagraph 10.6.2 clause b. All subcontracts shall be subject to the other provisions of the Contract Documents insofar as applicable.
- 10.4.4 Costs of special consultants (including but not limited to engineers, architects, testing laboratories, and surveyors) employed for services necessary for the completion of the Work.
- 10.4.5 Supplemental costs including the following:
- a. The proportion of necessary transportation, travel and subsistence expenses of the CONTRACTOR's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost less market value of such items used but not consumed which remain the property of the CONTRACTOR.
 - c. Rentals of all construction equipment and machinery and the parts thereof whether rented from the CONTRACTOR or others in accordance with rental agreements Approved by the AUTHORITY and the costs of transportation, loading, unloading, installation, dismantling and removal thereof - all in accordance with terms of said rental agreements. The rental of any such equipment, machinery or parts shall cease when the use thereof is no longer necessary for the Work.

For any machinery or special equipment (other than small tools) which has been authorized by

the Project Manager, the CONTRACTOR shall receive the rental rates in the current edition and appropriate volume of the "Rental Rate Blue Book for Construction Equipment", published by Dataquest, Inc., 1290 Ridder Park Drive, San Jose, CA 95131. Hourly rental rates shall be determined as follows:

The established hourly rental rate shall be equal to the adjusted monthly rate for the basic equipment plus the adjusted monthly rate for applicable attachments, both divided by 176, and multiplied by the area adjustment factor, plus the estimated hourly operating cost.

The adjusted monthly rate is that resulting from application of the rate adjustment formula in order to eliminate replacement cost allowances in machine depreciation and contingency cost allowances.

Attachments shall not be included unless required for the time and materials work.

For equipment not listed in The Blue Book, the CONTRACTOR shall receive a rental rate as agreed upon before such work is begun. If agreement cannot be reached, the AUTHORITY reserves the right to establish a rate based on similar equipment in the Blue Book or prevailing commercial rates in the area.

These rates shall apply for equipment used during the CONTRACTOR's regular shift of 10 hours per day. Where the equipment is used more than 10 hours per day, either on the CONTRACTOR's normal work or on time and materials, and either on single or multiple shifts, an overtime rate, computed as follows, shall apply:

The hourly overtime rate shall be equal to the adjusted monthly rate for the basic equipment plus the adjusted monthly rate for applicable attachments, both divided by 352, and multiplied by the area adjustment factor, plus the estimated hourly operating cost.

Equipment which must be rented or leased specifically for work required under this section shall be authorized in writing by the Project Manager. The CONTRACTOR shall be paid invoice price plus 15%.

When it is necessary to obtain equipment from sources beyond the project limits exclusively for time and materials, work, the actual cost of transferring the equipment to the site of the work and return will be allowed as an additional item of expense. Where the move is made by common carrier, the move-in allowance will be limited to the amount of the freight bill or invoice. If the CONTRACTOR hauls the equipment with his own forces, the allowance will be limited to the rental rate for the hauling unit plus operator wages. In the event that the equipment is transferred under its own power, the moving allowance will be limited to one-half of the normal hourly rental rate plus operator's wages. In the event that the move-out is to a different location, payment will in no instance exceed the amount of the move-in. Move-in allowance shall not be made for equipment brought to the project for time and materials work which is subsequently retained on the project and utilized for completion of contract items, camp maintenance, or related work.

Equipment ordered to be on a stand-by basis shall be paid for at the stand-by rental rate for the number of hours in the CONTRACTOR'S normal work shift, but not to exceed 8 hours per day. The stand-by rental rate shall be computed as follows:

The hourly stand-by rate shall be equal to the adjusted monthly rate for the basic equipment plus the adjusted monthly rate for applicable attachments, both divided by 352, all multiplied by the area adjustment factor.

Time will be recorded to the nearest one-quarter hour for purposes of computing compensation to the CONTRACTOR for equipment utilized under these rates.

The equipment rates as determined above shall be full compensation, including overhead and profit, for providing the required equipment and no additional compensation will be made for other costs such as, but not limited to, fuels, lubricants, replacement parts or maintenance costs. Cost of repairs, both major and minor, as well as charges for mechanic's time utilized in servicing equipment to ready it for use prior to moving to the project and similar charges will not be allowed.

- d. Sales, consumer, use or similar taxes related to the Work, and for which the CONTRACTOR is liable, imposed by Regulatory Requirements.
- e. Deposits lost for causes other than negligence of the CONTRACTOR, any Subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses), not compensated by insurance or otherwise, to the Work or otherwise sustained by the CONTRACTOR in connection with the performance and furnishing of the Work provided they have resulted from causes other than the negligence of the CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and Approval of the AUTHORITY. No such losses, damages and expenses shall be included in the "cost of the work" for the purpose of determining the CONTRACTOR's fee. If, however, any such loss or damage requires reconstruction and the CONTRACTOR is placed in charge thereof, the CONTRACTOR shall be paid for services a fee proportionate to that stated in paragraphs 10.6.2.a and 10.6.2.b.
- g. The cost of utilities, fuel and sanitary facilities at the site.
- h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.
- I. Cost of premiums for additional bonds and insurance required because of changes in the Work and premiums for property insurance coverage within the limits of the deductible amounts established by the AUTHORITY in accordance with Article 5.

10.5 Excluded Costs:

The term "cost of the work" shall not include any of the following:

- 10.5.1 Payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing agency, expeditors, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in CONTRACTOR's principal or a branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 10.4.1 or specifically covered by paragraph 10.4.4 all of which are to be considered administrative costs covered by the CONTRACTOR's fee.
- 10.5.2 Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the site.

- 10.5.3 Any part of CONTRACTOR's capital expenses including interest on CONTRACTOR's capital employed for the Work and charges against CONTRACTOR for delinquent payments.
- 10.5.4 Cost of premiums for all bonds and for all insurance whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except for the cost of premiums covered by subparagraph 10.4.5.i above).
- 10.5.5 Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of Defective Work, disposal of materials or equipment wrongly supplied and making good any damage to property.
- 10.5.6 Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 10.4.

10.6 CONTRACTOR's Fee:

The CONTRACTOR's fee allowed to CONTRACTOR for overhead and profit shall be determined as follows.

- 10.6.1 A mutually acceptable fixed fee; or if none can be agreed upon.
- 10.6.2 A fee based on the following percentages of the various portions of the "cost of the work":
- a. For costs incurred under paragraphs 10.4.1 and 10.4.2, the CONTRACTOR's fee shall be twenty percent;
 - b. For costs incurred under paragraph 10.4.3, the CONTRACTOR's fee shall be ten percent; and if a subcontract is on the basis of "cost of the work" plus a fee, the maximum allowable to CONTRACTOR on account of overhead and profit of all Subcontractors and multiple tiers thereof shall be fifteen percent;
 - c. No fee shall be payable on the basis of costs itemized under paragraphs 10.4.4, 10.4.5 and 10.5;
 - d. The amount of credit to be allowed by the CONTRACTOR to the AUTHORITY for any such change which results in a net decrease in cost will be the amount of the actual net decrease plus a deduction in CONTRACTOR's fee by an amount equal to ten percent of the net decrease; and
 - e. When both additions and credits are involved in any one change, the adjustment in CONTRACTOR's fee shall be computed on the basis of the net change in accordance with paragraphs 10.6.2.a through 10.6.2.d, inclusive.

10.7 Cost Breakdown:

Whenever the cost of any Work is to be determined pursuant to paragraphs 10.4 and 10.5, the CONTRACTOR will submit in a form acceptable to the AUTHORITY an itemized cost breakdown together with supporting data.

10.8 Cash Allowances:

It is understood that CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be done by such Subcontractors

or Suppliers and for such sums within the limit of the allowances as may be acceptable to the Contracting Officer. CONTRACTOR agrees that:

- 10.8.1 The allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the site, and all applicable taxes; and
- 10.8.2 CONTRACTOR's cost for unloading and handling on the site, labor, installation costs, overhead, profit and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances. No demand for additional payment on account of any thereof will be valid.

Prior to final payment, an appropriate Change Order will be issued to reflect actual amounts due the CONTRACTOR on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

10.9 Unit Price Work:

- 10.9.1 Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the established unit prices for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Contract. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by the CONTRACTOR will be made by the AUTHORITY in accordance with paragraph 10.10.
- 10.9.2 Each unit price will be deemed to include an amount considered by the CONTRACTOR to be adequate to cover the CONTRACTOR's overhead and profit for each separately identified item. If the "Basis of Payment" clause in the Contract Documents relating to any unit price in the bid schedule requires that the said unit price cover and be considered compensation for certain work or material essential to the item, this same work or material will not also be measured or paid for under any other pay item which may appear elsewhere in the Contract Documents.
- 10.9.3 Payment to the CONTRACTOR shall be made only for the actual quantities of Work performed and accepted or materials furnished, in conformance with the Contract Documents. When the accepted quantities of Work or materials vary from the quantities stated in the bid schedule, or change documents, the CONTRACTOR shall accept as payment in full, payment at the stated unit prices for the accepted quantities of Work and materials furnished, completed and accepted; except as provided below:
 - a. When the quantity of Work to be done or material to be furnished under any item, for which the total cost of the item exceeds 10% of the total Contract Price, is increased by more than 25 percent of the quantity stated in the bid schedule, or change documents, either party to the Contract, upon demand, shall be entitled to an equitable unit price adjustment on that portion of the Work above 125 percent of the quantity stated in the bid schedule.
 - b. When the quantity of Work to be done or material to be furnished under any major item, for which the total cost of the item exceeds 10% of the total Contract Price, is decreased by more than 25 percent of the quantity stated in the bid schedule, or change documents either party to the Contract, upon demand, shall be entitled to an equitable price adjustment for the quantity

of Work performed or material furnished, limited to a total payment of not more than 75 percent of the amount originally bid for the item.

10.10 Determinations for Unit Prices:

The Project Manager will determine the actual quantities and classifications of Unit Price Work performed by the CONTRACTOR. The Project Manager will review with the CONTRACTOR preliminary determinations on such matters before finalizing the costs and quantities on the Schedule of Values. The Project Manager's acknowledgment thereof will be final and binding on the CONTRACTOR, unless, within 10 days after the date of any such decisions, the CONTRACTOR delivers to the Project Manager written notice of intention to appeal from such a decision.

ARTICLE 11 - CONTRACT TIME; COMPUTATION AND CHANGE

11.1 Commencement of Contract Time; Notice to Proceed:

The Contract Time will commence to run on the day indicated in the Notice to Proceed.

11.2 Starting the Work:

No Work on Contract items shall be performed before the effective date of the Notice to Proceed. The CONTRACTOR shall notify the Project Manager at least 24 hours in advance of the time actual construction operations will begin. The CONTRACTOR may request a limited Notice to Proceed after Award has been made, to permit him to order long lead materials which could cause delays in Project completion. However, granting is within the sole discretion of the Contracting Officer, and refusal or failure to grant a limited Notice to Proceed shall not be a basis for claiming for delay, extension of time, or alteration of price.

11.3 Computation of Contract Time:

11.3.1 When the Contract Time is specified on a Calendar Day basis, all Work under the Contract shall be completed within the number of Calendar Days specified. The count of Contract Time begins on the day following receipt of the Notice to Proceed by the CONTRACTOR, if no starting day is stipulated therein.

Calendar Days shall continue to be counted against Contract Time until and including the date of Substantial Completion of the Work.

11.3.2 When the Contract completion time is specified as a fixed calendar date, it shall be the date of Final Completion.

11.3.3 The Contract Time shall be as stated is 00800, Supplementary Conditions.

11.4 Time Change:

The Contract Time may only be changed by a Change Order or Supplemental Agreement.

11.5 Extension Due to Delays:

The right of the CONTRACTOR to proceed shall not be terminated nor the CONTRACTOR charged with liquidated or actual damages because of delays to the completion of the Work due to unforeseeable causes beyond the control and without the fault or negligence of the

CONTRACTOR, including, but not restricted to the following: acts of God or of the public enemy, acts of the AUTHORITY in its contractual capacity, acts of another contractor in the performance of a contract with the AUTHORITY, floods, fires, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather and delays of Subcontractors or Suppliers due to such causes. Any delay in receipt of materials on the site, caused by other than one of the specifically mentioned occurrences above, does not of itself justify a time extension, provided that the CONTRACTOR shall within twenty four (24) hours from the beginning of any such delay (unless the Contracting Officer shall grant a further period of the time prior to the date of final settlement of the Contract), notify the Project Manager in writing of the cause of delay. The Contracting Officer shall ascertain the facts and the extent of the delay and extend the time for completing the Work when the findings of fact justify such an extension.

11.6 Essence of Contract:

All time limits stated in the Contract Documents are of the essence of the Contract.

11.7 Reasonable Completion Time:

It is expressly understood and agreed by and between the CONTRACTOR and the AUTHORITY that the date of beginning and the time for Substantial Completion of the Work described herein are reasonable times for the completion of the Work.

11.8 Delay Damages:

Whether or not the CONTRACTOR's right to proceed with the Work is terminated, he and his Sureties shall be liable for damages resulting from his refusal or failure to complete the Work within the specified time.

Liquidated and actual damages for delay shall be paid by the CONTRACTOR or his Surety to the AUTHORITY in the amount as specified in the Supplementary Conditions for each Calendar Day the completion of the Work or any part thereof is delayed beyond the time required by the Contract, or any extension thereof. If a listing of incidents resulting from a delay and expected to give rise to actual or liquidated damages is not established by the Contract Documents, then the CONTRACTOR and his Surety shall be liable to the AUTHORITY for any actual damages occasioned by such delay. The CONTRACTOR acknowledges that the liquidated damages established herein are not a penalty but rather constitute an estimate of damages that the AUTHORITY will sustain by reason of delayed completion. These liquidated and actual damages are intended as compensation for losses anticipated arising, and including those items enumerated in the Supplementary Conditions.

These damages will continue to run both before and after termination in the event of default termination. These liquidated damages do not cover excess costs of completion or AUTHORITY costs, fees, and charges related to reprocurement. If a default termination occurs, the CONTRACTOR or his Surety shall pay in addition to these damages, all excess costs and expenses related to completion as provided by Article 14.2.5.

For each calendar day that the work remains incomplete after the expiration of the Contract Time, liquidated damages in the amount as stated in 00800, Supplemental Conditions shall be assessed to the CONTRACTOR. If no money is due the CONTRACTOR, the AUTHORITY shall have the right to recover said sum from the CONTRACTOR, the surety or both. The amount of these deductions is to reimburse the AUTHORITY for estimated liquidated damages incurred as a result of the CONTRACTOR's failure to complete the work within the time specified. As liquidated

damages, such deductions are not to be considered as penalties.

Permitting the CONTRACTOR to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, will in no way operate as a waiver on the part of the AUTHORITY of any of its rights under the Contract.

ARTICLE 12 - QUALITY ASSURANCE

12.1 Warranty and Guaranty:

The CONTRACTOR warrants and guarantees to the AUTHORITY that all Work will be in accordance with the Contract Documents and will not be Defective. Prompt notice of all defects shall be given to the CONTRACTOR. All Defective Work, whether or not in place, may be rejected, corrected or accepted as provided for in this article.

12.2 Access to Work:

The AUTHORITY and the AUTHORITY's consultants, testing agencies and governmental agencies with jurisdiction interests will have access to the Work at reasonable times for their observation, inspecting and testing. The CONTRACTOR shall provide proper and safe conditions for such access.

12.3 Tests and Inspections:

12.3.1 The CONTRACTOR shall give the Project Manager timely notice of readiness of the Work for all required inspections, tests or Approvals.

12.3.2 If Regulatory Requirements of any public body having jurisdiction require any Work (or part thereof) to specifically be inspected, tested or approved, the CONTRACTOR shall assume full responsibility therefore, pay all costs in connection therewith and furnish the Project Manager the required certificates of inspection, testing or approval. The CONTRACTOR shall also be responsible for and shall pay all costs in connection with any inspection or testing required in connection with AUTHORITY's acceptance of a Supplier of materials or equipment proposed to be incorporated in the Work, or of materials or equipment submitted for Approval prior to the CONTRACTOR's purchase thereof for incorporation in the Work. The cost of all inspections, tests and approvals in addition to the above which are required by the Contract Documents shall be paid by the CONTRACTOR. The AUTHORITY may perform additional tests and inspections which it deems necessary to insure quality control. All such failed tests or inspections shall be at the CONTRACTOR's expense.

12.3.4 If any Work (including the work of others) that is to be inspected, tested or Approved is covered without written concurrence of the Project Manager, it must, if requested by the Project Manager, be uncovered for observation. Such uncovering shall be at the CONTRACTOR's expense unless the CONTRACTOR has given the Project Manager timely notice of CONTRACTOR's intention to cover the same and the Project Manager has not acted with reasonable promptness in response to such notice.

12.3.5 Neither observations nor inspections, tests or Approvals by the AUTHORITY or others shall relieve the CONTRACTOR from the CONTRACTOR's obligations to perform the Work in accordance with the Contract Documents.

12.4 Uncovering Work:

12.4.1 If any Work is covered contrary to the written request of the Project Manager, it must, if requested by the Project Manager, be uncovered for the Project Manager's observation and replaced at the CONTRACTOR's expense.

12.4.2 If the Project Manager considers it necessary or advisable that covered Work be observed inspected or tested, the CONTRACTOR, at the Project Manager's request, shall uncover, expose or otherwise make available for observation, inspection or testing as the Project Manager may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is Defective, the CONTRACTOR shall bear all direct, indirect and consequential costs of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) and the AUTHORITY shall be entitled to an appropriate decrease in the Contract Price. If, however, such Work is not found to be Defective, the CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction.

12.5 AUTHORITY May Stop the Work:

If the Work is Defective, or the CONTRACTOR fails to supply suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents, the Contracting Officer may order the CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the Contracting Officer to stop the Work shall not give rise to any duty on the part of the Contracting Officer to exercise this right for the benefit of the CONTRACTOR or any other party.

12.6 Correction or Removal of Defective Work:

If required by the Project Manager, the CONTRACTOR shall promptly, as directed, either correct all Defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by the Project Manager, remove it from the site and replace it with Work which conforms to the requirements of the Contract Documents. The CONTRACTOR shall bear all direct, indirect and consequential costs of such correction or removal (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) made necessary thereby.

12.7 One Year Correction Period:

If within one year after the date of Substantial Completion of the relevant portion of the Work or such longer period of time as may be prescribed by Regulatory Requirements or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be Defective, the CONTRACTOR shall promptly, without cost to the AUTHORITY and in accordance with the Project Manager's written instructions, either correct such Defective Work, or, if it has been rejected by the Project Manager, remove it from the site and replace it with conforming Work. If the CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, the AUTHORITY may have the Defective Work corrected or the rejected Work removed and replaced, and all direct, indirect and consequential costs of such removal and replacement (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) will be paid by the CONTRACTOR. In special circumstances where a particular item of equipment is placed in continuous service for the benefit of the

AUTHORITY before Substantial Completion of all the Work, the correction period for that item may begin on an earlier date if so provided in the Specifications or by Change Order. Provisions of this paragraph are not intended to shorten the statute of limitations for bringing an action.

12.8 Acceptance of Defective Work:

Instead of requiring correction or removal and replacement of Defective Work, the Project Manager may accept Defective Work, the CONTRACTOR shall bear all direct, indirect and consequential costs attributable to the Project Manager's evaluation of and determination to accept such Defective Work (costs to include but not be limited to fees and charges of engineers, architects, attorneys and other professionals). If any such acceptance occurs prior to final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and the AUTHORITY shall be entitled to an appropriate decrease in the Contract Price. If the AUTHORITY has already made final payment to the CONTRACTOR, an appropriate amount shall be paid by the CONTRACTOR or his Surety to the AUTHORITY.

12.9 AUTHORITY May Correct Defective Work:

If the CONTRACTOR fails within a reasonable time after written notice from the Project Manager to proceed to correct Defective Work or to remove and replace rejected Work as required by the Project Manager in accordance with paragraph 12.6, or if the CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if the CONTRACTOR fails to comply with any other provision of the Contract Documents, the AUTHORITY may, after 7 days' written notice to the CONTRACTOR, correct and remedy any such deficiency. In exercising the rights and remedies under this paragraph the AUTHORITY shall proceed expeditiously. To the extent necessary to complete corrective and remedial action, the Project Manager may exclude the CONTRACTOR from all or part of the site, take possession of all or part of the Work, and suspend the CONTRACTOR's services related thereto, take possession of the CONTRACTOR's tools, appliances, construction equipment and machinery at the site and incorporate in the Work all materials and equipment stored at the site or approved remote storage sites or for which the AUTHORITY has paid the CONTRACTOR but which are stored elsewhere. The CONTRACTOR shall allow the Project Manager and his authorized representatives such access to the site as may be necessary to enable the Project Manager to exercise the rights and remedies under this paragraph. All direct, indirect and consequential costs of the AUTHORITY in exercising such rights and remedies will be charged against the CONTRACTOR, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and the AUTHORITY shall be entitled to an appropriate decrease in the Contract Price. Such direct, indirect and consequential costs will include but not be limited to fees and charges of engineers, architects, attorneys and other professionals, all court and arbitration costs and all costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of the CONTRACTOR's Defective Work. The CONTRACTOR shall not be allowed an extension of time because of any delay in performance of the work attributable to the exercise, by the Project Manager, of the AUTHORITY's rights and remedies hereunder.

ARTICLE 13 - PAYMENTS TO CONTRACTOR AND COMPLETION

13.1 Schedule of Values:

The Schedule of Values established as provided in paragraph 6.6 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to the Project Manager. Progress payments on account of Unit Price Work will be based on the number of units completed.

13.2 Preliminary Payments:

Upon approval of the Schedule of Values the CONTRACTOR may be paid for direct costs substantiated by paid invoices and other prerequisite documents required by the General Requirements. Direct costs shall include the cost of bonds, insurance, approved materials stored on the site or at approved remote storage sites, deposits required by a Supplier prior to fabricating materials, and other approved direct mobilization costs substantiated as indicated above. These payments shall be included as a part of the total Contract Price as stated in the Contract.

13.3 Application for Progress Payment:

The CONTRACTOR shall submit to the Project Manager for review an Application for Payment filled out and signed by the CONTRACTOR covering the Work completed as of the date of the Application for Payment and accompanied by such supporting documentation as is required by the Contract Documents. Progress payments will be made as the Work progresses on a monthly basis.

13.4 Review of Applications for Progress Payment:

Project Manager will either indicate in writing a recommendation of payment or return the Application for Payment to the CONTRACTOR indicating in writing the Project Manager's reasons for refusing to recommend payment. In the latter case, the CONTRACTOR may make the necessary corrections and resubmit the Application for Payment.

13.5 Stored Materials and Equipment:

If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, paid invoice or other documentation warranting that the AUTHORITY has received the materials and equipment free and clear of all charges, security interests and encumbrances and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect the AUTHORITY's interest therein, all of which will be satisfactory to the Project Manager. No payment will be made for perishable materials that could be rendered useless because of long storage periods. No progress payment will be made for living plant materials until planted.

13.6 CONTRACTOR's Warranty of Title:

The CONTRACTOR warrants and guarantees that title to all Work, materials and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to the AUTHORITY no later than the time of payment free and clear of any claims, liens, security interests and further obligations.

13.7 Withholding of Payments:

The AUTHORITY may withhold or refuse payment for any of the reasons listed below provided it gives written notice of its intent to withhold and of the basis for withholding:

13.7.1 The Work is Defective, or completed Work has been damaged requiring correction or replacement, or has been installed without Approval of Shop Drawings, or by an unapproved Subcontractor, or for unsuitable storage of materials and equipment.

13.7.2 The Contract Price has been reduced by Change Order,

- 13.7.3 The AUTHORITY has been required to correct Defective Work or complete Work in accordance with paragraph 12.9.
- 13.7.4 The AUTHORITY's actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.2.1.a through 14.2.1.k inclusive.
- 13.7.5 Claims have been made against the AUTHORITY or against the funds held by the AUTHORITY on account of the CONTRACTOR's actions or inactions in performing this Contract, or there are other items entitling the AUTHORITY to a set off.
- 13.7.6 Subsequently discovered evidence or the results of subsequent inspections or test, nullify any previous payments for reasons stated in subparagraphs 13.7.1 through 13.7.5.
- 13.7.7 The CONTRACTOR has failed to fulfill or is in violation of any of his obligations under any provision of this Contract.

13.8 Retainage:

At any time the AUTHORITY finds that satisfactory progress is not being made it may in addition to the amounts withheld under 13.7 retain a maximum amount equal to 10% of the total amount earned on all subsequent progress payments. This retainage may be released at such time as the Project Manager finds that satisfactory progress is being made.

13.9 Request for Release of Funds:

If the CONTRACTOR believes the basis for withholding is invalid or no longer exists, immediate written notice of the facts and Contract provisions on which the CONTRACTOR relies, shall be given to the AUTHORITY, together with a request for release of funds and adequate documentary evidence proving that the problem has been cured. In the case of withholding which has occurred at the request of the Department of Labor, the CONTRACTOR shall provide a letter from the Department of Labor stating that withholding is no longer requested. Following such a submittal by the CONTRACTOR, the AUTHORITY shall have a reasonable time to investigate and verify the facts and seek additional assurances before determining whether release of withheld payments is justified.

13.10 Substantial Completion:

When the CONTRACTOR considers the Work ready for its intended use the CONTRACTOR shall notify the Project Manager in writing that the Work or a portion of Work which has been specifically identified in the Contract Documents is substantially complete (except for items specifically listed by the CONTRACTOR as incomplete) and request that the AUTHORITY issue a certificate of Substantial Completion. Within a reasonable time thereafter, the Project Manager, the CONTRACTOR and Engineer(s) shall make an inspection of the Work to determine the status of completion. If the Project Manager does not consider the Work substantially complete, the Project Manager will notify the CONTRACTOR in writing giving the reasons therefore. If the Project Manager considers the Work substantially complete, the Project Manager will within fourteen days execute and deliver to the CONTRACTOR a certificate of Substantial Completion with tentative list of items to be completed or corrected. At the time of delivery of the certificate of Substantial Completion the Project Manager will deliver to the CONTRACTOR a written division of responsibilities pending Final Completion with respect to security, operation, safety, maintenance, heat, utilities, insurance and warranties which shall be consistent with the terms of the Contract Documents.

The AUTHORITY shall be responsible for all AUTHORITY costs resulting from the initial inspection and the first re-inspection, the CONTRACTOR shall pay all costs incurred by the AUTHORITY resulting from re-inspections, thereafter.

13.11 Access Following Substantial Completion:

The AUTHORITY shall have the right to exclude the CONTRACTOR from the Work after the date of Substantial Completion, but the AUTHORITY shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

13.12 Final Inspection:

Upon written notice from the CONTRACTOR that the entire Work or an agreed portion thereof is complete, the Project Manager will make a final inspection with the CONTRACTOR and Engineer(s) and will notify the CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or Defective. The CONTRACTOR shall immediately take such measures as are necessary to remedy such deficiencies. The CONTRACTOR shall pay for all costs incurred by the AUTHORITY resulting from re-inspections.

13.13 Final Completion and Application for Payment:

After the CONTRACTOR has completed all such corrections to the satisfaction of the Project Manager and delivered schedules, guarantees, bonds, certificates of payment to all laborers, Subcontractors and Suppliers, and other documents - all as required by the Contract Documents; and after the Project Manager has indicated in writing that the Work has met the requirements for Final Completion, and subject to the provisions of paragraph 13.18, the CONTRACTOR may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by all remaining certificates, warranties, guarantees, releases, affidavits, and other documentation required by the Contract Documents.

13.14 Final Payment:

13.14.1 If on the basis of the Project Manager's observation of the Work during construction and final inspection, and the Project Manager's review of the final Application for Payment and accompanying documentation - all as required by the Contract Documents; and the Project Manager is satisfied that the Work has been completed and the CONTRACTOR's other obligations under the Contract Documents have been fulfilled, the AUTHORITY will process final Application for Payment. Otherwise, the Project Manager will return the Application for Payment to the CONTRACTOR, indicating in writing the reasons for refusing to process final payment, in which case the CONTRACTOR shall make the necessary corrections and resubmit the final Application for Payment.

13.14.2 If, through no fault of the CONTRACTOR, Final Completion of the Work is significantly delayed, the Project Manager shall, upon receipt of the CONTRACTOR's final Application for Payment, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by the AUTHORITY for Work not fully completed or corrected is less than the retainage provided for in paragraph 13.9, and if bonds have been furnished as required in paragraph 5.1, the written consent of the Surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the CONTRACTOR to the AUTHORITY with the application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

13.15 Final Acceptance:

Following certification of payment of payroll and revenue taxes, and final payment to the CONTRACTOR, the AUTHORITY will issue a letter of Final Acceptance, releasing the CONTRACTOR from further obligations under the Contract, except as provided in paragraph 13.17.

When it is anticipated that restarting, testing, adjusting, or balancing of systems will be required following Final Acceptance and said requirements are noted in Section(s) 01 77 00, such Work shall constitute a continuing obligation under the Contract.

13.16 CONTRACTOR's Continuing Obligation:

The CONTRACTOR's obligation to perform and complete the Work and pay all laborers, Subcontractors, and material men in accordance with the Contract Documents shall be absolute. Neither any progress or final payment by the AUTHORITY, nor the issuance of a certificate of Substantial Completion, nor any use or occupancy of the Work or any part thereof by the AUTHORITY or Owner, nor any act of acceptance by the AUTHORITY nor any failure to do so, nor any review and Approval of a Shop Drawing or sample submission, nor any correction of Defective Work by the AUTHORITY will constitute an acceptance of Work not in accordance with the Contract Documents or a release of the CONTRACTOR's obligation to perform the Work in accordance with the Contract Documents.

13.17 Waiver of Claims by CONTRACTOR:

The making and acceptance of final payment will constitute a waiver of all claims by the CONTRACTOR against the AUTHORITY other than those previously made in writing and still unsettled.

13.18 No Waiver of Legal Rights:

The AUTHORITY shall not be precluded or be estopped by any payment, measurement, estimate, or certificate made either before or after the completion and acceptance of the Work and payment therefore, from showing the true amount and character of the Work performed and materials furnished by the CONTRACTOR, nor from showing that any payment, measurement, estimate or certificate is untrue or is incorrectly made, or that the Work or materials are Defective. The AUTHORITY shall not be precluded or estopped, notwithstanding any such measurement, estimate, or certificate and payment in accordance therewith, from recovering from the CONTRACTOR or his Sureties, or both, such damages as it may sustain by reason of his failure to comply with requirements of the Contract Documents. Neither the acceptance by the AUTHORITY, or any representative of the AUTHORITY, nor any payment for or acceptance of the whole or any part of the Work, nor any extension of the Contract Time, nor any possession taken by the AUTHORITY, shall operate as a waiver of any portion of the Contract or of any power herein reserved, or of any right to damages. A waiver by the AUTHORITY of any breach of the Contract shall not be held to be a waiver of any other subsequent breach.

ARTICLE 14 - SUSPENSION OF WORK, DEFAULT AND TERMINATION

14.1 AUTHORITY May Suspend Work:

14.1.1 The AUTHORITY may, at any time, suspend the Work or any portion thereof by notice in writing to the CONTRACTOR. If the Work is suspended without cause the CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both,

directly attributable to any suspension if the CONTRACTOR makes an Approved claim therefore as provided in Article 15. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent that suspension is due to the fault or negligence of the CONTRACTOR, or that suspension is necessary for Contract compliance, or that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the CONTRACTOR.

14.1.2 In case of suspension of Work, the CONTRACTOR shall be responsible for preventing damage to or loss of any of the Work already performed and of all materials whether stored on or off the site or Approved remote storage sites.

14.2 Default of Contract:

14.2.1 The Contracting Officer may give the contractor and his surety a written Notice to Cure Default if the contractor:

- a. fails to begin work in the time specified,
- b. fails to use sufficient resources to assure prompt completion of the work,
- c. performs the work unsuitably or neglect or refuse to remove and replace rejected materials or work,
- d. stops work,
- e. fails to resume stopped work after receiving notice to do so,
- f. becomes insolvent (except that if you declare bankruptcy, termination will be under Title 11 US Code 362 and/or 365. Your bankruptcy does not relieve the surety of any obligations to assume the Contract and complete the work in a timely manner.
- g. Allows any final judgment to stand against him unsatisfied for period of 60 days, or
- h. Makes an assignment for the benefit of creditors without the consent of the Contracting Officer, or
- i. Disregards Regulatory Requirements of any public body having jurisdiction, or
- j. Otherwise violates in any substantial way any provisions of the Contract Documents, or
- k. fails to comply with Contract minimum wage payments or civil rights requirements, or
- l. are party to fraud, deception, misrepresentation , or
- m. for any cause whatsoever, fails to carry on the Work in an acceptable manner.

14.2.2 The Notice to Cure Default will detail the conditions determined to be in default, the time within which to cure the default and may, in the Contracting Officer's discretion, specify the actions necessary to cure the default. Failure to cure the delay, neglect or default within the time specified in the Contracting Officer's written notice to cure authorizes the Authority to terminate the contract. The Contracting Officer may allow more time to cure than originally stated in the Notice to Cure Default if he deems it to be in the best interests of the Authority. The Authority will provide you and your surety with a written Notice of Default Termination that details the default and the failure to cure it.

- 14.2.3 If the CONTRACTOR or Surety, within the time specified in the above notice of default, shall not proceed in accordance therewith, then the AUTHORITY may, upon written notification from the Contracting Officer of the fact of such delay, neglect or default and the CONTRACTOR's failure to comply with such notice, have full power and authority without violating the Contract, to take the prosecution of the Work out of the hands of the CONTRACTOR. The AUTHORITY may terminate the services of the CONTRACTOR, exclude the CONTRACTOR from the site and take possession of the Work and of all the CONTRACTOR's tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by the CONTRACTOR (without liability to the CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the site or for which the AUTHORITY has paid the CONTRACTOR but which are stored elsewhere, and finish the Work as the AUTHORITY may deem expedient. The AUTHORITY may enter into an agreement for the completion of said Contract according to the terms and provisions thereof, or use such other methods that in the opinion of the Contracting Officer are required for the completion of said Contract in an acceptable manner.
- 14.2.4 The Contracting Officer may, by written notice to the CONTRACTOR and his Surety or his representative, transfer the employment of the Work from the CONTRACTOR to the Surety, or if the CONTRACTOR abandons the Work undertaken under the Contract, the Contracting Officer may, at his option with written notice to the Surety and without any written notice to the CONTRACTOR, transfer the employment for said Work directly to the Surety. The Surety shall submit its plan for completion of the Work, including any contracts or agreements with third parties for such completion, to the AUTHORITY for Approval prior to beginning completion of the Work. Approval of such contracts shall be in accordance with all applicable requirements and procedures for Approval of subcontracts as stated in the Contract Documents.
- 14.2.5 After the notice of termination is issued, the Authority may take over the work and complete it by contract or otherwise and may take possession of and use materials, appliances, equipment or plant on the work site necessary for completing the work.
- 14.2.6 Rather than taking over the work itself, the Authority may transfer the obligation to perform the work from the contractor to your surety. The surety must submit its plan for completion of the work, including any contracts or agreements with third parties for completion, to the Authority for approval prior to beginning work. The surety must follow the Contract requirements for approval of subcontracts, except that the limitation on percent of work subcontracted will not apply.
- 14.2.7 On receipt of the transfer notice, the surety must take possession of all materials, tools, and appliances at the work site, employ an appropriate work force, and complete the Contract work, as specified. The Contract specifications and requirements shall remain in effect. However the Authority will make subsequent Contract payments directly to the Surety for work performed under the terms of the Contract. CONTRACTOR forfeits any right to claim for the same work or any part thereof. CONTRACTOR is not entitled to receive any further balance of the amount to be paid under the Contract.
- 14.2.8 Upon receipt of the notice terminating the services of the CONTRACTOR, the Surety shall enter upon the premises and take possession of all materials, tools, and appliances thereon for the purpose of completing the Work included under the Contract and employ by contract or otherwise any person or persons to finish the Work and provide the materials therefore, without termination of the continuing full force and effect of this Contract. In case of such transfer of employment to the Surety, the Surety shall be paid in its own name on estimates covering Work subsequently performed under the terms of the Contract and according to the terms thereof without any right of the CONTRACTOR to make any claim for the same or any part thereof.

- 14.2.9 If the Contract is terminated for default, the CONTRACTOR and the Surety shall be jointly and severally liable for damages for delay as provided by paragraph 11.8, and for the excess cost of completion, and all costs and expenses incurred by the AUTHORITY in completing the Work or arranging for completion of the Work, including but not limited to costs of assessing the Work to be done, costs associated with advertising, soliciting or negotiating for bids or proposals for completion, and other procurement costs. Following termination the CONTRACTOR shall not be entitled to receive any further balance of the amount to be paid under the Contract until the Work is fully finished and accepted, at which time if the unpaid balance exceeds the amount due the AUTHORITY and any amounts due to persons for whose benefit the AUTHORITY has withheld funds, such excess shall be paid by the AUTHORITY to the CONTRACTOR. If the damages, costs, and expenses due the AUTHORITY exceed the unpaid balance, the CONTRACTOR and his Surety shall pay the difference.
- 14.2.10 If, after notice of termination of the CONTRACTOR's right to proceed under the provisions of this clause, it is determined for any reason that the CONTRACTOR was not in default under the provisions of this clause, or that the delay was excusable under the provisions of this clause, or that termination was wrongful, the rights and obligations of the parties shall be determined in accordance with the clause providing for convenience termination.

14.3 Rights or Remedies:

Where the CONTRACTOR's services have been so terminated by the AUTHORITY, the termination will not affect any rights or remedies of the AUTHORITY against the CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys due the CONTRACTOR by the AUTHORITY will not release the CONTRACTOR from liability.

14.4 Convenience Termination:

- 14.4.1 The performance of the Work may be terminated by the AUTHORITY in accordance with this section in whole or in part, whenever, for any reason the Contracting Officer shall determine that such termination is in the best interest of the OWNER. Any such termination shall be effected by delivery to the CONTRACTOR of a Notice of Termination, specifying termination is for the convenience of the AUTHORITY the extent to which performance of Work is terminated, and the date upon which such termination becomes effective.
- 14.4.2 Immediately upon receipt of a Notice of Termination and except as otherwise directed by the Contracting Officer, the CONTRACTOR shall:
- a. Stop Work on the date and to the extent specified in the Notice of Termination;
 - b. Place no further orders or subcontracts for materials, services, or facilities except as may be necessary for completion of such portion of the Work as is not terminated;
 - c. Terminate all orders and subcontracts to the extent that they relate to the performance of Work terminated by the Notice of Termination;
 - d. With the written Approval of the Contracting Officer, to the extent he may require, settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, the cost of which would be reimbursable, in whole, or in part, in accordance with the provisions of the Contract;

- e. Submit to the Contracting Officer a list, certified as to quantity and quality, of any or all items of termination inventory exclusive of items the disposition of which had been directed or authorized by the Contracting Officer;
- f. Transfer to the Contracting Officer the completed or partially completed record drawings, Shop Drawings, information, and other property which, if the Contract had been completed, would be required to be furnished to the AUTHORITY;
- g. Take such action as may be necessary, or as the Contracting Officer may direct, for the protection and preservation of the property related to the Contract which is in the possession of the CONTRACTOR and in which the AUTHORITY has or may acquire any interest.

The CONTRACTOR shall proceed immediately with the performance of the above obligations.

14.4.3 When the AUTHORITY orders termination of the Work effective on a certain date, all Work in place as of that date will be paid for in accordance with Article 13 of the Contract. Materials required for completion and on hand but not incorporated in the Work will be paid for at invoice cost plus 15 % with materials becoming the property of the AUTHORITY - or the CONTRACTOR may retain title to the materials and be paid an agreed upon lump sum. Materials on order shall be cancelled, and the AUTHORITY shall pay reasonable factory cancellation charges with the option of taking delivery of the materials in lieu of payment of cancellation charges. The CONTRACTOR shall be paid 10% of the cost, freight not included, of materials cancelled, and direct expenses only for CONTRACTOR chartered freight transport which cannot be cancelled without charges, to the extent that the CONTRACTOR can establish them. The extra costs due to cancellation of bonds and insurance and that part of job start-up and phase-out costs not amortized by the amount of Work accomplished shall be paid by the AUTHORITY. Charges for loss of profit or consequential damages shall not be recoverable except as provided above.

- a. The following costs are not payable under a termination settlement agreement or Contracting Officer's determination of the termination claim:
 - 1. Loss of anticipated profits or consequential or compensatory damages
 - 2. Unabsorbed home office overhead (also termed "General & Administrative Expense") related to ongoing business operations
 - 3. Bidding and project investigative costs
 - 4. Direct costs of repairing equipment to render it operable for use on the terminated work

14.4.4 The termination claim shall be submitted promptly, but in no event later than 90 days from the effective date of termination, unless extensions in writing are granted by the Contracting Officer upon written request of the CONTRACTOR made within the 90 day period. Upon failure of the CONTRACTOR to submit his termination claim within the time allowed, the Contracting Officer may determine, on the basis of information available to him, the amount, if any, due to the CONTRACTOR by reason of the termination and shall thereupon pay to the CONTRACTOR the amount so determined.

14.4.5 The CONTRACTOR and the Contracting Officer may agree upon whole or any part of the amount or amounts to be paid to the CONTRACTOR by reason of the total or partial termination of Work pursuant to this section. The Contract shall be amended accordingly, and the CONTRACTOR shall be paid the agreed amount.

14.4.6 In the event of the failure of the CONTRACTOR and the Contracting Officer to agree in whole or in part, as provided heretofore, as to the amounts with respect to costs to be paid to the CONTRACTOR in connection with the termination of the Work the Contracting Officer shall determine, on the basis of information available to him, the amount, if any, due to the CONTRACTOR by reason of the termination and shall pay to the CONTRACTOR the amount determined as follows:

- a. All costs and expenses reimbursable in accordance with the Contract not previously paid to the CONTRACTOR for the performance of the Work prior to the effective date of the Notice of Termination;
- b. So far as not included under "a" above, the cost of settling and paying claims arising out of the termination of the Work under subcontracts or orders which are properly chargeable to the terminated portions of the Contract;
- c. So far as practicable, claims by the contractor for idled or stand-by equipment shall be made as follows: Equipment claims will be reimbursed as follows:
 1. Contractor-owned equipment usage, based on the contractor's ownership and operating costs for each piece of equipment as determined from the contractor's accounting records. Under no circumstance, may the contractor base equipment claims on published rental rates.
 2. Idle or stand-by time for Contractor-owned equipment, based on your internal ownership and depreciation costs. Idle or stand-by equipment time is limited to the actual period of time equipment is idle or on stand-by as a direct result of the termination, not to exceed 30 days. Operating expenses will not be included for payment of idle or stand-by equipment time.
 3. Rented equipment, based on reasonable, actual rental costs. Equipment leased under "capital leases" as defined in Financial Accounting Standard No. 13 will be considered Contractor-owned equipment. Equipment leased from an affiliate, division, subsidiary or other organization under common control with you will be considered Contractor-owned equipment, unless the lessor has an established record of leasing to unaffiliated lessees at competitive rates consistent with the rates you have agreed to pay and no more than forty percent of the lessor's leasing business, measured in dollars, is with organizations affiliated with the lessor.

14.4.7 The CONTRACTOR shall have the right of appeal under the AUTHORITY's claim procedures, as defined in Article 15, for any determination made by the Contracting Officer, except if the CONTRACTOR has failed to submit his claim within the time provided and has failed to request extension of such time, CONTRACTOR shall have no such right of appeal. In arriving at the amount due the CONTRACTOR under this section, there shall be deducted:

- a. All previous payments made to the CONTRACTOR for the performance of Work under the Contract prior to termination;
- b. Any claim for which the AUTHORITY may have against the CONTRACTOR;
- c. The agreed price for, or the proceeds of sale of, any materials, supplies, or other things acquired by the CONTRACTOR or sold pursuant to the provisions of this section and not otherwise recovered by or credited to the AUTHORITY; and,
- d. All progress payments made to the CONTRACTOR under the provisions of this section.

- 14.4.8 Where the Work has been terminated by the AUTHORITY said termination shall not affect or terminate any of the rights of the AUTHORITY against the CONTRACTOR or his Surety then existing or which may thereafter accrue because of such default. Any retention or payment of monies by the AUTHORITY due to the CONTRACTOR under the terms of the Contract shall not release the CONTRACTOR or his Surety from liability.
- 14.4.9 The contractor's termination claim may not include claims that pre dated the notice for termination for convenience. Those claims shall be prosecuted by the contractor under Article 15.
- 14.4.10 The contractor's termination claim may not exceed the total dollar value of the contract as awarded plus agreed upon change orders less the amounts that have been paid for work completed.
- a. Unless otherwise provided for in the Contract Documents, or by applicable statute, the CONTRACTOR, from the effective date of termination and for a period of three years after final settlement under this Contract, shall preserve and make available to the AUTHORITY at all reasonable times at the office of the CONTRACTOR, all its books, records, documents, and other evidence bearing on the cost and expenses of the CONTRACTOR under his Contract and relating to the Work terminated hereunder.
 - b. Cost Principles. The Authority may use the federal cost principles at 48 CFR §§ 31.201-1 to 31.205-52 (or succeeding cost principles for fixed price contracts) as guidelines in determining allowable costs under this Subsection to the extent they are applicable to construction contracts and consistent with the specifications of this Contract. The provisions of this contract control where they are more restrictive than, or inconsistent with, these federal cost principles.”

ARTICLE 15 - CLAIMS AND DISPUTES

15.1 Notification

- 15.1.1 The CONTRACTOR shall notify the AUTHORITY in writing as soon as the CONTRACTOR becomes aware of any act or occurrence which may form the basis of a claim for additional compensation or an extension of Contract Time or of any dispute regarding a question of fact or interpretation of the Contract. The AUTHORITY has no obligation to investigate any fact or occurrence that might form the basis of a claim or to provide any additional compensation or extension of Contract Time unless the CONTRACTOR has notified the AUTHORITY in writing in a timely manner of all facts the CONTRACTOR believes form the basis for the claim.
- 15.1.2 If the CONTRACTOR believes that he is entitled to an extension of Contract Time, then the CONTRACTOR must state the contract section on which he basis his extension request, provide the AUTHORITY with sufficient information to demonstrate that the CONTRACTOR has suffered excusable delay, and show the specific amount of time to which the CONTRACTOR is entitled. The AUTHORITY will not grant an extension of Contract Time if the CONTRACTOR does not timely submit revised schedules under **Section 01 32 00**.
- 15.1.3 If the matter is not resolved by agreement within 7 days, the CONTRACTOR shall submit an Intent to Claim, in writing, to the AUTHORITY within the next 14 days.
- 15.1.4 If the CONTRACTOR believes additional compensation or time is warranted, then he must immediately begin keeping complete, accurate, and specific daily records concerning every detail of the potential claim including actual costs incurred. The

CONTRACTOR shall provide the AUTHORITY access to any such records and furnish the AUTHORITY copies, if requested. Equipment costs must be based on the CONTRACTOR's internal rates for ownership, depreciation, and operating expenses and not on published rental rates. In computing damages, or costs claimed for a change order, or for any other claim against the Authority for additional time, compensation or both, the contractor must prove actual damages based on internal costs for equipment, labor or efficiencies. Total cost, modified total cost or jury verdict forms of presentation of damage claims are not permissible to show damages. Labor inefficiencies must be shown to actually have occurred and can be proven solely based on job records. Theoretical studies are not a permissible means of showing labor inefficiencies. Home office overhead will not be allowed as a component of any claim against the Authority.

- 15.1.5 If the claim or dispute is not resolved by the Project Manager, then the CONTRACTOR shall submit a written Claim to the Contracting Officer within 90 days after the CONTRACTOR becomes aware of the basis of the claim or should have known the basis of the claim, whichever is earlier. The Contracting Officer will issue written acknowledge of the receipt of the Claim.
- 15.1.6 The CONTRACTOR waives any right to claim if the AUTHORITY was not notified properly or afforded the opportunity to inspect conditions or monitor actual costs or if the Claim is not filed on the date required.

15.2 Presenting the Claim

- 15.2.1 The Claim must include all of the following:
 - a. The act, event, or condition the claim is based on
 - b. The Contract provisions which apply to the claim and provide relief
 - c. The item or items of Contract work affected and how they are affected
 - d. The specific relief requested, including Contract Time if applicable, and the basis upon which it was calculated
 - e. A statement certifying that the claim is made in good faith, that the supporting cost and pricing data are accurate and complete to the best of your knowledge and belief, and that the amount requested accurately reflects the Contract adjustment which the CONTRACTOR believes is due.

15.3 Claim Validity, Additional Information, and AUTHORITY's Action

- 15.3.1 The Claim, in order to be valid, must not only show that the CONTRACTOR suffered damages or delay but that it was caused by the act, event, or condition complained of and that the Contract provides entitlement to relief for such act, event, or condition.
- 15.3.2 The AUTHORITY can make written request to the CONTRACTOR at any time for additional information relative to the Claim. The CONTRACTOR shall provide the AUTHORITY the additional information within 30 days of receipt of such a request. Failure to furnish the additional information may be regarded as a waiver of the Claim.

15.4 Contracting Officer's Decision

- 15.4.1 The CONTRACTOR will be furnished the Contracting Officer's Decision within 90 days, unless the Contracting Officer requests additional information or gives the CONTRACTOR notice that the time for issuing a decision is being extended for a specified period. The Contracting Officer's decision is final and conclusive unless,

within 14 days of receipt of the decision, the CONTRACTOR delivers a Notice of Appeal to the Executive Director of the Authority.

15.5 Appeals on a Contract Claim.

15.5.1 An appeal from a decision of the Contracting Officer on a contract claim may be filed by the CONTRACTOR with the Executive Director of the Authority. The appeal shall be filed within 14 days after the decision is received by the CONTRACTOR. An appeal by the CONTRACTOR may not raise any new factual issues or theories of recovery that were not presented to and decided by the Contracting Officer in the decision under Section 15.4, except that a CONTRACTOR may increase the contractor's calculation of damages if the increase arises out of the same operative facts on which the original claim was based. The CONTRACTOR shall file a copy of the appeal with the Contracting Officer.

- a. An appeal must contain a copy of the decision being appealed and identification of the factual or legal errors in the decision that form the basis for the appeal.
- b. The Executive Director shall handle the appeal of a claim under this section expeditiously.

15.6 Construction Contract Claim Appeals.

15.6.1 The appeal from a decision of the Contracting Officer of a claim involving a construction contract shall be resolved by:

- a. binding and final arbitration under AS 09.43.010 - 09.43.180 (Uniform Arbitration Act) if the claim is:
 1. less than \$250,000 and the CONTRACTOR requests arbitration of the claim; or
 2. \$250,000 or more and both the agency and the CONTRACTOR agree to arbitration of the claim; or
- b. a hearing under the Authority's established policy and procedures if the claim is not handled by arbitration under 15.6.1 of this subsection.

15.7 Fraud and Misrepresentation in Making Claims

Criminal and Civil penalties authorized under State or federal law (including, but not limited to, forfeiture of all claimed amounts) may be imposed on the CONTRACTOR if the CONTRACTOR makes or uses a misrepresentation in support of a claim or defraud or attempt to defraud the AUTHORITY at any stage of prosecuting a claim under this Contract.”

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SECTION 00 80 00
SUPPLEMENTARY CONDITIONS
MODIFICATIONS TO THE GENERAL CONDITIONS

The following supplements modify, change, delete from, or add to Section 00 70 00 "General Conditions of the Construction Contract for Buildings", revised December, 2011. Where any article of the General Conditions is modified, or a Paragraph, Subparagraph, or Clause thereof is modified or deleted by these Supplementary Conditions, the unaltered provisions of that Article, Paragraph, Subparagraph, or Clause shall remain in effect.

SC-1-DEFINITIONS

A. Add the following definitions:

1. **QUALITY ASSURANCE ACCEPTANCE TESTING** – This is all sampling and testing performed by the CONTRACTOR to determine at what level the product or service will be accepted for payment. Qualified personnel and laboratories will perform sampling and testing. The AUTHORITY pays for this testing.
2. **QUALITY CONTROL PROGRAM (QC PROGRAM)** – The CONTRACTOR'S, Subcontractor's or Supplier's operational techniques and activities that maintain control of the manufacturing process to fulfill the Contract requirements. This may include materials handling, construction procedures, calibration and maintenance of equipment, production process control, material sampling, testing and inspection, and data analysis.
3. **RESIDENT ENGINEER** - The Engineer's authorized representative assigned to make detailed observations relating to contract performance.

SC-2.4-VISITS TO SITE/PLACE OF BUSINESS

At General Conditions Article 2.4, delete the first four words of the first sentence ("The Contracting Officer will ...") and replace with the following words "The Contracting Officer has the right to, but is not obligated to..."

SC-4.3-EXPLORATIONS AND REPORTS

At General Conditions Article 4.3, add the following paragraph:

"All reports and other records (if available) are provided for informational purposes only to all plan holders listed with the AUTHORITY as General Contractors, and are available to other planholders upon request. They are made available so Bidders have access to the same information available to the AUTHORITY. The reports and other records are not intended as a substitute for independent investigation, interpretation, or judgment of the Bidder. The AUTHORITY is not responsible for any interpretation or conclusion drawn from its records by the Bidder. While referenced by or provided with the Contract Documents; the recommendations, engineering details, and other information contained in these reports of explorations shall not be construed to supersede or constitute conditions of the Contract Documents."

SC-4.7 – SURVEY CONTROL

At General Conditions Article 4.7, delete the section in its entirety.

SC-5.4.1 – INSURANCE REQUIREMENTS

At General Condition Article 5.4.1, delete the second to the last sentence and replace with the following: “The delivery to the AUTHORITY of a written notice in accordance with the policy provisions is required before cancellation of any coverage or reduction in any limits of liability.”

SC-5.4.2a – WORKERS COMPENSATION INSURANCE

At General Condition Article 5.4.2a, delete paragraph “a” in its entirety and replace with the following:

- "a. Workers' Compensation Insurance: The Contractor shall provide and maintain, for all employees of the Contractor engaged in work under this contract, Workers' Compensation Insurance as required by AS 23.30.045. The Contractor shall be responsible for Workers' Compensation Insurance for any subcontractor who provides services under this contract. Coverage shall include:
1. Waiver of subrogation against the Authority.
 2. Employer's Liability Protection in the amount of \$500,000 each accident / \$500,000 each disease.
 3. If the Contractor directly utilizes labor outside of the State of Alaska in the prosecution of the work, “Other States” endorsement shall be required as a condition of the contract.
 4. Whenever the work involves activity on or about navigable waters, the Workers' Compensation policy shall contain a United States Longshoreman's and Harbor Worker's Act endorsement, and when appropriate, a Maritime Employer's Liability (Jones Act) endorsement with a minimum limit of \$1,000,000.”

SC-5.4.2 b- COMMERCIAL GENERAL LIABILITY INSURANCE

At General Conditions Article 5.4.2.b, remove and replace the last sentence with the following:

“The following parties shall be named as “Additional Insured” under all liability coverages listed above:
The Authority
The Denali Commission

SC-5.4.2d- BUILDER'S RISK INSURANCE

At General Conditions Article 5.4.2.d, delete the subsection in its entirety.

SC – 6.13 – SUBCONTRACTORS

Add new general conditions Article 6.13.7 as follows:

6.13.7 The Contractor may, without penalty, replace a subcontractor who:

1. Fails to comply with the licensing and registration requirements as AS 08.18;
2. Fails to obtain or maintain a valid Alaska Business License;
3. Files for bankruptcy or becomes insolvent;
4. Fails to execute a subcontract or performance of the work for which the subcontractor was listed, and the Contractor has acted in good faith;
5. Fails to obtain bonding acceptable to the AUTHORITY;
6. Fails to obtain insurance acceptable to the AUTHORITY;
7. Fails to perform subcontract work for which the subcontractor was listed;
8. Must be replaced to meet the Contractor's required state or federal affirmative action requirements.
9. Refuses to agree to abide by the Contractor's labor agreement; or
10. Is determined by the AUTHORITY to be not responsible.

In addition to the circumstances described above, a Contractor may in writing request permission from the AUTHORITY to add a new subcontractor or replace a listed subcontractor. The AUTHORITY will approve the request if it determines in writing that allowing the addition or replacement is in the best interest of the AUTHORITY.

The Contractor shall submit a written request to add a new Subcontractor or replace a listed Subcontractor to the Contracting Officer a minimum of five working days prior to the date the new Subcontractor is scheduled to be work on the construction site. The request must state the basis for the request and include supporting documentation acceptable to the Contracting Officer.

If a Contractor violates this article, the Contracting Officer may;

1. Cancel the Contract after Award without any damages accruing to the AUTHORITY; or
2. After notice and hearing, assess a penalty on the bidder in an amount not exceeding 0 percent of the value of the subcontract at issue.

SC-9.4–CHANGE ORDER

B. At General Conditions Article 9.4, add the following sentence:

"The AUTHORITY will issue Change Orders for the CONTRACTOR to sign. A Change Order shall be considered executed when the AUTHORITY signs it. The CONTRACTOR'S signature indicates that they accept the Change Order or acknowledge it. Acknowledgement of a Change Order does not surrender the CONTRACTOR'S right to claim."

SC-11.3 – COMPUTATION OF CONTRACT TIME

At General Conditions Article 11.3.3, delete the subsection in its entirety.

SC-12.1–WARRANTY AND GUARANTEE

At General Condition Article 12.1, add the following sentence:

“The failure of the AUTHORITY to strictly enforce the Contract in one or more instances does not waive its right to do so in other or future instances.”

SC-12.6–CORRECTION OR REMOVAL OF DEFECTIVE WORK

At General Condition Article 12.6, add the following paragraphs:

“The CONTRACTOR shall establish necessary lines and grades before performing the Work. Work done before necessary lines and grades are established, Work contrary to the AUTHORITY’S instructions, Work done beyond the limits of the Contract, or any extra Work done without authority, will be considered as unauthorized and shall not be paid for by the AUTHORITY, and may be ordered removed or replaced at no additional cost to the AUTHORITY.”

SC – 13.5 – STORED MATERIALS AND EQUIPMENT

At General Conditions Article 13.5, add the following;

“No payment will be made for an individual/unique item of material or equipment with a total value less than \$25,000 per item or for any item of material or equipment scheduled for incorporation into the work in less than 60 days from its arrival on site.”

END OF SECTION 00 80 00

REQUIRED CONTRACT PROVISIONS
For
FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Non-discrimination
- III. Non-segregated Facilities³
- IV. Payment of Predetermined Minimum Wages
- V. Statements and Payrolls
- VI. Record of Materials, Supplies, and Labor
- VII. Subletting or Assigning the Contract
- VIII. Safety: Accident Prevention
- IX. False Statements
- X. Implementation of Clean Air Act and Federal Water Pollution Control Act
- XI. Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion
- XII. Certification Regarding Use of Contract Funds for Lobbying

I. GENERAL

1. These contract provisions shall apply to all work performed on the contract by the Contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

2. Except as otherwise provided for in each section, the contractor shall insert in each subcontract all of the stipulations contained in these Required Contract Provisions and further require their inclusion in any lower tier subcontract or purchase order that may in turn be made. The Required Contract Provisions shall not be incorporated by reference in any case. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with these Required Contract Provisions.

3. A breach of any of the stipulations contained in these Required Contract Provisions shall be sufficient grounds for termination of the contract.

4. A breach of the following clauses of these Required Contract Provisions may also be grounds for debarment as provided in 29 CFR 5.12:

Section I, paragraph 2;
Section IV, paragraphs 1, 2, 3, 4, and 7;
Section V, paragraphs 1 and 2a through 2g.

5. Disputes arising out of the labor standards provisions of Section IV (except paragraph 5) and Section V of these Required Contract Provisions shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor (DOL) as set forth in 29 CFR 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the DOL, or the contractor's employees or their representatives.

6. Selection of Labor: During the performance of this contract, the contractor shall not:

- a. discriminate against labor from any other State, possession, or territory of the United States, or
- b. Employ convict labor for any purpose within the limits of the project unless it is labor performed by convicts who are on parole, supervised release, or probation.

II. NONDISCRIMINATION (Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630 and 41 CFR 60) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The Equal Opportunity Construction Contract Specifications set forth under 41 CFR 60-4.3 and the provisions of the American Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the Alaska Energy Authority (AEA) and the Federal Government in carrying out EEO obligations and in their review of his/her activities under the contract.

b. The contractor will accept as his operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the AEA contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of EEO and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minority group employees.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minority groups in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority group applicants. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The DOL has held that where implementation of such agreements has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)

c. The contractor will encourage his present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with his obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of his avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the contractor either directly or through a contractor's association acting as agent will include the procedures set forth below:

a. The contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.

b. The contractor will use best efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the AEA and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the AEA.

8. Selection of Subcontractors, Procurement of Materials, and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment.

a. The contractor shall notify all potential subcontractors and suppliers of his/her EEO obligations under this contract.

b. Disadvantaged business enterprises (DBE), as defined in 49 CFR 26 shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use his best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of DBE construction firms from AEA personnel.

c. The contractor will use his best efforts to ensure subcontractor compliance with their EEO obligations.

9. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years

following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the AEA and the U.S. DOT.

a. The records kept by the contractor shall document the following:

(1) The number of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women;

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and

(4) The progress and efforts being made in securing the services of DBE subcontractors or subcontractors with meaningful minority and female representation among their employees.

b. The contractors will submit an annual report to the AEA each July for the duration of the project, indicating the number of minority, women, and non minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. If on the job training is being required by special provision, the contractor will be required to collect and report training data.

III. NONSEGREGATED FACILITIES (Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

1. By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement or purchase order, as appropriate, the bidder, Federal-aid construction contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that the firm does not maintain or provide for its employees any segregated facilities at any of its establishments, and that the firm does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The firm agrees that a breach of this certification is a violation of the EEO Provisions of this contract. The firm further certifies that no employee will be denied access to adequate facilities on the basis of sex or disability.

2. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are, in fact, segregated on the basis of race, color, religion, or national origin, age or disability, because of habit, local custom, or otherwise. The only exception will be for the disabled when the demands for accessibility override (e.g. disabled parking).

3. The contractor agrees that it has obtained or will obtain identical certification from proposed subcontractors or material suppliers prior to the award of subcontracts or consummation of material supply agreements of \$10,000 or more and that it will retain such certifications in its files.

IV. PAYMENT OF PREDETERMINED MINIMUM WAGES (Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural minor collectors, which are exempt.)

1. General:

a. All mechanics and laborers employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on

any account [except such payroll deductions as are permitted by regulations (29 CFR 3) issued by the Secretary of Labor under the Copeland Act (40 U.S.C. 276c] the full amounts of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment. The payment shall be computed at wage rates not less than those contained in the wage determination of the Secretary of Labor (hereinafter "the wage determination") which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor or its subcontractors and such laborers and mechanics. The wage determination (including any additional classifications and wage rates conformed under paragraph 2 of this Section IV and the DOL poster (WH-1321) or Form FHWA-1495) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. For the purpose of this Section, contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act (40 U.S.C. 276a) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Section IV, paragraph 3b, hereof. Also for the purpose of this Section, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in paragraphs 4 and 5 of this Section IV.

b. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein, provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed.

c. All rulings and interpretations of the Davis-Bacon and related acts contained in 29 CFR 1, 3, and 5 are herein incorporated by reference in this contract.

2. Classification:

a. The AEA contracting officer shall require that any class of laborers or mechanics employed under the contract, which is not listed in the wage determination, shall be classified in conformance with the wage determination.

b. The contracting officer shall approve an additional classification, wage rate and fringe benefits only when the following criteria have been met:

(1) The work to be performed by the additional classification requested is not performed by a classification in the wage determination;

(2) The additional classification is utilized in the area by the construction industry;

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and

(4) With respect to helpers, when such a classification prevails in the area in which the work is performed.

c. If the contractor or subcontractors, as appropriate, the laborers and mechanics (if known) to be employed in the additional classification or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the U.S. Department of Labor, Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, D.C. 20210. The Wage and Hour Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days

of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

d. In the event the contractor or subcontractors, as appropriate, the laborers or mechanics to be employed in the additional classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. Said Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

e. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 2c or 2d of this Section IV shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.

3. Payment of Fringe Benefits:

a. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor or subcontractors, as appropriate shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

b. If the contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

4. Apprentices and Trainees (Programs of the U. S. DOL) and Helpers:

a. Apprentices:

(1) Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the DOL, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or if a person is employed in his/her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice.

(2) The allowable ratio of apprentices to journeyman-level employees on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate listed in the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor or subcontractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman-level hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

(3) Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator for the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

(4) In the event the Bureau of Apprenticeship and Training, or a State apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.

b. Trainees:

(1) Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the DOL, Employment and Training Administration.

(2) The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Any employee listed on the payroll at a trainee rate that is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(3) Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman-level wage rate on the wage determination which provides for less than full fringe benefits for apprentices, in which case such trainees shall receive the same fringe benefits as apprentices.

(4) In the event the Employment and Training Administration withdraws approval of a training program, the contractor or subcontractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Helpers: Helpers will be permitted to work on a project if the helper classification is specified and defined on the applicable wage determination or is approved pursuant to the conformance procedure set forth in Section IV.2. Any worker listed on a payroll at a helper wage rate, which is not a helper under an approved definition, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed.

5. Apprentices and Trainees (Programs of the U.S. DOT): Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and

trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

6. **Withholding:** The AEA shall, upon its own action or upon written request of an authorized representative of the DOL, withhold or cause to be withheld from the contractor or subcontractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, as much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the AEA Procurement Officer may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

7. **Overtime Requirements:** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, watchmen, or guards (including apprentices, trainees, and helpers described in paragraphs 4 and 5 above) shall require or permit any laborer, mechanic, watchman, or guard in any workweek in which he/she is employed on such work, to work in excess of 40 hours in such work week unless such laborer, mechanic, watchman, or guard receives compensation at a rate not less than one-and-one-half times his/her basic rate of pay for all hours worked in excess of 40 hours in such workweek.

8. **Violation: Liability for Unpaid Wages; Liquidated Damages:** In the event of any violation of the clause set forth in paragraph 7 above, the contractor and any subcontractor responsible therefor shall be liable to the affected employee for his/her unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer, mechanic, watchman, or guard employed in violation of the clause set forth in paragraph 7, in the sum of \$10 for each calendar day on which such employee was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by the clause set forth in paragraph 7.

9. **Withholding for Unpaid Wages and Liquidated Damages:** The AEA shall, upon its own action or upon written request of an authorized representative of the U.S. Department of Labor, withhold or cause to be withheld from any monies payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 8 above.

V. STATEMENTS AND PAYROLLS (Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural collectors, which are exempt.)

1. **Compliance with Copeland Regulations (29 CFR 3):** The contractor shall comply with the Copeland Regulations of the Secretary of Labor which are herein incorporated by reference.

2. **Payrolls and Payroll Records:**

a. Payrolls and basic records relating thereto shall be maintained by the contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, helpers, and guards working at the site of the work.

b. The payroll records shall contain the name, social security number, and address of each such employee, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in Section 1(b) (2) (B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor, pursuant to Section IV, paragraph 3b, has found that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis-Bacon Act, the contractor and each subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees and ratios and wage rates prescribed in the applicable programs.

c. Each contractor and subcontractor shall furnish each week in which any contract work is performed a payroll of wages paid each of its employees (including apprentices, trainees, and helpers described in Section IV, paragraphs 4 and 5 and watchmen and guards engaged on work during the preceding weekly payroll period). The payroll submitted shall set out accurately and completely all of the information required to be maintained under paragraph 2b of this Section V. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal stock number 029-005-0014-1), U.S. Government Printing Office, Washington, D.C. 20402 or the Government Bookstore, 915 Second Avenue, Seattle, WA 98174. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.

d. Each payroll submitted shall be accompanied by a "Statement of Compliance", signed by the contractor or subcontractor or his/her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) that the payroll for the payroll period contains the information required to be maintained under paragraph 2b of this Section V and that such information is correct and complete;

(2) that such laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid in full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions set forth in the Regulations, 29 CFR 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rate and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

e. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 2d of this Section V.

f. The falsification of any of the above certifications may subject the contractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 231.

g. The contractor or subcontractor shall make the records required under paragraph 2b of this section V available for inspection, copying, or transcription by authorized representatives of the AEA, the U.S. DOT, or the DOL, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the AEA, the U.S. DOT, DOL, or all may, after written notice to the contractor, sponsor, applicant, or owner, take such actions as may be necessary to cause the suspension of any

further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

VI. RECORDS OF MATERIALS, SUPPLIES, AND LABOR (Applicable to highway contracts)

1. On all Federal-aid contracts on the National Highway System, except those which provide solely for the installation of protective devices at railroad grade crossings, those which are constructed on a force account or direct labor basis, highway beautification contracts, and contracts for which the total final construction cost for roadway and bridge is less than \$1,000,000 (23 CFR Part 635) the contractor shall:

a. Become familiar with the list of specific materials and supplies contained in Form FHWA-47, "Statement of Materials and Labor Used by Contractor of Highway Construction Involving Federal Funds," prior to the commencement of work under this contract.

b. Maintain a record of the total cost of all materials and supplies purchased for and incorporated in the work, and also of the quantities of those specific materials and supplies listed on Form FHWA-47, and in the units shown on the Form FHWA-47.

c. Furnish, upon the completion of the contract, to the AEA resident engineer on Form FHWA-47 together with the data required in paragraph 1b relative to materials and supplies, a final labor summary of all contract work indicating the total hours worked and the total amount earned.

2. At the prime contractor's option, either a single report covering all contract work or separate reports for the contractor and for each subcontract shall be submitted.

VII. SUBLETTING OR ASSIGNING THE CONTRACT

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the State. Specialty items may be performed by subcontract and the amount of any such specialty items so performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR Part 635).

a. "Its own organization" shall be construed to include only workers employed and paid directly by the prime contractor and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor, assignee, or agent of the prime contractor.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph 1 of this Section VII is computed includes the cost of materials and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the AEA contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the AEA contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the AEA is assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

VIII. SAFETY: ACCIDENT PREVENTION

1. In the performance of this contract, the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the AEA contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract entered into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous, or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

IX. FALSE STATEMENTS

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. Title 18, United States Code, Section 1001, states:

“Whoever, in any matter within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals or covers up by any trick, scheme, or device a material fact, or makes any false, fictitious or fraudulent statements or representations, or makes or uses any false writing or document knowing the same to contain any false, fictitious or fraudulent statement or entry, shall be fined not more than \$10,000 or imprisoned not more than five years, or both.” (June 25, 1948, ch. 645, 62 Stat. 749.)

To prevent any misunderstanding regarding the seriousness of these and similar acts, the following notice shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all personnel concerned with the project:

X. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (Applicable to all Federal-aid construction contracts and to all related subcontracts of \$100,000 or more.)

By submission of this bid, or the execution of this contract or subcontract, as appropriate, the bidder, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any facility that is or will be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 et seq., as amended by Pub. L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251, et seq., as amended by Pub. L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR Part 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.
2. That the firm agrees to comply and remain in compliance with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Federal Water Pollution Control Act and all regulations and guidelines listed thereunder.
3. That the firm shall promptly notify the AEA of the receipt of any communication from the Director, Office of Federal Activities, EPA, indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.
4. That the firm agrees to include or cause to be included the requirements of paragraphs 1 through 4 of this Section X in every nonexempt subcontract, and further agrees to take such action as the government may direct as a means of enforcing such requirements.

XI. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

1. Instructions for Certification - Primary Covered Transactions: (Applicable to all Federal-aid contracts - 49 CFR 29)
 - a. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.
 - b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.
 - c. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.
 - d. The prospective primary participant shall provide immediate written notice to the department or agency to which this proposal is submitted if any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
 - e. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the department or agency to which this proposal is submitted for assistance in obtaining a copy of those regulations.
 - f. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from

participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded from Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph f of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion—Primary Covered Transactions

1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

b. Have not within a 3-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 1b of this certification; and

d. Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Covered Transactions: (Applicable to all subcontracts, purchase orders and other lower tier transactions of \$25,000 or more - 49 CFR 29)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms “covered transaction,” “debarred,” “suspended,” “ineligible,” “primary covered transaction,” “participant,” “person,” “principal,” “proposal,” and “voluntarily excluded,” as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled “Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction,” without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

g. A participation in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

Certification Regarding Debarment,

Suspension, Ineligibility and Voluntary Exclusion—Lower Tier Covered Transactions:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

XII. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING (Applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 - 49 CFR 20)

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

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

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

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SECTION 01 11 00
SUMMARY OF WORK

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Important Site Information
- B. General Requirements
- C. Work This Contract
- D. Description of Bid Items
- E. Contract Method
- F. Work by Others
- G. Owner-Supplied Materials
- H. Disruptions to Service
- I. Contractor's Use of Premises
- J. Coordination and Cooperation
- K. Access for Testing and Inspection

1.2 IMPORTANT SITE INFORMATION

- A. Contractor shall perform all surveying necessary for construction and identify and field locate all utilities within the project area. Notify the Engineer immediately if there are conflicts between the proposed improvements and existing utilities.
- B. Contractor shall make his own arrangements for staging of construction materials and equipment and shall coordinate and pay for the use of these areas with the associated landowners and other appropriate parties. No other staging areas are provided by the Authority.

1.3 GENERAL REQUIREMENTS

- A. The existing tank farm shall remain in service during construction. Contractor shall coordinate with the City of Port Heiden to confirm the project construction schedule will not affect the City's schedule for the seasonal fuel barge delivery.
- B. Furnish all labor, materials, supervision, equipment, tools, transportation, quality control, and supplies required to complete the work in accordance with the Contract Documents.

- C. Notify the AEA Project Manager immediately if any conflicts are expected to interfere with the progress of the work.
- D. Install all materials and equipment in accordance with the manufacturer's written instructions.
- E. Contractor is responsible for all preparatory work and operations, including but not limited to pre-construction and post-construction costs of obtaining all required bonds, insurance, and other costs Contractor must incur before beginning the Work.
- F. Contractor is responsible for transportation of all materials, supplies, plant(s), equipment, and personnel to and from the jobsite.
- G. Items not included in Mobilization and Demobilization include, but are not limited to, any portion of the Work covered by specific bid items or incidental work which is to be included in a bid item or items; and profit, interest on borrowed money, overhead, or management costs.
- H. Contractor is responsible for erecting and maintaining all plants, temporary structures, storage yards, erosion control measures, and other construction facilities, and for work required to remove said temporary facilities and perform cleanup of the project area in accordance with the Contract Documents.
- I. Contractor shall post all OSHA required notices and establish safety programs.
- J. Contractor shall submit required Project Schedules.
- K. Contractor is responsible for coordinating with and obtaining approval from the City of Port Heiden for use of the barge landing facility and/or for utilizing the area surrounding the barge landing for stored materials.
- L. Mobilization and Demobilization costs for all subcontracted work shall be considered to be included.
- M. Construction Standards: Perform construction work as required to meet State and Federal codes and standards and meeting the minimum requirements shown on the Plans and specified in the technical specifications.
- N. Work under this contract is permitted by USACE Nationwide Permit 58 – Utility Line Activities. (USACE Nationwide Permits can be viewed at <https://www.poa.usace.army.mil/Missions/Regulatory/Permits/Nationwide-Permits>). Contractor is responsible for compliance with the following permit conditions:
 - 1. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for ensuring their action complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting appropriate local office of the U.S. Fish and Wildlife Service to determine applicable measures to reduce impacts to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

2. **Discovery of Previously Unknown Remains and Artifacts.** If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
3. **Site Revegetation for Projects with Ground Disturbing Activities.** Revegetation of all disturbed areas within the project site shall begin as soon as site conditions allow and in the same growing season as the disturbance, unless climatic conditions warrant additional time. Topsoil (the outermost layer of soil, usually the top 2 – 8 inches) removed from the construction area shall be separated and used for site rehabilitation. When backfilling, topsoil shall be placed as the top layer to provide a seed bed for regrowth. If topsoil is not available from the project site, local native soil material obtained from an approved site may be used. Species used for seeding and planting shall be certified seed sources free of invasive species and follow this order of preference: 1) species native to the site; 2) species native to the region; 3) species native to the state.
4. **Delineation of Project Footprint.** Prior to commencement of construction activities within waters of the U.S., the permittee shall clearly identify the permitted limits of disturbance at the project site with highly visible markers (e.g. construction fencing, flagging, silt barriers, etc.). The permittee shall properly maintain such identification until construction is complete and the soils have been stabilized. The permittee is prohibited from conducting any unauthorized Corps-regulated activity outside of the permitted limits of disturbance (as shown on the permit drawings).
5. **Maintenance of Hydrology Patterns.** Natural drainage patterns shall be maintained using appropriate methods. Excessive ponding or drying adjacent to fill areas shall indicate non-compliance with this condition.

1.4 WORK THIS CONTRACT

- A. Work under this Contract consists of relocating the existing barge fuel header and above-ground fuel header pipelines, installing a new pipeline road crossing, furnishing and installing new pipe coating on damaged sections of the above-grade fuel header pipelines and stored pipe. Re-use the existing above-grade fuel header pipelines and stored pipe to the greatest extent possible to install gasoline and diesel above-ground fuel header pipelines in the location shown in the plans.
- B. The intent of the Contract is to provide the construction and completion of every detail of work described in the Contract Documents. The Contractor shall furnish all labor, materials, supervision, equipment, tools, transportation, quality control, and supplies required to complete the work in accordance with the Contract Documents. A brief description of the work is as follows:

Construct Fuel Header Pipeline Upgrades: Work consists of providing all labor, materials, and equipment required to complete the Port Heiden Fuel Header Pipeline Upgrade Project as shown in Section 00 32 00 Bid Schedule. This work includes site work consisting of construction survey, trench excavation, decommissioning existing barge fuel header and approximately 5,300 total feet of two separate above-ground fuel header pipelines; re-using existing decommissioned pipe materials and stored pipe materials to the greatest extent possible to install two 3-inch diameter, above-ground, schedule 80 steel, fuel header pipelines (approximately 6,170 total feet) in the alignment shown on the plans; installing a pipeline road crossing; inspecting, repairing, and re-coating existing pipe coating as necessary; furnishing and installing all remaining piping materials and project materials required; demolishing and removing portions of the existing fuel header and fuel header pipelines that are not reused; testing above-ground pipelines; furnishing spill response equipment; and all other related work as described in the Contract Documents.

1.5 DESCRIPTION OF BID ITEMS

Construct Fuel Header Upgrades.

1. Bid Item 1: Mobilization and Demobilization.
 - a. The lump sum for Mobilization and Demobilization shall include but not be limited to all work required for the project Mobilization and Demobilization.
2. Bid Item 2: Decommission Existing Barge Fuel Header and Fuel Header Pipelines.
 - a. The lump sum for this bid item shall include all labor, materials, equipment, and incidentals required to decommission existing barge header and two existing 3-inch diameter, aboveground, Schedule 80 steel, fuel header pipelines.
 1. Provide construction survey and any excavation required for pipeline removal. Purge and decommission existing header and existing two 3-inch diameter, aboveground, Schedule 80 steel, fuel header pipelines (approximately 5,300 total feet) in accordance with the specifications.
 2. Demolish and remove any portion of the existing fuel header and fuel header pipelines that will not be reused in the new system, including but not limited to: pipe supports, sections of damaged pipe, valves, and fittings.
3. Bid Item 3: Clean, Inspect, and Repair Existing Pipelines.
 - a. The lump sum for this bid item shall include all labor, materials, equipment, and incidentals required to clean and inspect all aboveground fuel header pipelines and stored pipe materials necessary to install approximately 6,170 total feet of 3-inch diameter, Schedule 80 pipeline in accordance with specification Section 09 96 00.03.

- b. The lump sum for this bid item shall include the repair and coating of pipe coating defect areas that are identified during the pipe coating inspection. Repair and recoating shall include up to 50 percent of the surface area of the 3-inch diameter Schedule 80 steel aboveground header pipelines and stored pipe materials. The surface area to be recoated shall be based on the pipe coating defect area that is identified during coating inspection plus 1-inch in all directions around the coating defect area.

Piping shall be repaired and recoated in accordance with specification Section 09 96 00.03.

4. Bid Item 4: Install Pipelines.

- a. The lump sum for this bid item shall include all labor, excavation, materials, equipment, and incidentals required to install two 3-inch diameter, above-ground, Schedule 80 steel, barge fuel header pipelines (approximately 6,170 total feet) in the alignment shown on the plans. Work also includes furnishing and installing a pipeline road crossing and all other materials required to complete the project, in accordance with the plans and specifications.
 - 1. Furnish and install any new materials required for a complete and operable barge header and fuel header pipeline as shown and in accordance with the plans and specifications.

5. Bid Item 5: Furnish Spill Response Equipment.

- a. The lump sum for this bid item shall include all labor, materials, equipment, and incidentals required to conduct the following:
 - 1. Furnish and provide spill response equipment and storage in accordance with the plans and specifications.

1.6 CONTRACT METHOD

- A. This Contract is composed of multiple lump sum and unit price items. This work shall be measured and paid for work complete, in place, and include all labor, materials, supervision, equipment, tools, transportation, quality control, and supplies required to complete the work in accordance with the Contract Documents

1.7 WORK BY OTHERS

- A. None

1.8 OWNER-SUPPLIED MATERIALS

- A. The following list of materials are Owner provided FOB Port Heiden, Alaska:

1. Two existing above-grade, 3-inch diameter, Schedule 80 fuel header pipelines (approximately 5,300 total feet of pipe) are currently in use and contain both gasoline and diesel fuel. Some sections of the existing pipe coatings have been damaged. The extent of the pipeline coating damage is unknown. The Contractor shall make their own estimation of the condition of the pipe and pipe coating. The amount of pipe repairs and pipe coating repairs required for the existing pipelines will be determined based on a visual inspection.
2. Two bundles of 3-inch Schedule 80 piping are stockpiled on the south edge of the barge landing staging area. The pipes were produced in 42-foot random lengths. The pipes were left over from the 2015 tank farm relocation project. One bundle contains 20 sections of pipe and the other bundle contains approximately 30 sections of pipe. There is a minimum of 2,000 feet of stockpiled pipe on site. The Contractor shall make their own estimation of the condition of the pipe and pipe coating. The amount of pipe repairs and pipe coating repairs required for the stockpiled pipe will be determined based on a visual inspection.
3. The damaged coating on the fuel header pipelines and stockpiled pipe will be repaired in accordance with the specifications prior to incorporating the existing materials in the above-ground pipeline. Contractor shall assume that significant repair and recoating will be required on each section of the existing pipe prior to reuse. Contractor assumes all responsibility for the condition and performance of any re-used pipe materials. The Contractor shall furnish and install new materials as needed to meet the project specifications and provide a complete and operable piping system in accordance with the Project Manual.

1.9 DISRUPTIONS TO SERVICE

- A. The City of Port Heiden's existing tank farm will remain open and in use during construction. No unscheduled disruptions in services shall be allowed.

1.10 CONTRACTOR'S USE OF PREMISES

- A. Coordinate with the AEA Project Manager prior to placing equipment or supplies within the Project boundary. Do not disturb areas outside of Project boundaries.
- B. Do not disrupt access to adjacent areas unaffected by the Work. Keep driveways and entrances serving premises clear and available for use at all times. Cooperate with Owner during construction operations to minimize conflicts and facilitate operations.
- C. Assume full responsibility for protection and safekeeping of products under this Contract.
- D. Assume full responsibility for the protection of existing facilities and contents from damage due to construction operations.

1.11 COORDINATION AND COOPERATION

- A. Coordinate all work with facility manager to minimize conflicts with the facility's operations.

- B. Other projects may run concurrently with this work. Coordinate and cooperate with other contractors, agencies, and authorities to minimize conflicts.
- C. Coordinate work to assure efficient and orderly sequence of installation of construction elements.
- D. Sequence work to maximize worker efficiency and minimize construction time.
- E. Coordinate space requirements and installation of components. Utilize spaces efficiently to maximize accessibility for other installations, maintenance, and repairs.

1.12 ACCESS FOR TESTING AND INSPECTION

- A. Provide access for AEA, the AEA Project Manager, and the Engineer to the site. Provide on-site transportation, ladders, lifts, eye and ear protection, hard hats, appropriate and clean respiratory protection, etc., for inspections and testing of the work.

PART 2 - PRODUCTS

- A. Not Used.

PART 3 - EXECUTION

- A. Not Used.

END OF SECTION

SECTION 01 11 17

INTENT OF DOCUMENTS

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Explanation of intent and terminology of the Construction Documents.

1.2 RELATED REQUIREMENTS

- A. Section 00 70 00 General Conditions: Article 1 Definitions relating to 'Drawings' and 'Specifications'.
- B. Section 00 70 00 General Conditions: Article 3 Contract Documents relating to Intent, Amending, and Reuse.

1.3 SPECIFICATION FORMAT AND COMPOSITION

- A. Specifications are divided into Divisions and Sections for the convenience of writing and using. Titles are not intended to imply a particular trade jurisdiction. AEA is not bound to define the limits of any subcontract, and will not enter into disputes between the Contractor and his employees, including Subcontractors.
- B. Pages are numbered independently for each section, and recorded in the Table of Contents. Section number is shown with the page number at the bottom of each page. The end of each section of the specifications is ended by "End of Section". It is Contractor's responsibility to verify that Contract Documents received for bidding and/or construction are complete in accordance with Table of Contents.
- C. The language employed in the Contract Documents is addressed directly to the Contractor. Imperative or indicative language is generally employed throughout and requirements expressed are the mandatory responsibility of the Contractor, even though the work specified may be accomplished by specialty subcontractors engaged by the Contractor. References to third parties in this regard shall not be interpreted in any way as to relieve the Contractor of his or her responsibility under this Contract.
- D. These Specifications are of the abbreviated or "streamlined" type, and may include incomplete sentences.
- E. Omissions of words or phrases such as "the Contractor shall", "in conformity there with", "shall be", "as noted on the Drawings", "according to the Drawings", "a", "an", "the", and "all" are intentional.
- F. Omitted words or phrases shall be supplied by inference in the same manner as they are when a "note" occurs on the Drawings.

1.4 DRAWINGS: CONTENT EXPLANATION

- A. Drawings, Dimensions, and Measurements.
 - 1. Contract Documents do not purport to describe in detail, absolute and complete construction information. Drawings are diagrammatic. Contractor shall provide verification of actual site conditions and shall provide complete and operational systems as specified when drawings do not provide full detail.

1.5 COMMON TERMINOLOGY

- A. Certain items used generally throughout the Specifications and Drawings are used as follows:
 - 1. Indicated: The term "indicated" is a cross reference to details, notes or schedules on the Drawings, other paragraphs or schedules in the Specifications, and similar means of recording requirements in the Contract Documents. Where terms such as "shown", "noted", "schedules", and "specified" are used in lieu of "indicate", it is for the purpose of helping the reader accomplish the cross reference, and no limitation of location is intended except as specifically noted.
 - 2. Installer: The person or entity engaged by Contractor or subcontractors for the performance of a particular unit of Work at the Project site, including installation, erection, application, and similar required operations. It is a general requirement that installers be recognized experts in the work they are engaged to perform.
 - 3. Furnish: Except as otherwise defined in greater detail, the term "furnish" is used to mean, "...supply and deliver to the Project site, ready for unpacking, assembly and installation..."
 - 4. Provide: Except to the extent further defined, the term "provide" means to furnish and install, complete and ready for the intended use.
 - 5. Guarantee and Warranty: "Guarantee" is generally used in conjunction with units of work which require both products and substantial amounts of labor at the Project site. "Warranty" is generally used in conjunction with products manufactured or fabricated away from the Project site. The resulting difference is that warranties are frequently issued by manufacturers, and guarantees are generally issued by Contractor and frequently supported (partially) by product warranties from manufacturers.

1.6 CONFLICTS

- A. Report any conflicts to the Project Manager for clarification.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

END OF SECTION

SECTION 01 12 19

CONTRACTOR'S CERTIFICATION OF SUBCONTRACTS

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Procedures for preparing, submitting, and accepting subcontracts.

1.2 RELATED REQUIREMENTS

- A. Document 00 10 00 Information to Bidders, Requirements of Apparent Low Bidder
- B. Document 00 43 00 Subcontractor List
- C. Document 00 70 00 General Conditions
- D. Section 01 33 00 Submittal Procedures

1.3 PREPARATION

- A. Certification Forms: Use forms provided by AEA.
- B. Contractor to prepare certification form and submit to AEA prior to the start of work. Multiple subcontracts may be included under a single submittal. Where required, attach additional information (cross-referenced to the appropriate subcontract) to the certification form.
- C. Substitute certification forms will not be considered.

1.4 SUBMITTAL OF CERTIFICATION

- A. Contractor shall submit the initial and all subsequent certification forms in accordance with the submittal requirements identified under paragraph 1.2 D of this Section.

1.5 CONSIDERATION OF CERTIFICATION

- A. Following receipt of submittal and within a reasonable period of time AEA shall review for each of the following:
 - 1. Completeness of forms and attachments.
 - 2. Proper execution (signatures) of forms and attachments.
- B. Submittals which are not complete or not properly executed will be returned to the Contractor under a transmittal letter denoting the deficiencies found. Contractor shall correct and resubmit per paragraph 1.4 of this Section.

1. Subcontractors will be required to leave the Project site until properly executed subcontract is in place.
2. Payment will not be made for work performed by a non-certified subcontractor.

1.6 ACKNOWLEDGMENT OF CERTIFICATION

- A. Submittals which have been examined by AEA and are determined to be complete and properly executed shall be acknowledged as such by signature of designated AEA representative on the face of each certification form.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 01 20 13

APPLICATIONS FOR PAYMENT

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Procedures for preparation and submittal of Applications for Payment.

1.2 RELATED REQUIREMENTS

- A. Section 00 70 00 General Conditions.
- B. Section 01 33 00 Submittal Procedures.
- C. Section 01 29 73 Schedule of Values.
- D. Section 01 77 19 Closeout Requirements.
- E. Section 01 78 39 Project Record Documents.

1.3 FORMAT

- A. Application for Payment form as provided by AEA or Contractor's form containing same information.

1.4 PREPARATION OF APPLICATIONS

- A. Type required information on Application for Payment form approved by AEA.
- B. Execute certification by original signature of authorized officer upon each copy of the Application for Payment.
- C. Submit names of individuals authorized to be responsible for information submitted on Application for Payment.
- D. Indicate breakdown of costs for each item of the Work on accepted schedule of values as specified in Section 01 29 73 Schedule of Values.
- E. List each authorized Change Order as an extension on continuation sheet, listing Change Order number and dollar amount as for an original item of Work.
- F. Include 10% retainage on each pay request. Retainage shall be eligible for payment on Contractor's final pay request.
- G. Prepare Application for Final Payment as specified in Section 01 77 19 Closeout Requirements.

1.5 SUBMITTAL PROCEDURES

- A. Submit one copy of each Application for Payment at times stipulated in Contract.
- B. Submit under AEA accepted transmittal letter. See Section 01 29 73 Schedule of Values. Identify Contract by the AEA contract number.

1.6 SUBSTANTIATING DATA

- A. When AEA requires substantiating information, submit data justifying line item amounts in question.
- B. Provide one copy of data with cover letter for each copy of Application for Payment. Show Application for Payment number and date, and line item by number and description.

1.7 SUBMITTALS WITH APPLICATION FOR PAYMENT

- A. Submit the following with each Application for Payment.
 - 1. Updated construction schedule as required by Section 01 32 16 Construction Progress Schedule.
 - 2. Updated Schedule of Values as required by Section 01 29 73 Schedule of Values.
 - 3. Evidence of transmittal of certified payrolls, if required, to the Labor Department.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

END OF SECTION

SECTION 01 25 13

PRODUCT SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Requests for substitution of products.

1.2 RELATED REQUIREMENTS

- A. Section 00 02 00 Invitation to Bid.
- B. Section 00 70 00 General Conditions.
- C. Section 00 80 00 Supplementary Conditions.
- D. Section 01 33 00 Submittal Procedures.
- E. Section 01 33 23 Shop Drawings, Product Data, and Samples.

1.3 SUBSTITUTION SUBMITTAL PERIOD

- A. All product substitution requests will be considered only within fifteen (15) days after date established in Notice to Proceed. Subsequent requests will be considered only in case of product unavailability or other conditions beyond control of Contractor.

1.4 OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Any product meeting those standards.
- B. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not specifically named.
- C. Products Specified by Naming One or More Manufacturers followed by the term "No Substitutions": use only specified manufacturers, no substitutions allowed.

1.5 PRODUCTS LIST

- A. Within fifteen (15) days after date of Notice to Proceed, transmit an electronic copy of a list of products which are proposed for installation, including name of manufacturer.
- B. Tabulate products by Specifications Section number, Title, and Article number.
- C. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

- D. Project Manager will reply in writing within fifteen (15) days stating whether there is reasonable objection to listed items. Failure to object to a listed item shall not constitute a waiver of requirements of Contract Documents.
- E. Project Manager will contact Engineer to ascertain any extra Professional fees to assess the substitutions and shall so notify Contractor who will include payment for the professional review cost in the application for substitution.

1.6 LIMITATIONS ON SUBSTITUTIONS

- A. Substitutions will not be considered when indicated on Shop Drawings or product data submittals.
- B. Substitute products shall not be ordered or installed without written acceptance.
- C. Project Manager will contact the Engineer to determine acceptability of substitutions.

1.7 REQUESTS FOR SUBSTITUTIONS

- A. Submit separate request for each substitution. Document each request with complete data substantiating compliance of proposed substitution with requirements of Contract Documents.
- B. Identify product by Specification Section and Article numbers. Provide manufacturer's name and address, trade name of product, and model or catalog number. List fabricators and Suppliers as appropriate.
- C. Attach product data as specified in Section 01 33 23.
- D. List similar projects using product, dates of installation, and names of design Engineer(s) and, name of the facility owner.
- E. Give itemized comparison of proposed substitution with specified product, listing variations, and reference to Specification Sections and Article numbers.
- F. Give quality and performance comparison between proposed substitution and the specified product.
- G. Give cost data comparing proposed substitution with specified product, and amount of net change to Contract Price.
- H. List availability of maintenance services and replacement materials.
- I. State effect of substitution on construction schedule, and changes required in other Work or products.

1.8 CONTRACTOR REPRESENTATION

- A. Request for substitution constitutes a representation that Contractor has investigated proposed product and has determined that it is equal to or superior

in all respects to specified product.

- B. Contractor will provide same warranty for substitution as for specified product.
- C. Contractor will coordinate installation of accepted substitute, making such changes as may be required for Work to be complete in all respects.
- D. Contractor certifies that cost data presented is complete and includes all related costs under this Contract.
- E. Contractor waives claims for additional costs related to substitution which may later become apparent.

1.9 SUBMITTAL PROCEDURES

- A. Submit an electronic copy of complete request for substitution.
- B. Project Manager will review Contractor's requests for substitutions with reasonable promptness.
- C. During the bidding period, AEA will record acceptable substitutions in Addenda.
- D. After Award of Contract, AEA will notify Contractor, in writing, of decision to accept or reject requested substitution within fifteen (15) days.
- E. For accepted products, submit Shop Drawings, product data, and samples under provisions of Section 01 33 23.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 01 26 57

CHANGE ORDER PROCEDURES

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Procedures for processing Change Orders.

1.2 RELATED REQUIREMENTS

- A. Section 00 32 00 Bid Schedule.
- B. Section 00 51 00 Construction Contract: Total amount of Contract Price, as awarded
- C. Section 00 70 00 General Conditions.
- D. Section 01 20 13 Applications for Payment.
- E. Section 01 29 73 Schedule of Values.
- F. Section 01 33 00 Submittal Procedures: Progress Schedules.
- G. Section 01 77 19 Closeout Requirements.

1.3 SUBMITTALS

- A. Submit name of the individual authorized to accept changes, and to be responsible for informing others in Contractor's employ of changes in the Work.
- B. Change Order forms will be prepared by AEA.

1.4 DOCUMENTATION OF CHANGE IN CONTRACT PRICE AND CONTRACT TIME

- A. Maintain detailed records of work done on a Cost of the Work basis. Provide full information required for evaluation of proposed changes, and to substantiate costs of changes in the Work. Incomplete or unsubstantiated costs will be disallowed.
- B. Contractor shall submit a complete, detailed, itemized cost breakdown addressing impact on Contract Time and Contract Price with each proposal.
- C. On request, provide additional data to support computations:
 - 1. Quantities of products, labor, and equipment.
 - 2. Taxes, insurance, and bonds.
 - 3. Justification for any change in Contract Time.

4. Credit for deletions from Contract, similarly documented.
- D. Support each claim for additional costs, and for work done on a Cost of the Work basis, with additional information:
1. Origin and date of claim.
 2. Dates and times work was performed and by whom.
 3. Time records and wage rates paid.
 4. Invoices and receipts for products, equipment, and subcontracts, similarly documented.

1.5 PRELIMINARY PROCEDURES

- A. AEA may submit a Proposal Request which includes: Detailed description of change with supplementary or revised Drawings and Specifications, the projected time for executing the change, with a stipulation of any overtime work required, and the period of time during which the requested price will be considered valid.
- B. Contractor may initiate a change by submittal of a request to AEA describing the proposed change with a statement of the reason for the change, and the effect on Contract Price and Contract Time with full documentation.

1.6 CONSTRUCTION CHANGE AUTHORIZATION

- A. Shall be in accordance with Article 9 - Changes: in Section 00 70 00 - General Conditions.

1.7 LUMP SUM CHANGE ORDER

- A. Contractor shall submit an itemized price proposal in sufficient detail to fully explain the basis for the proposal. Contractor and AEA shall then negotiate an equitable price (and time adjustment if appropriate) in good faith. The Change Order will reflect the results of those negotiations. If negotiations break down, Contractor may be directed to perform the subject Work under a COST OF THE WORK CHANGE ORDER.
- B. The maximum rates of cost markup (to cover both overhead and profit of the Contractor) shall be in accordance with Article 10- Contract Price, Computation and Change: in Section 00 70 00 – General Conditions.
- C. These terms shall also apply to the proposals of subcontracts and allowances.

1.8 UNIT PRICE CHANGE ORDER

- A. For pre-determined unit prices and quantities, Change Order will be executed on a lump sum basis.

- B. For pre-determined unit prices and undetermined quantities, Change Order will be executed on an estimated quantity basis; payment will be based on actual quantities measured as specified.

1.9 COST OF THE WORK CHANGE ORDER

- A. Contractor shall submit documentation required in Paragraph 1.4 of this Section on a daily basis for certification by AEA. AEA will indicate by signature that the submitted documentation is acceptable. If it is not acceptable, Contractor and AEA shall immediately meet to discuss resolution.
- B. After completion of the change and within 14 calendar days, unless extended by AEA, the Contractor shall submit in final form an itemized account with support data of all costs. Support data shall have been certified by AEA, as required above in paragraph A.
- C. AEA will determine the change allowable in Contract Price and Contract Time as provided in provisions of the Contract Documents.

1.10 EXECUTION OF CHANGE ORDERS

- A. AEA will issue Change Orders for signatures of parties as provided in Conditions of the Contract.

1.11 CORRELATION OF CONTRACTOR SUBMITTALS

- A. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Price as shown on Change Order.
- B. Promptly revise progress schedules to reflect any change in Contract Time, revise subschedules to adjust times for other items of Work affected by the change, and resubmit.
 - 1. Progress Schedule shall be updated to reflect the changed condition. It shall be identified as a unique single or multiple task activity and shall be linked to its predecessor and successor activities from the base schedule set of activities. An update to the cash flow schedule shall be made as well and to the extent possible, operational tasks shall be cross-referenced to schedule of values categories.
- C. Promptly enter changes in Project Record Documents.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 01 29 73
SCHEDULE OF VALUES

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Procedures for preparation and submittal of Schedule of Values.

1.2 RELATED REQUIREMENTS

- A. Section 00 70 00 General Conditions.
- B. Section 01 20 13 Applications for Payment.
- C. Section 01 33 00 Submittal Procedures.

1.3 FORMAT

- A. Form and content must be acceptable to AEA.
- B. Contractor's standard form or media-driven printout will be considered on request.
- C. Follow the table of contents of Project Manual and the Bid Schedule for listing component parts. Identify each line item by number and title of listed Specification sections.

1.4 CONTENT

- A. List installed value of each major item of Work and each subcontracted item of Work as a separate line item to serve as a basis for computing values for progress payments. Round off values to nearest dollar.
- B. For each major subcontract, list products and operations of that subcontract as separate line items.
- C. Coordinate listings with progress schedule.
- D. Component listings shall each include a directly proportional amount of Contractor's overhead and profit.
- E. For items on which payments will be requested for stored products, list sub-values for cost of stored products.
- F. No progress payments will be made for Substantial Completion Submittals and Closeout Submittals until **all** submittals have been submitted to and accepted by AEA.
- G. The sum of values listed shall equal total Contract Price.

1.5 SUBMITTAL

- A. Submit a copy of Schedule in electronic format within fifteen (15) days after the Notice to Proceed. Subsequent updated Schedule of Values shall be presented for review ten (10) days prior to each Application for Payment.
- B. Transmit on an AEA accepted form transmittal letter. Identify Project by AEA's title and Project number; identify Contract by AEA's Contract number.

1.6 SUBSTANTIATING DATA

- A. When AEA requires substantiating information, submit data justifying line item amounts in question.
- B. Provide an electronic copy of data with cover letter for each copy of the Application for Payment. Show application number and date, and line item by number and description.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 01 31 19

PROJECT MEETINGS

PART 1 – GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Contractor participation in preconstruction conferences.
- B. Contractor administration of progress meetings and pre-installation conferences.

1.2 PRECONSTRUCTION CONFERENCES

- A. AEA will administer a preconstruction conference to be held at AEA's main office located at 813 West Northern Lights Blvd., Anchorage, Alaska, for execution of Contract and exchange of preliminary submittals. The conference will be scheduled for a mutually agreeable time for the AEA Project Manager, AEA Engineering, AEA Operations, Engineer, and Contractor following Notice-To-Proceed. During the conference, the contractor shall present his schedule, construction methodology, and other pertinent information. Contractor will be required to field questions about his operation.

1.3 PRE-INSTALLATION CONFERENCES

- A. When required in individual Specification section, or directed by the Project Manager, convene a pre-installation conference prior to commencing Work of the section unless this requirement is waived or modified by AEA.
- B. Require attendance of entities directly affecting, or affected by, Work of the section.
- C. Review conditions of installation, preparation and installation procedures, and coordination with related Work.

1.4 PROGRESS MEETINGS

- A. Contractor shall schedule and administer weekly project meetings throughout progress of the work (unless this requirement is waived by AEA).
- B. Attendance: Contractor's Project Manager, job superintendent, major subcontractors and suppliers; AEA, Engineer, and relevant stakeholders as appropriate to agenda topics for each meeting.
- C. At the progress meeting, the Contractor shall present a current and accurate schedule and discuss his planned operations for the coming 2 weeks.
- D. The Contractor will coordinate the date, time, and location of project meetings with all parties.
- E. The Contractor shall provide facilities so that people may attend the meeting in person or by telephone and distribute approved drawings by mail, fax, or email

when required.

- F. Contractor shall document the meetings and shall distribute meeting minutes within 2 working days of adjournment.
- G. Meeting frequency may be reduced at the discretion of the Project Manager.

1.5 OTHER MEETINGS

- A. At various times throughout the duration of the Contract, the Contractor will be required to attend meetings as requested by AEA. It is anticipated that such meetings will involve coordination with others, project schedule review, problem resolution, change order negotiations, and other topics of mutual importance.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

END OF SECTION

SECTION 01 32 16

CONSTRUCTION PROGRESS SCHEDULE

PART 1 – GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Preliminary Schedule.
- B. Construction Progress Schedule, bar Gantt chart.

1.2 RELATED REQUIREMENTS

- A. Section 00 70 00 General Conditions.
- B. Section 01 20 13 Applications for Payment.
- C. Section 01 33 00 Submittal Procedures.

1.3 SUBMITTALS

- A. Within fifteen (15) days after date established in Notice to Proceed, submit preliminary schedule.
- B. Within ten (10) days after joint review, submit complete schedule.
- C. Submit updated schedule with each Application for Payment.

1.4 SCHEDULE FORMAT

- A. Listings: In chronological order according to the start date for each activity. Identify each activity with the applicable specification section number.
- B. Diagram Sheet Size: Maximum 11 x 17 inches.
- C. Scale and Spacing. To allow for notations and revisions.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

3.1 PRELIMINARY SCHEDULE

- A. Prepare preliminary schedule in the form of a horizontal bar chart.
 - 1. Include a separate bar for each major trade or operation, identifying the duration of each activity and precedent activities.

2. Complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Show each work plan and separate work area as a separate activity or group of activities.

3.2 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit horizontal bar Gantt chart. Schedule shall show:
 1. Separate bar for each major trade or operation, identifying the duration of each activity and precedent activities.
 2. Complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Show each work plan and separate work area as a separate activity or group of activities.
 3. Submittal dates for Shop Drawings, product data, and samples, and product delivery dates, including any furnished by AEA and those under allowances.
 4. All required submittals and indicating the date for each required submittal.
 5. Show projected percentages of completion for each item of Work and submittal as of time of each Application for Progress Payment.
 6. Schedule shall be computer generated; (MS Projects, Sure-Trac, or Primavera); Gantt format with preceding and succeeding operational tasks indicated by relationship arrows. An accompanying cash flow chart shall reflect estimated monthly draw amounts. To the extent possible, operational tasks shall be cross-referenced to schedule of values categories.

3.3 REVIEW AND EVALUATION OF SCHEDULE

- A. Participate in joint review and evaluation of schedule with Project Manager at each submittal.
- B. Evaluate project status to determine work behind schedule and work ahead of schedule.
- C. After review, revise as necessary as result of review, and resubmit within ten (10) days.

3.4 UPDATING SCHEDULE

- A. Maintain schedules to record actual start and finish dates of completed activities.
- B. Indicate progress of each activity to date of revision, with projected completion date of each activity.
- C. Indicate changes required to maintain Dates of Substantial Completion.

3.5 DISTRIBUTION OF SCHEDULE

- A. Distribute copies of updated schedules to Contractor's project site file, to subcontractors, suppliers, Engineer, Authority, and other concerned parties.
- B. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.

END OF SECTION

SECTION 01 33 00
SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Procedures for the preparation, tracking, and review of submittals for the project.
- B. Construction Progress Schedules.
- C. Manufacturer's Instructions.
- D. Manufacturer's Certificates.

1.2 RELATED REQUIREMENTS

- A. Section 01 12 19 Contractor's Certification of Subcontracts
- B. Section 01 20 13 Applications for Payment
- C. Section 01 25 13 Product Substitution Procedures
- D. Section 01 26 57 Change Order Procedures
- E. Section 01 29 73 Schedule of Values
- F. Section 01 33 23 Shop Drawings, Product Data, Samples
- G. Section 01 45 00 Quality Control
- H. Section 01 50 00 Construction Facilities and Temporary Controls
- I. Section 01 55 26 Traffic Control
- J. Section 01 71 23.16 Construction Surveying
- K. Section 01 77 19 Closeout Requirements
- L. Section 01 78 39 Project Record Documents
- M. Section 01 94 00 Decommissioning Fuel Piping
- N. Section 05 50 00 Metal Fabrications
- O. Section 09 96 00.01 Plant and Field Applied Fusion Bonded Epoxy (FBE)
- P. Section 09 96 00.02 Hot Dipped Galvanized Coatings
- Q. Section 09 90 00.03 Field Applied Pipeline Repair Coating

- R. Section 10 44 16.13 Portable Fire Extinguishers
- S. Section 11 80 00 Spill Response Equipment
- T. Section 23 11 00 Facility Fuel Piping
- U. Section 31 20 00 Earth Moving
- V. Section 33 05 26.13 Signage
- W. Operations and Maintenance Manuals
- X. Equipment Installation Data
- Y. Other Sections specifying materials to be used in the Work, including fill material and gravels.

1.3 PROCEDURES

- A. Delivery of Submittals:
 - 1. Within ten (10) days following Notice to Proceed, Contractor shall submit to Project Manager in electronic format, a Submittal Register (Section 01 33 00) as required by the Contract (by Section Number, Paragraph Number, Page Number, and time criteria if required). The schedule must be approved by the Project Manager before any submittals required by the Contract will be accepted.
 - 2. Contractor shall provide a submittal register, broken down per specification section, for all materials and deliverables specified and provided.
 - 3. Electronically transfer submittals directly to the Project Manager and Engineer.
 - 4. Minimize the number of submittals. **Full divisions must be submitted together** (no partial submittals will be accepted).
- B. Transmit each item on an AEA accepted form. Identify Project, Contractor, Subcontractor, and major Supplier. Identify pertinent Drawing sheet and detail number, and Specification section number, as appropriate. Identify deviations from Contract Documents by submitting a separate Substitution Request Form. Provide a minimum of 8 1/2" x 5 1/2" blank space on the front page for Contractor, and Engineer review stamps.
- C. Submit initial progress schedules and Schedule of Values in electronic format as directed by the Project Manager, in accordance with Document 00 70 00 - General Conditions. Form and content shall be reviewed by AEA. After review by AEA, revise and resubmit as required. Submit subsequent updated schedules with each Application for Payment.

- E. Comply with progress schedule for submittals related to Work progress. Coordinate submittal of related items.
- F. After Project Manager review of submittal, revise and resubmit as required, identifying changes made since previous submittal. The Project Manager will not return the first or revised copies of rejected submittals for re-use. DO NOT submit partial copies of submittals for incorporation into rejected submittal packages which have been kept by the Project Manager. Provide COMPLETE copies for each review.
- G. Distribute copies of reviewed submittals to concerned persons. Instruct recipients to promptly report any inability to comply with provisions.
- H. If drawings, product submittals, samples, mock-ups, or other required submittals are incomplete or not properly submitted, Project Manager will not review the submittal and will immediately return submittal to Contractor. Project Manager will review a submittal no more than two times (incomplete or improper submittals count as one). Contractor shall pay all review costs associated with more than two reviews, unless a re-submittal is required due to new comments addressing previously submitted information.

1.4 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit in accordance with Section 01 32 16 Construction Progress Schedule.

1.5 SCHEDULE OF VALUES

- A. Submit in accordance with Section 01 29 73 Schedule of Values.

1.6 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

- A. Submit in accordance with Section 01 33 23 Shop Drawings, Product Data, and Samples.
- B. Submit signed and sealed engineering design calculations performed by a Professional Engineer licensed in the State of Alaska where the Contractor is responsible for design as required in the Contract Documents.

1.7 MANUFACTURER'S INSTRUCTIONS

- A. When required in individual Specification Section, submit manufacturer's printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for product data.

1.8 QUALITY CONTROL DATA

- A. Submit in accordance with Section 01 45 00 Quality Control and individual specification sections.

1.9 CONSTRUCTION PHOTOGRAPHS

- A. Provide photographs of construction throughout progress of Work.
- B. Submit photographs with daily work reports via email to the Engineer, Owner and Owner's representatives, not less than daily. Photographs may be sent as separate file from daily report.
- C. Photographs: Digital color photographs, minimum size 2 megapixels.
- D. Take site photographs from differing directions indicating relative progress of the Work on a daily basis.
- E. Take photographs as evidence of daily project conditions including by not limited to:
 - 1. Demolition of Structures and Utilities.
 - 2. Repair Work.
 - 3. Limits of Excavation.
 - 4. Placement and Compaction of Fill.
 - 5. Piling Installation.
 - 6. Associated Mechanical and Electrical work.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 01 33 23

SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Procedures for submittals.

1.2 RELATED REQUIREMENTS

- A. Section 00 70 00 General Conditions
- B. Section 01 25 13 Product Substitution Procedures
- C. Section 01 33 00 Submittal Procedures
- D. Section 01 45 00 Quality Control
- F. Section 01 77 19 Closeout Requirements

1.3 SHOP DRAWINGS

- A. Present drawings in a clear and thorough manner. Label each Shop Drawing with AEA's Project name and Project number; identify each element of the Shop Drawings by reference to sheet number and detail, or schedule.
- B. Identify field dimensions; show relation to adjacent or critical features or Work or products.
- C. Minimum Sheet Size: 8-1/2"x11". Larger sheets may be submitted in multiples of 8-1/2"x11".

1.4 PRODUCT DATA

- A. Submit only pages which are pertinent; mark each copy of standard printed data to identify pertinent products, referenced to Specification Section and Article number. Show reference standards, performance characteristics, capacities, wiring and piping diagrams and controls, component parts, finishes, dimensions, and required clearances.
- B. Modify manufacturer's standard schematic drawings and diagrams to supplement standard information and to provide information specifically applicable to the Work. Delete information not applicable.

1.5 SAMPLES

- A. Submit full range of manufacturer's standard finishes except when more restrictive requirements are specified, indicating colors, textures, and patterns, for Project Manager selection.

- B. Submit samples to illustrate functional characteristics of products, including parts and attachments.
- C. Approved samples which may be used in the Work are indicated in the Specification section.
- D. Label each sample with identification required for transmittal letter.
- E. Provide field samples of finishes at Project, at location acceptable to the Project Manager, as required by individual Specification section. Install each sample complete and finished. Acceptable finishes in place may be retained in completed Work.

1.6 MANUFACTURER'S INSTRUCTIONS

- A. Submit manufacturer's instructions for storage, preparation, assembly, installation, start-up, adjusting, balancing, and finishing for all manufactured products.

1.7 CONTRACTOR REVIEW

- A. Review submittals prior to transmittal; determine and verify field measurements, field construction criteria, manufacturer's catalog numbers, and conformance of submittal with requirements of Contract Documents.
- B. Coordinate submittals with requirements of Work and of Contract Documents.
- C. Notify the Project Manager in writing at time of submittal, of any deviations from requirements of Contract Documents.
- D. Do not fabricate products or begin Work which requires submittals until return of submittal with Authority acceptance.

1.8 SUBMITTAL REQUIREMENTS

- A. Each submittal to be numbered by Specification Section and Paragraph. Revisions shall be identified by a hyphen after the paragraph, with a letter designator. Example: 1st submittal "01 33 23 1.08A" 2nd submittal 01 33 23 1.08A - A".
- B. Transmit submittals in accordance with the required submittal schedule and in such sequence to avoid delay in the Work.
- C. Provide 8 1/2" x 5 1/2" blank space on each submittal for Contractor and Engineer stamps.
- D. Apply Contractor's stamp, signed or initialed, certifying to review, verification of products, field dimensions and field construction criteria, and coordination of information with requirements of Work and Contract Documents.
- E. Coordinate submittals into logical groupings to facilitate interrelation of the items.

- F. Submit electronic copies of shop drawings required in the Contract. Contractor may be required to submit, to the Project Manager, four opaque reproductions of full-size shop drawings at no additional cost to the Owner.
- G. Submit electronic copies of product data and manufacturer's instructions required by the contract.
- H. Submit number of samples specified in individual Specifications sections.
- I. Submit under AEA's accepted transmittal form letter. Identify Project by title and AEA's Project number; identify Contract by AEA's contract number. Identify Work and product by Specification section and Article number.
- J. Each submittal shall have as its face document a completed, Authority furnished, Submittal Summary form.

1.9 RESUBMITTALS

- A. After the Project Manager review of submittal, revise and resubmit as required, identifying changes made since previous submittal. Project Manager will not return the first or revised copies of rejected submittals for re-use. DO NOT submit partial copies of submittals for incorporation into rejected submittal packages which have been kept by the Project Manager. Provide COMPLETE copies for each review.

1.10 REVIEW

- A. AEA or authorized agent will review Shop Drawings, product data, and samples and return submittals within fourteen (14) working days.
- B. AEA or authorized agent will examine shop drawings for general arrangement, overall dimensions and suitability, and will return to the Contractor marked as follows:

"Submit Specified Item" - denotes that the item specified in the contract documents is required and substitutions are not acceptable.

"Approved" - denotes acceptance of the submittal.

"Approved With Corrections Noted" - denotes review is conditional on compliance with notes made on the submittal.

"Revise and Resubmit" - denotes that revisions are required in the submittal in order for the submittal to be generally consistent with the requirements of the Contract Documents. Required revisions will be identified to the Contractor. Resubmittal is required.

"Rejected" - denotes that the submittal does not meet the requirements of the Contract Documents and shall not be used in the Work. Reasons for rejection will be identified to the Contractor. Resubmittal is required.

- C. Review by AEA or authorized agent of shop drawings shall not be construed as a complete check, but will indicate only that the general method of construction and detailing is consistent with the requirements of the Contract Documents. Review of such drawings shall not relieve the Contractor of the responsibility for errors, dimensions, and detail design.
- D. AEA or authorized agent review will not extend to means, methods, techniques, sequences or procedures of construction (except in the case of construction specific submittals, such as erection plans) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in with the item functions.

1.11 DISTRIBUTION

- A. Duplicate and distribute reproductions of Shop Drawings, copies of product data, and samples, which bear Engineer's stamp, to job site file, record documents file, Subcontractors, Suppliers, and other entities requiring information.

1.12 SCHEDULE OF SUBMITTALS

- A. Submittal Register Form to be completed by Contractor and approved by AEA prior to submittal of any items.
- B. Submit shop drawings, product data and samples as required for each specification section.
- C. Format.
 - 1. Submittal schedule form as provided by AEA as outlined in Section 01 45 00 1.7.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not used.

END OF SECTION

SECTION 01 42 19

REFERENCE STANDARDS

PART 1 – GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Quality assurance.

1.2 RELATED REQUIREMENTS

- A. Section 00 70 00 General Conditions

1.3 QUALITY ASSURANCE

- A. For products or workmanship specified by association, trade, or Federal Standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date for receiving bids, unless otherwise stated in the Contract Documents.
- C. Obtain copies of standards when required by the Contract Documents.
- D. Maintain copy at Project Site during submittals, planning, and progress of the specific work, until Substantial Completion.
- E. Should specified reference standards conflict with Contract Documents, request clarification from the Project Manager before proceeding. Local code requirements, where more stringent than referenced standards, shall govern.
- F. Neither the contractual relationship, duties, nor responsibilities of the parties in Contract nor those of the Project Manager shall be altered by the Contract Documents by mention or inference otherwise in any reference document.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 01 45 00

QUALITY CONTROL

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Contractor's quality control (assurance) program and control procedures for executing the Work.
- B. Contractor's technical qualifications to be able to execute the Work in accordance with the Contract Documents.

1.2 RELATED REQUIREMENTS

- A. Section 00 70 00 - General Conditions.
- B. Section 01 33 00 Submittal Procedures.

1.3 SUBMITTALS

- A. Submit a Quality Control Program for review and approval.

1.4 DESCRIPTION

- A. The Contractor shall assure that all materials and completed construction conform to contract Plans, technical specifications, and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors. When required, the Contractor shall establish, provide, and maintain an effective Quality Control Program that details the methods and procedures that will be used. Although guidelines are established and certain minimum requirements are specified herein and elsewhere in the contract technical specifications, the Contractor shall assume full responsibility for accomplishing the stated purpose.
- B. The intent of this section is to enable the Contractor to establish a necessary level of control that will:
 - 1. Adequately provide for the production of acceptable quality materials.
 - 2. Provide sufficient information to assure both the Contractor and the Engineer that the specification requirements can be met.
 - 3. Allow the Contractor as much latitude as possible to develop his own standard of control.
- C. The Contractor shall be prepared to discuss and present, at the preconstruction conference, his understanding of the quality control requirements. The Contractor shall not begin any construction or production of materials to be incorporated into the completed work until the Quality Control Program has been reviewed by the

Engineer. No partial payment will be made for materials subject to specific quality control requirements until the Quality Control Program has been reviewed.

- D. The quality control requirements contained in this section and elsewhere in the contract technical specifications are in addition to and separate from the acceptance testing requirements. Acceptance testing requirements are the responsibility of the Engineer.

1.5 DESCRIPTION OF PROGRAM

A. General Description

The Contractor shall establish a Quality Control Program to perform inspection and testing of each item of work for which it is required by the technical specifications, including those performed by subcontractors. This Quality Control Program shall ensure conformance to applicable parts of the contract documents (plans and specifications) with respect to materials, workmanship, construction, finish, and functional performance. The Quality Control Program shall be effective for control of all construction work performed under this Contract and shall specifically include (1) surveillance and tests required by the technical specifications, (2) other requirements of this section, and (3) any other activities deemed necessary by the Contractor to establish an effective level of quality control.

B. Quality Control Program.

The Contractor shall describe the Quality Control Program in a written document which shall be reviewed by the Engineer prior to the start of any production, construction, or off-site fabrication. The written Quality Control Program shall be submitted to the Engineer for review at least five (5) calendar days before the preconstruction conference.

C. The Quality Control Program shall be organized to address, at a minimum, the following items:

1. Quality control organization;
2. Project progress schedule;
3. Submittals schedule;
4. Inspection requirements;
5. Quality control testing plan;
6. Documentation of quality control activities; and
7. Requirements for corrective action when quality control and/or acceptance criteria are not met.

- D. The Contractor is encouraged to add any additional elements to the Quality Control Program that he/she deems necessary to adequately control all production and/or construction processes required by this contract.

1.6 QUALITY CONTROL AND ORGANIZATION

- A. The Contractor's Quality Control Program shall be implemented by the establishment of a separate quality control organization. An organizational chart shall be developed to show all quality control personnel and how these personnel integrate with other management/production and construction functions and personnel.
- B. The organizational chart shall identify all quality control staff by name and function, and shall indicate the total staff required to implement all elements of the Quality Control Program, including inspection and testing for each item of work. If necessary, different technicians can be utilized for specific inspection and testing functions for different items of work. If an outside organization or independent testing laboratory is used for implementation of all or part of the Quality Control Program, the personnel assigned shall be subject to the qualification requirements of this specification. The organizational chart shall indicate which personnel are Contractor employees and which are provided by an outside organization.
- C. The quality control organization shall consist of the following minimum personnel:
 - 1. Program Administrator. The Program Administrator shall be a full-time employee of the Contractor, or a consultant engaged by the Contractor. The Program Administrator shall have a minimum of ten (10) years of comparable construction experience and shall have had prior quality control experience on a project of comparable size and scope as the contract.

The Program Administrator shall have full authority to institute any and all actions necessary for the successful implementation of the Quality Control Program to ensure compliance with the contract documents. The Program Administrator shall report directly to a responsible officer of the construction firm. The Program Administrator may supervise the Quality Control Program on more than one project provided that person can be at the job site within 12 hours after being notified of a problem.

- 2. Quality Control Technicians. A sufficient number of quality control technicians necessary to adequately implement the Quality Control Program shall be provided. These personnel shall be either engineers, engineering technicians with five (5) years of experience, or experienced craftsman with qualifications in the appropriate field with a minimum of two (2) years of experience in their area of expertise and National Institute for Certification in Engineering Technologies (NICET) certification.

The quality control technicians shall report directly to the Program Administrator and shall perform the following functions:

- a. Inspection of all materials, construction, plant, and equipment for conformance to the technical specifications, and as required by the contract documents.
- b. Performance of all quality control tests as required by the technical specifications.

Engineer approval or certification at an equivalent level by a state or nationally recognized organization will be acceptable in lieu of NICET certification.

3. Staffing Levels. The Contractor shall provide sufficient qualified quality control personnel to monitor each work activity at all times. Where material is being produced in a plant for incorporation into the work, separate plant and field technicians shall be provided at each plant and field placement location. The scheduling and coordinating of all inspection and testing must match the type and pace of work activity. The Quality Control Program shall state where different technicians will be required for different work elements.

1.7 WORKMANSHIP AND STANDARDS

- A. The Contractor's quality control program shall ensure compliance with industry standards except when more restrictive tolerances or specified requirements indicate more rigid standards or more precise workmanship.
- B. The Contractor shall secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, and racking
- C. Contractor shall comply with manufacturer's instructions in full detail, including each step in sequence. Should instructions conflict with Contract Documents, request clarification from the Project Manager before proceeding.
- D. When required by individual Specifications section, submit manufacturer's certificate, in duplicate, that products meet or exceed specified requirements.

1.8 SUBMITTALS SCHEDULE

- A. The Contractor shall submit a detailed listing of all submittals and shop drawings required by the technical specifications. The listing can be developed in a spreadsheet format and shall include:
 1. Specification item number;
 2. Item description;
 3. Description of submittal;
 4. Specification Subsection requiring submittal; and

5. Scheduled date of submittal.

1.9 INSPECTION REQUIREMENTS

- A. Quality control inspection functions shall be organized to provide inspections for all definable features of work, as detailed below. All inspections shall be documented by the Contractor as specified by this specification.
- B. Inspections shall be performed daily to ensure continuing compliance with contract requirements until completion of the particular feature of work. These shall include the following minimum requirements:
 1. During fabrication of Contractor provided, shop fabricated materials and structures, plant operation for material production, quality control test results and periodic inspections shall be utilized to ensure the quality of the materials and workmanship. The Quality Control Program shall detail how these and other quality control functions will be accomplished and utilized to ensure compliance with applicable codes and standards.
 2. During field operations, quality control test results and periodic inspections shall be utilized to ensure the quality of all materials and workmanship. All equipment shall be inspected to ensure its proper operating condition and to ensure that all such operations are in conformance to the technical specifications and are within the plan dimensions, lines, grades, and tolerances specified. The Program shall document how these and other quality control functions will be accomplished and utilized.

1.10 QUALITY CONTROL TESTING PLAN

- A. As a part of the overall Quality Control Program, the Contractor shall implement a quality control testing plan, as required by the technical specifications. The testing plan shall include the minimum tests and test frequencies required by the technical specification Item, as well as any additional quality control tests that the Contractor deems necessary to adequately control production and/or construction processes.
- B. The testing plan can be developed in a spreadsheet fashion and shall, as a minimum, include the following:
 1. Specification item number;
 2. Item description (e.g., Schedule 80 pipe);
 3. Test type (e.g., NDT, pipe pressure test);
 4. Test standard (e.g., ASTM or NACE test number, as applicable);
 5. Test frequency (e.g., as required by technical specifications or minimum frequency p);

6. Responsibility (e.g., plant or field technician); and
 7. Control requirements (e.g., target, permissible deviations).
- C. The Engineer shall be provided the opportunity to witness quality control sampling and testing.
 - D. All quality control test results shall be documented by the Contractor as required by this specification and submitted to the Engineer for approval.
 - E. Testing shall also include nuclear densometer testing and material testing for placed fills in accordance with Section 31 20 00, to ensure the quality of constructed embankments.

1.11 MANUFACTURERS' FIELD SERVICES

- A. When required by manufacturer or when specified in respective Specification sections, require manufacturer to provide qualified personnel to observe field conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment as applicable, and to make appropriate recommendations.
- B. Require manufacturer's representative to submit written report to the Project Manager listing observations and recommendations.
- C. Gradations for gravel material shall be performed at a rate of one per source or as required due to changes in material.
- D. The frequency of field density test for compacted fill shall be as specified in Section 31 20 00 – Earth Moving.

1.12 DOCUMENTATION

- A. The Contractor shall maintain current quality control records of all inspections and tests performed. These records shall include factual evidence that the required inspections or tests have been performed, including type and number of inspections or tests involved; results of inspections or tests; nature of defects, deviations, causes for rejection, etc.; proposed remedial action; and corrective actions taken.
- B. These records must cover both conforming and defective or deficient features, and must include a statement that all supplies and materials incorporated in the work are in full compliance with the terms of the contract. Legible copies of these records shall be furnished to the Engineer daily. The records shall cover all work placed subsequent to the previously furnished records and shall be verified and signed by the Contractor's Program Administrator.
- C. Specific Contractor quality control records required for the contract shall include, but are not necessarily limited to, the following records:

1. Daily Inspection Reports. Each Contractor quality control technician shall maintain a daily log of all inspections performed for both Contractor and subcontractor operations on a form acceptable to the Engineer. These technician's daily reports shall provide factual evidence that continuous quality control inspections have been performed and shall, as a minimum, include the following:
 - a. Technical specification item number and description;
 - b. Compliance with approved submittals;
 - c. Proper storage of materials and equipment;
 - d. Proper operation of all equipment;
 - e. Adherence to contract documents;
 - f. Review of quality control tests; and
 - g. Safety inspection.

The daily inspection reports shall identify inspections conducted, results of inspections, location and nature of defects found, causes for rejection, and remedial or corrective actions taken or proposed

The daily inspection reports shall be signed by the responsible quality control technician and the Program Administrator. The Engineer shall be provided at least one copy of each daily inspection report on the work day following the day of record.

2. Daily Test Reports. The Contractor shall be responsible for establishing a system which will record all quality control test results. Daily test reports shall document the following information:
 - a. Technical specification item number and description;
 - b. Test designation;
 - c. Location;
 - d. Date of test;
 - e. Control requirements;
 - f. Test results;
 - g. Causes for rejection;
 - h. Recommended remedial actions; and
 - i. Retests.

Test results from each day's work period shall be submitted to the Engineer prior to the start of the next day's work period. When required by the technical specifications, the Contractor shall maintain statistical quality control charts. The daily test reports shall be signed by the responsible quality control technician and the Program Administrator.

1.13 CORRECTIVE ACTION REQUIREMENTS

- A. The Quality Control Program shall indicate the appropriate action to be taken when a process is deemed, or believed, to be out of control (out of tolerance) and detail what action will be taken to bring the process into control. The requirements for corrective action shall include both general requirements for operation of the Quality Control Program as a whole, and for individual items of work contained in the technical specifications.
- B. The Quality Control Program shall detail how the results of quality control inspections and tests will be used for determining the need for corrective action and shall contain clear sets of rules to gauge when a process is out of control and the type of correction to be taken to regain process control.
- C. When applicable or required by the technical specifications, the Contractor shall establish and utilize statistical quality control charts for individual quality control tests. The requirements for corrective action shall be linked to the control charts.

1.14 INSPECTION BY THE ENGINEER

- A. All items of material and equipment shall be subject to inspection by the Engineer at the point of production, manufacture or shipment to determine if the Contractor, producer, manufacturer or shipper maintains an adequate quality control system in conformance with the requirements detailed herein and the applicable technical specifications and plans. In addition, all items of materials, equipment and work in place shall be subject to inspection by the Engineer at the site for the same purpose.
- B. Inspection by the Engineer does not relieve the Contractor of performing quality control inspections of either on-site or off-site Contractor's or subcontractor's work.

1.15 NONCOMPLIANCE

- A. The Engineer will notify the Contractor of any noncompliance with any of the foregoing requirements. The Contractor shall, after receipt of such notice, immediately take corrective action. Any notice, when delivered by the Engineer or their authorized representative to the Contractor or their authorized representative at the site of the work, shall be considered sufficient notice.
- B. In cases where quality control activities do not comply with either the Contractor's Quality Control Program or the contract provisions, or where the Contractor fails to properly operate and maintain an effective Quality Control Program, as determined by the Engineer, the Engineer may:

1. Require the Contractor to replace ineffective or unqualified quality control personnel or subcontractors.
2. Require the Contractor to stop operations until appropriate corrective action is taken.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 01 50 00

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 - GENERAL

1.1 REQUIREMENTS

- A. Temporary Utilities: water, sanitation, electrical, heating, and communication systems.
- B. Temporary Construction Facilities: Field office for the use of Contractor personnel, storage yards and buildings, worker shelters and access roads.
- C. Temporary Controls: air/water pollution controls, erosion control, and traffic control.
- D. Temporary Fuel Storage and Dispensing: fuel storage, secondary containment, and dispensing facilities.

1.2 RELATED REQUIREMENTS

- A. Section 01 11 00 Summary of Work.
- B. Section 01 33 00 Submittal Procedures.
- C. Section 01 57 13 Temporary Erosion and Sediment Control.

1.3 DELIVERY, STORAGE, AND HANDLING OF TEMPORARY FACILITIES

- A. Protect temporary facilities during delivery and storage operations.
- B. Maintain temporary facilities in proper and safe condition throughout progress of the work.

1.4 SUBMITTALS

- A. Submit an electronic copy of written Plan for providing temporary facilities. Submit plan a minimum of sixty (60) days from receipt of the "Intent to Award letter".
 - 1. Plan shall include written description of Contractor's proposed methods and means of providing temporary utilities during construction activities, as described in the Specifications.

PART 2 - PRODUCTS

2.1 TEMPORARY UTILITIES CONTRACTOR FURNISHED ITEMS

- A. Temporary Sanitation Systems
 - 1. Furnish and install all necessary components and systems to provide sewer and solid waste collection services at the field office. Temporary outhouses shall be self-contained units, pit privies are not acceptable.

2. Contractor furnished items include, but are not limited to, all piping, valves, fittings, structures, insulation, pumps, tanks, fixtures, tie-ins, trash receptacles, hauling operations, and service agreements.
3. Contractor to provide and pay for all temporary sanitation system related components and fees.

B. Temporary Electrical Systems

1. Contractor shall coordinate with local utility to provide all electrical service necessary for completion of work. Complete necessary utility paperwork and provide minimum of sixty (60) days' notice to local utility for hookup.
2. Contractor furnished items include, but are not limited to, all conductor, transformers, service meters and masts, distribution panels, controls, electrical and lighting fixtures, tie-ins, and service agreements.
3. Contractor shall be responsible for providing temporary power to all electrical control panels to ensure that they remain heated from the time of installation to substantial completion.
4. Contractor to provide and pay for all temporary electrical system related components and fees including hookup.

C. Temporary Heating Systems

1. Furnish and install all necessary components and systems to provide heat at the field office and worker shelters as required.
2. Contractor furnished items include, but are not limited to, all heaters, fuel tanks, piping, valves, fittings, meters, insulation, pumps, fixtures, tie-ins, and fuel hauling.
3. Contractor to provide and pay for all temporary heating system related components and fees.

D. Temporary Communication Systems (Telephone, Fax, and Internet)

1. Furnish and install all necessary components and systems to provide telephone, fax, and internet service to the field office.
2. Contractor furnished items include, but are not limited to, all phone lines, phones, fax machines, tie-ins, and service agreements.
3. Contractor to provide and pay for all temporary communication system related components and fees.

2.2 TEMPORARY CONSTRUCTION FACILITIES CONTRACTOR FURNISHED ITEMS

A. Temporary Construction Facilities (Field Office, Storage Facilities, Worker Shelters)

1. Temporary field office: Furnish field office building for use of Contractor

personnel. Field office structure shall meet all requirements of the most current version of the IBC. Provide temporary electrical, heating, telephone, fax, and internet services at the field office.

2. Temporary storage facilities: Furnish temporary storage facilities as required to protect materials and equipment during the course of the work. Facilities shall be structurally sound and sufficiently weather tight to protect stored items in accordance with the manufacturer's recommendations.
3. Worker shelters: Worker shelters shall be provided in accordance with applicable laws and regulations.
4. Contractor to provide and pay for all temporary construction facility related components and fees.

2.3 TEMPORARY CONTROLS CONTRACTOR FURNISHED ITEMS

A. Temporary Controls

1. Furnish all gates, barricades, fences, handrails, guardrails, and security systems required for safe execution and protection of the work.
2. Furnish all Guards, markers, shields, protective clothing, hard hats, hearing protection and other equipment required by health and safety regulations for workers.
3. Furnish erosion controls in accordance with industry accepted Best Management Practices and in accordance with Section 01 57 13.
4. Furnish all required first aid and fire suppression equipment required by laws and regulations.
5. Contractor to provide and pay for all temporary controls related components and fees.

PART 3 – EXECUTION

3.1 TEMPORARY UTILITIES

- A. All work relating to temporary utilities shall be arranged and implemented by the Contractor.
- B. All costs associated with providing temporary utilities shall be borne solely by the Contractor including hookup.
- C. Contractor shall not connect to any existing utility system unless specific written authorization from the applicable utility company is given.
 1. Contractor shall provide individuals who are qualified to connect to the existing utility system and provide all necessary equipment and materials required for the connection.

2. Contractor shall at no time exceed the usage allowed by AEA's governing the utility.
 3. Contractor shall remove all temporary materials and equipment upon completion of construction and repair any damage caused by installation, and restore to like new condition.
- D. Water: Provide temporary water for all construction requirements and Contractor's crews. Contractor shall maintain sanitary conditions at all times and shall not violate requirements of applicable codes.
- E. Sanitation Facilities: Provide and maintain facilities for Contractor's employees, Subcontractors and all other onsite employer's employees. Service, clean, and maintain facilities and enclosures.
- F. Electricity and Lighting: Provide temporary power for all construction requirements including Contractor's field office and to ensure safe work conditions and security of site. Provide temporary lighting as required to meet all applicable safety requirements to allow erection, application or installation of materials and equipment, and observation or inspection of the work.
- G. Heating: Provide temporary heating systems at the field office and other temporary construction facilities as required by laws and regulations.
- H. Communication Systems: Provide temporary communication systems at the field office including telephone, fax, and internet service.

3.2 TEMPORARY CONSTRUCTION FACILITIES

- A. Field Office: Contractor shall maintain an on-site field office
1. Field office shall provide sufficient working space and sanitary facilities for Contractor personnel. Provide temporary electrical, heating, water, sewer, telephone, fax, and internet services at the field office.
 2. Field Office shall provide a temporary workspace with internet connections and phone for AEA, the Project Manager and other Authority Representatives.
- B. Temporary Storage Yard:
1. A temporary storage yard within the community shall be provided by the Contractor for storage of products, equipment, and materials used in the construction of the project.
- C. Temporary Storage Buildings:
1. Environmental control systems shall be provided that meet recommendations of manufacturers of equipment and materials stored.
 2. Contractor shall arrange or partition to provide security of contents and ready access for inspection and inventory.

3. Combustible materials (paints, solvents, fuels, etc.) shall be stored in a well-ventilated and remote building meeting applicable safety standards.
- D. Access roads:
1. Access roads, if required, shall be constructed within easements, rights-of-way, or Project limits. Alignments for new routes shall be approved by Project Manager.
 2. Ground surface disturbed by access road construction shall be restored to original grade upon completion of construction.

3.3 TEMPORARY CONTROLS

- A. Air Pollution Controls:
1. Minimize air pollution from construction operations.
 2. Burning of waste materials, rubbish, or other debris will not be permitted on or adjacent to the site.
- B. Water Pollution Controls:
1. Contractor shall not cause or permit action to occur which would cause a discharge to an existing waterway. See Section 01 57 13.
- C. Erosion Control:
1. As specified in Section 01 57 13.

3.4 PROGRESS CLEANING AND WASTE REMOVAL

- A. Maintain work areas free of waste materials, debris, and rubbish. Maintain work site in a clean, orderly and organized condition. Materials should be clearly identified, with products covered and labeled. Materials should be identified with generator (Contractor) name.
- B. Collect and remove waste materials, debris, and rubbish from site periodically and dispose of in accordance with all Federal, State and local regulations.
- C. Contractor shall not dispose of hazardous materials such as mineral spirits, oil, chemicals, or paint thinner at the local landfill. Provide acceptable containers for collection and disposal of waste materials, debris, and rubbish.

3.5 REMOVAL OF TEMPORARY FACILITIES

- A. Remove temporary materials, equipment, services, and construction prior to Substantial Completion inspection, with the exception of temporary bulk fuel storage.
- B. Clean and repair damage caused by installation or use of temporary facilities. Restore permanent facilities used during construction to pre-construction condition.

END OF SECTION

SECTION 01 51 19

TEMPORARY FUEL STORAGE AND DISPENSING

PART 1 – GENERAL

1.1 SCOPE OF WORK

- A. Requirements for maintaining code-compliant temporary fuel storage and dispensing during the construction of the new facility.

1.2 RELATED REQUIREMENTS

- A. Section 01 33 00 – Submittals.
- B. Section 01 50 00 – Construction Facilities and Temporary Controls.

1.3 REFERENCES

- A. 18 ACC 75 Article 075 Secondary Containment Requirements for Aboveground Oil Storage and Surge Tanks.
- B. 2012 International Fire Code.
- C. API 2015 Requirements for Safe Entry and Cleaning of Petroleum Storage Tanks.
- D. 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response.

1.4 SUBMITTALS

- A. Contractor shall submit a work plan for approval detailing the location and capacity of storage facilities, demonstrating code-compliance and describing procedure for dispensing and metering.

1.5 PROCEDURES

- A. Contractor shall be responsible for obtaining all temporary storage location permits, permissions and all associated fees in accordance with local, State, and Federal Regulations, Statutes and Laws. If the temporary storage site is located on private land, the Contractor shall obtain written permission from the property owner or owners for such temporary storage site(s) and shall furnish AEA with a copy of this permission. The written permission shall specifically provide that the property owner will not hold AEA, the City, its employees, agents, or engineers liable for use of or damage to this property.

1.6 ENVIRONMENTAL REQUIREMENTS

- A. Secondary containment and spill response equipment and materials shall be provided and stored in accordance with 33 CFR.

- B. Liners must withstand 80 mile per hour winds, petroleum emersion, direct sunlight, and -40° F temperatures.

PART 2 – MATERIALS

2.1 LINERS

- A. All liners must meet 18 AAC Section 370 requirements.

PART 3 – EXECUTION

3.1 INSTALLATION

- A. The temporary facilities shall be adequately protected from vandalism and unauthorized access by installing temporary fencing and appropriate signage and lighting as necessary.
- B. Removal of temporary storage facility shall be in accordance Section 01 50 00 3.5 – Removal of Temporary Facilities.

END OF SECTION

SECTION 01 55 26

TRAFFIC CONTROL

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. This section describes the requirements, products, and methods of execution for traffic control on this Project.

1.2 GENERAL REQUIREMENTS

- A. The Contractor is responsible for traffic control to ensure safe passage of pedestrians and vehicles in and around the work area. The Contractor shall prepare, submit, implement, and maintain an acceptable Traffic Control Plan (TCP). An electronic copy of the TCP shall be delivered to the Engineer within ten (10) working days of the effective date of the Notice-to-Proceed (NTP), or five (5) working days before commencement of work, whichever is the earlier date. The Engineer will review and accept or reject the plan within five (5) working days of submission. Successive submittals will also be reviewed within five (5) working days.
- B. The TCP shall include a drawing or drawings indicating the method or scheme for safely and efficiently routing traffic during construction. The TCP shall include provisions for safely routing pedestrian, bicycle, and vehicle traffic through or around the construction zone.
- C. All routes utilized by the Contractor shall be identified and included in the TCP. At a minimum, the TCP shall cover the route from the barge landing to the storage yard, route from the storage yard to the Project Site, and route from the Project Site to the material source.
- D. The Work shall be conducted to interfere as little as possible with public access and comply with the following requirements:
 - 1. If for any reason it is necessary to cross, close, or obstruct roads, driveways, and walks, whether public or private, Contractor shall provide and maintain suitable and safe bridges, detours, or other temporary expedients for accommodation of public and private travel.
 - 2. Contractor shall not block off emergency vehicle access without written permission from the Project Manager. Operations shall be conducted with the least interference to fire equipment access, and at no time prevent such access. Contractor shall furnish night emergency contact numbers to the Project Manager.
 - 3. Contractor shall not block more than one-half the thoroughfare at any time during crossings.
 - 4. If a closure is required, Contractor shall maintain satisfactory means of

exit for persons residing or having occasion to transact business along the route of the Work.

5. If it is necessary to close off a thoroughfare or other access providing sole vehicular access to property for periods greater than 2 hours, provide written notice to each property owner affected 3 days prior to such closure. Maintenance of traffic is not required if Contractor obtains written permission from property owner and tenant of private property, or from AEA having jurisdiction over public property involved, to obstruct traffic at the designated point.
6. Contractor shall not block pedestrian or vehicle access to homes or businesses.

PART 2 - PRODUCTS

2.1 EQUIPMENT

- A. The TCP may include, but not be limited to, such items as signs, portable concrete barriers, barricades, traffic cones, special signs, warning lights, portable changeable message board signs, flaggers, pilot cars, temporary roadways, and all other items required to direct traffic through or around the construction zone in accordance with these specifications, the Manual on Uniform Traffic Control Devices (MUTCD), published documents by the US Department of Transportation, the State of Alaska Traffic Manual (ATM), and the Alaska Sign Design Specifications (ASDS).

PART 3 - EXECUTION

3.1 MAINTENANCE OF TRAFFIC

- A. Contractor shall perform the Work in accordance with the approved TCP, and this Specification. No Work shall occur within traveled ways, rights-of-way or easements for public access until the Contractor has implemented an approved TCP for the Work proposed. The number of signs indicated on the TCP is a minimum. If unsafe conditions occur, the Engineer or Project Manager may require additions signs/devices at no additional cost to AEA.

END OF SECTION

SECTION 01 57 13

TEMPORARY EROSION AND SEDIMENT CONTROL

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS

- A. This project is subject to conditions, limitations, and mitigation required by local, State, and Federal permitting agencies, building codes, and stakeholders.
- B. Requirements of Federal, State, and local statutes and regulations dealing with storm water, pollution, and erosion shall be strictly adhered to by the Contractor.
- C. Contractor shall comply with all laws and regulations relating to prevention and control of erosion.

1.2 GENERAL

- A. The Contractor is responsible for acquiring and operating within the conditions of all permits required by Local, State, and Federal permitting agencies.
- B. Contractor shall prepare an Erosion and Sediment Control Plan for the project. Contractor shall implement storm water and erosion control as soon as practicable to limit the potential for sediment transport and riling of disturbed slopes and/or embankment slopes.
- C. Contractor shall prepare and implement a Hazardous Material Control Plan (HMCP) for prevention of pollution from storage, use, containment, cleanup, and disposal of all hazardous material, including petroleum products related to construction activities and equipment.
- D. The contractor shall make their own determination if construction activity outside of the fill limits will sufficiently disturb the native ground surface to require development and implementation of a SWPPP. If cumulative ground disturbance of more than one acre is anticipated, Contractor shall prepare, implement, and maintain a SWPPP in accordance with the Construction General Permit (CGP) for Discharge from Large and Small Construction Activities, issued by the Alaska Department of Environmental Conservation (ADEC) under the Alaska Pollutant Discharge Elimination System (APDES).

1.3 ENVIRONMENTAL PROTECTION

- A. The Contractor shall comply with the provisions of Federal, State and local statutes, ordinances and regulations dealing with the prevention of environmental pollution and the preservation of public natural resources that may affect or may be affected by the Project. The Contractor shall familiarize himself with all such statutes, ordinances and regulations, whether listed or not.

1.4 DEFINITIONS

- A. Repair. Mending or replacement of erosion and control measures to a degree as to meet the intended function as outlined in the ESCP, as determined by the Project Manager. Repairs to erosion control measure can result from, but is not limited to, any degradation to the items from flooding, sediment deposition, wind, and construction activities.

1.5 SUBMITTALS

- A. Hazardous Material Control Plan.

Submit an electronic copy of the HMCP, to the Project Manager for approval. Submit these documents to the Project Manager at least twenty-one (21) days before beginning Construction Activity. After the HMCP is approved by the Owner, the Contractor must sign and certify the approved HMCP.

- B. Inspection Reports

The contractor shall submit an electronic copy of the routine inspection reports as defined in the Erosion and Sediment Control Plan. Reports shall be submitted to the Project Manager within 24 hours after the report is recorded.

- C. Approved SWPPP, if required under Section 1.2 above.

PART 2 - EROSION, SEDIMENT, AND POLLUTION CONTROL

2.1 TEMPORARY AND PERMINENT EROSION CONTROL

- A. Temporary erosion and pollution control measures that are required at Contractor-furnished sites are subsidiary.
- B. Perform temporary erosion and pollution control measures that are required due to your negligence, carelessness, or failure to install permanent controls as a part of the work as scheduled or ordered by the Engineer, or for your convenience, at your own expense.
- C. Permanent erosion and pollution control measures will be measured and paid for under other contract items, when shown on the bid schedule.

PART 3 - EXECUTION

3.1 EROSION CONTROL

- A. Contractor shall obtain, implement, and update a SWPPP onsite as required by State and Federal Regulations.
- B. Best management practices for erosion control shall be observed to prevent construction related erosion impacts to receiving waters.

END OF SECTION

SECTION 01 60 13

MATERIAL AND EQUIPMENT

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Products.
- B. Transportation and Handling.
- C. Storage and Protection.

1.2 RELATED REQUIREMENTS

- A. Section 01 45 00 Quality Control

1.3 PRODUCTS

- A. Products include material, equipment, and systems.
- B. Comply with Specifications and referenced standards as minimum requirements.
- C. Components required to be supplied in quantity within a Specification section shall be the same, and shall be interchangeable.
- D. Do not use materials and equipment removed from existing structure, except as specifically required, or allowed, by Contract Documents.

1.4 TRANSPORTATION AND HANDLING

- A. Transport products by methods to avoid product damage; deliver in undamaged condition in manufacturer's unopened containers or packaging, dry.
- B. Provide equipment and personnel to handle products by methods to prevent soiling or damage.
- C. Immediately on delivery, inspect shipment to assure:
 - 1. Product complies with requirements of Contract Documents and reviewed submittals.
 - 2. Quantities are correct.
 - 3. Accessories and installation hardware are correct.
 - 4. Containers and packages are intact and labels legible.
 - 5. Products are protected and undamaged.

1.5 STORAGE AND PROTECTION

- A. Handle and store materials for construction, products of demolition, and other items to avoid damage to adjacent facilities and equipment.
- B. Store products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products in weather-tight enclosures; maintain within temperature and humidity ranges required by manufacturer's instructions.
- C. Store loose granular materials on solid surfaces in a well-drained area; prevent mixing with foreign matter. Cover such material to prevent material from being blown away.
- D. Arrange storage to provide access for inspection. Periodically inspect to assure products are undamaged, and are maintained under required conditions.
- E. Provide Material Safety Data Sheets (MSDS) for all products which may produce unpleasant or noxious odors. Contractor shall provide for adequate venting if needed.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 01 64 00

RECEIPT OF OWNER FURNISHED MATERIALS

PART 1 - GENERAL

1.1 SUMMARY

- A. This section describes materials furnished by the Owner for this project. This includes the following:
1. Two existing above-grade, 3-inch diameter, Schedule 80 fuel header pipelines (approximately 5,300 total feet of pipe). Pipelines are currently in use and contain both gasoline and diesel fuel. The Contractor shall decommission the pipelines as specified in the contract documents and reuse the existing pipe to install buried fuel header pipelines from the barge landing to the existing tank farm. Some sections of the existing pipe coatings have been damaged. The extent of the pipeline coating damage is unknown. The Contractor shall make their own estimation of the condition of the pipe and pipe coating. The amount of pipe repairs and pipe coating repairs required for the existing pipelines will be determined based on a visual inspection and holiday testing by a third-party inspector.
 2. Two bundles of 3-inch Schedule 80 piping are stockpiled on the south edge of the barge landing staging area. The pipes were produced in 42-foot random lengths. The pipes were left over from the 2015 tank farm relocation project. One bundle contains 20 sections of pipe and the other bundle contains approximately 30 sections of pipe. There is a minimum of 2,000 feet of stockpiled pipe on site. Some sections of the stockpiled pipe coatings have been damaged. The extent of the pipe coating damage is unknown. The Contractor shall make their own estimation of the condition of the pipe and pipe coating. The amount of pipe repairs and pipe coating repairs required for the stockpiled pipe will be determined based on a visual inspection and holiday testing by a third-party inspector.
 3. All other material required for the proper execution and construction of the project shall be provided by the Contractor.
 4. There is an existing aluminum trip box located at the existing bulk fuel header that is in good condition. Removal drip box and reinstall at the new header as shown on the drawings.

1.2 DELIVERY OF OWNER FURNISHED MATERIAL

- A. Material furnished by the Owner is located at the barge landing staging area and the aboveground fuel header pipelines in Port Heiden, AK.
- B. Coordinate with AEA Project Manager/Engineer to facilitate transfer of materials and acceptance receipt.

1.3 ACCEPTANCE OF OWNER FURNISHED MATERIAL

- A. The Contractor shall (1) receive and accept the materials located in Port Heiden; (2) The Contractor shall make their own estimation of the condition of the pipe and pipe coating. The amount of pipe repairs and pipe coating repairs required for the Owner furnished pipe material will be determined based on a visual inspection and holiday testing by a third-party inspector.

1.4 RECEIPT, TRANSPORTING, AND STORING OWNER FURNISHED MATERIAL

- A. The Contractor shall receive, transport, and protect all material in accordance with the manufacturer's instructions. All material, which is not installed immediately upon receipt, shall be stored in accordance with the manufacturer's instructions in a temperature controlled environment (above freezing).
- B. All handling charges required for receiving, loading, unloading, hauling, transporting or storing the material shall be provided by the Contractor.
- C. The Contractor shall provide proper equipment as necessary to load, unload, and transport OWNER furnished material. The equipment shall be rated as required to properly handle the material.

1.5 DAMAGE TO OWNER FURNISHED MATERIAL

- A. Upon receipt of the materials as specified above, the Contractor shall become solely responsible for their care, transportation, storage, and protection. In the event materials are damaged, lost, stolen, or destroyed by any cause whatsoever after the Contractor has received them, their repair or replacement shall be entirely at the Contractor's expense.
- B. All material replaced by the Contractor shall be equal to the material provided by the OWNER and shall meet the material purchase specifications.

1.6 STORAGE OF OWNER FURNISHED MATERIAL

- A. The Contractor shall provide storage for all OWNER furnished material and shall be responsible for transporting the material to the jobsite as required to support the construction schedule.

1.7 EXCESS MATERIALS

- A. All materials furnished by the OWNER in excess of those actually used in the construction of the project shall be stored in accordance with the manufacturer's instructions until the OWNER collects them. The Contractor shall provide a complete list of excess materials to the Owner and Engineer.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 01 71 23.16

CONSTRUCTION SURVEYING

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. This section is intended to establish a standard minimum level of acceptable field survey specifications and procedures to properly control the construction project.
- B. The Contractor shall furnish all labor and materials necessary to perform all surveying and construction staking essential for the completion of construction in conformance with the drawings, specifications, and other Contract Documents. The Contractor shall perform all the necessary calculations required to accomplish the work.
- C. It is the Contractor's responsibility to ensure proper survey methods and procedures are followed. The Contractor, at no additional expense to AEA, shall correct any errors resulting from the survey. Any method conflicting with these survey specifications shall be approved by the Project Manager prior to its use.
- D. All survey work performed shall be under the direct supervision of a Professional Land Surveyor registered in the State of Alaska.

1.2 RELATED SECTIONS

- A. Section 01 78 39 Project Record Documents

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

3.1 PROJECT CONTROL

- A. General: AEA will provide reference horizontal and vertical control data to facilitate construction staking. It is the Contractor's responsibility to establish and check all survey control prior to any staking activity to ensure that the Project is properly located and constructed according to the Contract Documents. If discrepancies are found, Project Manager shall be notified separately and immediately. The Contractor is responsible for preserving and protecting all line stakes, grade stakes, reference points, and hubs. In the event of their loss or destruction, the Contractor shall pay all costs for their replacement. The Contractor shall replace any monument that exists within the construction limits if it is disturbed or removed due to construction project activity. All monumentation disturbed or removed shall be replaced with the same type of monument or a monument approved by the Project Manager.

- B. Horizontal Control Accuracy: The maximum permissible linear error allowed in establishing horizontal control is 1:5000 feet. The maximum error allowed in unadjusted angular closure shall be calculated by the formula “30 multiplied by the square root of N” where the term “N” signifies the number of transit setups in the traverse and “30” signifies 30 seconds.
- C. Vertical Control
 - 1. Elevations shall originate from the datum provided in the Contract Drawings. All level circuits run to establish temporary benchmarks (TBM) shall have an accuracy no less than the value computed by the equation “0.1 feet multiplied by the square root of the distance in miles.” Foresights and backsights shall be balanced. The maximum sighting distance shall not exceed 300 feet. All leveling circuits establishing TBMs shall be adjusted using recognized standard surveying adjustment methods. Side shots to establish elevations on TBMs shall not be allowed.
 - 2. A minimum of two known benchmarks shall be used when establishing TBMs to verify correct elevation information. A sufficient number of TBMs shall be set to control the Project with a maximum spacing of 800 feet. A TBM shall not be located further than 200 feet outside the construction limits of the Project. All TBMs shall be located and be comprised of sufficient material such that their integrity will not be compromised throughout the life of the Project.

3.2 FIELD NOTES

- A. The Contractor shall supply uniform, hard backed, write in rain survey field books. The Project Manager has the right to inspect the field books at any time during the Project. All field books shall be identified on the outside spine. Each book shall be indexed and its contents referred to by page number. The date, weather condition, survey crew personnel, and instruments used shall be shown at the beginning of each day’s notes. All field books containing field notes shall be sealed and signed by a Registered Professional Land Surveyor on the title page of each field book. Copies of all field books used in the process of work shall be submitted to the Project Manager upon completion of the work.
- B. All observations shall be recorded directly into project field books. All field books shall be in pencil. All field notes and drawings shall be completed and reduced before acceptance by the Project Manager. Control sketches and traverse data shall be graphic and show measured and recorded distances. The source of record shall be stated. Stationing shall increase from the bottom of the page to the top. Notes shall be neat, legible, precise and sufficiently detailed. The Project Manager may stop all survey work until the notes are brought into conformance with this specification. A copy of each day’s field notes shall be reduced and available to the Project Manager by 12:00 PM the following workday. The Project Manager may issue a stop work order at the Contractor’s expense if the field notes are not delivered, when requested, within this timeframe.

- C. Erasures of errors in field books will not be accepted. A line shall be drawn through those portions of notes in error, leaving the original note legible, and the correction shall be noted above the original entry. Corrections shall be initialed by the party chief and dated. Where appropriate, a note explaining the error shall be included.
- D. Failure on the part of the Contractor to keep and maintain complete and accurate field notes as required herein shall be sufficient reason to withhold payment for those items of work where survey is required. No final Project payment will be made to the Contractor until copies of the field books have been submitted to and approved by the Project Manager.

3.3 PARTY CHIEF'S DAILY DIARY

- A. The survey party chief shall keep a factual daily diary of all work performed by the survey crew on this Project. The diary shall contain the following information: date, crew, type and location of work performed, work accomplished, orders from the Project Manager and signature.
- B. This record shall be kept on the Project Site and submitted to the Project Manager upon request. A copy of the diary shall be submitted to AEA upon completion of the Project.

3.4 MISCELLANEOUS CONSTRUCTION STAKING

- A. The Contractor shall provide sufficient stakes for the adequate control of all structures and incidental construction not specifically covered above. A staking diagram with respect to fuel line stations and measurements for pay quantities shall be maintained in the field notes. Other items such as horizontal and vertical control shall be shown in the field book and shall be governed by procedures established in previous articles of this specification.

3.5 ELECTRONIC DATA COLLECTION AND RADIAL SURVEYS

- B. When electronic data collection is used for radial stakeout, the following criteria shall be maintained and submitted:
 - 1. A standard field book containing: date, weather conditions, instrumentation used, crew, project description and sketch, listing of turning points and control points used, and other information needed to reconstruct the survey activity.
 - 2. A printout of the unedited output from the data collector or a copy of the field book entries to include: code descriptors, horizontal circle information, vertical circle information based on zenith angle and slope distance expressed in feet. Also, a sheet containing the explanation of the codes used to identify the various shots.
 - 3. A printout of the reduced and adjusted (ratios of error and magnitude of misclosure shown) data represented by x, y, and z coordinates, plus necessary descriptive information.

4. A plot and or line drawing showing the control points, point occupied, and the radial observations at a scale large enough to read the point number, elevation, point descriptions, and coordinates.
5. If cross sectional data is collected by radial methods a printout/plot of the following data is required:
 - a. Each point identified as it relates to the centerline station of alignment.
 - b. The distance offset from centerline of alignment.
 - c. The elevation and description of the shot.
 - d. A cross section line plot of each station with the individual shots averaged out to produce the final interpolated cross section.
 - e. The vertical angle and distance to the TBM's used for control and the instrument height, and the height of the prisms.

3.6 AS-BUILT SURVEYS, FIELD NOTES AND PROJECT RECORD DOCUMENTS

- A. As-built survey measurements shall be recorded on a clean set of blueline drawings deemed the Project Record Documents and shall show changes and improvements which vary from the dimensions, lines, grades, locations and materials as shown on the Contract Drawings. The as-builts shall also include swing ties to all pertinent existing structures, in accordance with Section 01 78 39.
- B. Survey measurements shall be taken, field notes shall be kept, and accuracies shall be attained in accordance with the specifications of this section.
- C. When electronic data collection is used to obtain as-built information, the following information shall be maintained and submitted:
 1. A printout of the unedited, raw data from the data collector.
 2. An explanation of all codes and abbreviations used.
 3. A printout of the x, y, and z coordinates.
 4. An electronic file, suitable for insertion into AutoCAD, with as-built features indicated by horizontal position, description, and elevation, based on Project coordinates.

Electronic data collection used to obtain as-built information does not relieve the Contractor's obligation to maintain Project Record Documents or the obligation to obtain swing ties.

- D. A copy of all survey field notes shall be submitted with each pay request. Pay requests shall not be processed until the survey notes are received by the Project Manager and the Project Manager is provided evidence that the Project Record Documents are current and in the required condition.

- E. Project Record Documents shall be redlined and kept current. They shall be kept ready for review for when the Project Manager, at his/her option, requests that the Project Record Documents be submitted with the survey field notes for the pay request.
- F. Project Record Documents shall be submitted along with a copy of the field notes to the Project Manager at the completion of construction activity, in accordance with Section 01 78 39 Project Record Documents, of these Specifications.
- G. A completed FEMA Elevation Certificate (EC) FEMA form 086-0-33 shall be submitted prior to the substantial completion inspection.

END OF SECTION

SECTION 01 77 19

CLOSEOUT REQUIREMENTS

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Administrative provisions for Substantial Completion and for Final Acceptance.
- B. Closeout Procedures.
- C. Final Cleaning.
- D. Project Record Documents.
- E. Warranties and Bonds.
- F. Spare Parts and Maintenance Materials.

1.2 RELATED REQUIREMENTS

- A. Division 00 Bidding and Contract Requirements.
- B. Document 00 70 00 General Conditions: Fiscal provisions, and additional administrative requirements.
- C. Section 01 29 73 Schedule of Values.
- D. Section 01 33 00 Submittal Procedures.
- E. Section 01 78 39 Project Record Documents.

1.3 FINAL CLEANING

- A. Execute final cleaning prior to Substantial Completion inspection.
- B. Use materials which will not create hazards to health or property, and which will not damage surfaces. Follow manufacturer's recommendations.
- C. Remove waste, debris, and surplus materials from the site.

1.4 ADJUSTING

- A. Adjust operating products and equipment to ensure smooth and unhindered operation.

1.5 PROJECT RECORD DOCUMENTS

- A. Comply fully with the requirements of Section 01 78 39 Project Record Documents.

1.6 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Provide products, spare parts, maintenance, and extra materials in quantities specified in individual Specification Sections.
- B. Deliver to Project site and place in location as directed, obtain receipt prior to final payment.

1.7 WARRANTIES

- A. As specified in Section 00 70 00 – General Conditions Article 12.7, Contractor shall warranty all work for a period of one (1) year after substantial completion, unless longer warranty periods are specified for individual products or pieces of work.
- B. As a condition precedent to Final Payment, all guaranties and warranties as specified under various sections of the Contract Documents shall be obtained by the Contractor and delivered to the Project Manager, in duplicate giving a summary of guarantees attached and stating the following in respect to each:
 - 1. Character of Work affected.
 - 2. Name of Subcontractors.
 - 3. Period of Guarantee.
 - 4. Conditions of Guarantee.
- C. Delivery of said guarantees and/or warranties shall not relieve the Contractor from any obligations assumed under any other provision of the Contract.
- D. If, within any guarantee period, repairs or changes are required in connection with the guaranteed Work, which in the opinion of AEA is rendered necessary as the result of the use of materials, equipment or workmanship, which are defective, or inferior, or not in accordance with the terms of the Contract, the Contractor shall, upon receipt of notice from the Project Manager, and without expense to AEA, proceed within seven (7) calendar days to:
 - 1. Place in satisfactory conditions in every particular all of such guaranteed Work, correct all defects therein, and make good all damages to the structure or site.
 - 2. Make good all Work or materials, or the equipment and contents of structures or site disturbed in fulfilling any such guarantee.
- E. If the Contractor, after notice, fails to comply with the terms of the guarantee, AEA may have the defects corrected and the Contractor and Contractor's Surety shall be liable for all expenses incurred in connection therewith, including Engineer's fees.

1.8 OPERATIONS AND MAINTENANCE DATE (O&M MANUALS)

- A. Submit an electronic copy of draft O&M manuals ten (10) working days prior to Substantial Completion inspection. Revise and resubmit as necessary based on Engineer mark-ups.
- B. The Engineer shall approve the draft O&M manuals for use in on-site facility training prior to completion of a Substantial Completion inspection.
- C. Submit four (4) sets of final O&M manuals within fifteen (15) days of Substantial Completion inspection or date of approval of draft operations and maintenance manuals.
- D. Submit data in bound 8-1/2 x 11 inch text pages, ring binders with durable plastic covers.
- E. Prepare binder cover with printed title "OPERATIONS AND MAINTENANCE DATA", title of project, and subject matter of binder.
- F. Binder contents shall be divided with plastic page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.
- G. Contents: Prepare a table of contents for each volume, with each Product or system description identified, enclosed in a plastic text sheet sleeve, in three parts as follows:
 - 1. Part 1: Directory, listing names, addresses and telephone numbers of A/E, Contractor, subcontractors, and major equipment suppliers.
 - 2. Part 2: Operation and maintenance instructions arranged by system process flow and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of suppliers. Identify the following:
 - a. Significant design criteria.
 - b. List of equipment.
 - c. Parts list for each component.
 - d. Operating instructions.
 - e. Maintenance instructions for equipment and systems.
 - 3. Part 3: Project documents and certificates, including the following:
 - a. Shop drawings and Product data.
 - b. Pressure test reports.
 - c. Certificates.

d. Copies of Warranties and Bonds.

1.9 ON-SITE FACILITY TRAINING

- A. Contractor shall conduct on-site training of the operation of the new facilities for the facility owners and/or operators. Training must be completed prior to substantial completion inspection. Notify the Project Manager fifteen (15) working days prior to training date.
- B. Facility Training shall include:
 - 1. A thorough walk through of the facility and operational components.
 - 2. Presentation of the O&M Manuals including:
 - i. Discussion of where the O&M Manuals will be kept.
 - ii. Discussion of required facility maintenance.
 - iii. Discussion of the product components.
 - iv. Discussion of the operational procedures and troubleshooting alarms.
 - 3. Discussion of emergency spill response procedures.
- C. Each attendee shall demonstrate competency at transferring fuel, activating and deactivating and Emergency Shut Down, dispensing fuel, opening and closing appropriate valves for fuel delivery.
- D. Training shall be approximately two (2) four (4) hour sessions. Total training duration shall be a minimum of eight (8) hours.

1.10 SUBSTANTIAL COMPLETION SUBMITTALS

Submit the following prior to requesting a Substantial Completion Inspection:

- A. Project Record Documents: Under provisions of Section 01 78 39.
- B. Operation and Maintenance Data (O&M Manual): Under provisions of Section 01 77 19.
- C. Spare Parts and Maintenance Materials: Under provisions of Section 01 77 19.

1.11 SUBSTANTIAL COMPLETION

- A. Substantial Completion shall be considered by AEA when:
 - 1. Written notice is provided seven (7) days in advance of inspection date.
 - 2. List of items to be completed or corrected is submitted.

3. Equipment and systems have been tested, adjusted, balanced and are fully operational.
 4. Operation of system has been demonstrated to the Project Manager.
 5. Certificates of Inspection for required inspections have been submitted.
 6. Project Record Documents for the Work or the portion of the Work being accepted are submitted and approved.
 7. Spare parts and maintenance materials are turned over to AEA.
- B. Should AEA's inspection find that the Work is not substantially complete, Project Manager will promptly notify Contractor in writing, listing observed deficiencies.
- C. Contractor shall remedy deficiencies and send a second written notice of Substantial Completion.
- D. When AEA finds that the Work is substantially complete the Project Manager will prepare a certificate of Substantial Completion in accordance with provisions of General Conditions.

1.12 FINAL COMPLETION

- A. When Contractor considers Work is complete, submit written certification:
1. Contract Documents have been reviewed.
 2. Work has been inspected for compliance with Contract Documents.
 3. Work has been completed in accordance with Contract Documents, and deficiencies listed with certificate of Substantial Completion have been corrected.
 4. Work is complete and ready for final inspection.
- B. Should AEA's inspection find the Work incomplete, the Project Manager will promptly notify Contractor in writing listing observed deficiencies.
- C. Contractor shall remedy deficiencies and send a second certification of Final Completion.
- D. When AEA finds that the Work is complete, the Project Manager will consider closeout submittals.

1.13 REINSPECTION FEES

- A. Should status of completion of Work require more than two re-inspections by AEA due to failure of Work to comply with Contractor's responsibility, AEA will deduct the cost of re-inspection from final payment to Contractor as provided in the Contract Documents.

- B. Re-inspection fees shall not exceed \$5,000 for any one re-inspection.

1.14 CLOSEOUT SUBMITTALS

- A. Project Record Documents: Under provisions of Section 01 78 39.
- B. Warranties and Bonds: Under provisions of Section 01 77 19.
- C. Operations and Maintenance Manuals: Under provisions of Section 01 77 19.
- D. Evidence of Payment: In accordance with Conditions of the Contract.
- E. Certificate of Release of Liens.
- F. Contractor's Statement Concerning Claims.
- G. Miscellaneous
 - 1. As-Built Construction Schedule versus Baseline Schedule.
 - 2. Any progress photos pertinent to substantial completion/final completion.
 - 3. Final survey notes not previously transmitted.

1.15 STATEMENT OF ADJUSTMENT OF ACCOUNTS

- A. Submit final statement reflecting adjustments to Contract Price indicating:
 - 1. Original Contract Price.
 - 2. Previous Change Orders.
 - 3. Changes under allowances.
 - 4. Changes under Unit Prices.
 - 5. Deductions for uncorrected Work.
 - 6. Penalties and bonuses.
 - 7. Deductions for liquidated damages.
 - 8. Deductions for re-inspection fees.
 - 9. Other adjustments to Contract Price.
 - 10. Total Contract Price as adjusted.
 - 11. Previous payments.
 - 12. Sum remaining due.

- B. AEA will issue a final Change Order reflecting all remaining adjustments to Contract Price not previously made by Change Orders.
- C. See Section – 01 29 73 for minimum value for Contract Closeout Submittals.

1.16 APPLICATION FOR FINAL PAYMENT

- A. Submit Application for Final Payment in accordance with provisions of the General Conditions of the Contract.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 01 78 39

PROJECT RECORD DOCUMENTS

PART 1 – GENERAL

1.1 REQUIREMENTS INCLUDED

- A. Maintenance of Record Documents and Samples.
- B. Submittal of Record Documents and Samples.

1.2 RELATED REQUIREMENTS

- A. Section 00 70 00 General Conditions: Record Documents.
- B. Section 01 33 00 Submittal Procedures.
- C. Section 01 33 23 Shop Drawings, Product Data, and Samples.
- D. Section 01 77 19 Closeout Requirements.

1.3 MAINTENANCE OF DOCUMENTS AND SAMPLES

- A. In addition to requirements in General Conditions, maintain at the site for the Authority one accurate record copy of:
 - 1. Contract Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other modifications to the Contract.
 - 5. Reviewed Shop Drawings, product data, and samples.
 - 6. Survey and field records.
 - 7. Field test records.
 - 8. Inspection certificates.
 - 9. Manufacturer's certificates.
- B. Prior to Substantial Completion, provide original or legible copies of each item maintained by Contractor as listed in 1.3.A above.
- C. Delegate responsibility for maintenance of Record Documents to one person on Contractor's staff.

- D. Promptly following award of Contract, secure from AEA, at no cost to the Contractor, one complete set of all Documents comprising the Contract.
- E. Immediately upon receipt of job set described above, identify each Document with title "RECORD DOCUMENTS - JOB SET".
- F. Store record documents and samples in field office apart from documents used for construction. Provide files, racks, and secure storage for record documents and samples.
- G. Label and file record documents and samples in accordance with section number listings in table of contents of this Project manual. Label each document "PROJECT RECORD" in neat, large, printed letters.
- H. Maintain record documents in a clean, dry and legible condition. Do not use record documents for construction purposes.
- I. Use all means necessary to maintain job set of Record Documents completely protected from deterioration and from loss and damage until completion of Work and transfer of recorded data to AEA.
- J. Keep record documents and samples available for inspection by AEA.
- K. Upon request by AEA and at time of each Application for Payment, submit complete collection of record documents to Authority for review and duplication as desired.
- L. Authority's approval of current status of Record Documents will be prerequisite to AEA's approval of requests for progress payments and request for final payment.
 - 1. Prior to submitting each request for progress payment, secure AEA's approval of Record Documents as currently maintained.
 - 2. Prior to submitting request for Final Payment, obtain Authority's approval of final Record Documents.
- M. Do not use job set for any purpose except entry of new data and for review and copying by AEA.

1.4 RECORDING

- A. Record information on a set of black line opaque Drawings, and in a copy of a Project manual.
- B. Using felt tip marking pens or colored pencil, maintaining separate colors for each major system, clearly describe changes by note and by graphic line, as required. Date all entries. Call attention to entry by a "cloud" around area or areas affected.

- C. Thoroughly coordinate all changes within Record Documents, making adequate and proper entries on each Specification Section and each sheet of Drawings and other Documents where such entry is required to properly show change or selection.
- D. When a change within Record Documents is referenced to another document, such as a DC/VR, Shop Drawing or Change Order, attach a copy of the referenced document to the respective Record Drawing or Record Specification where the entry is made.
- E. Contract Drawings and Shop Drawings: Legibly mark each item to record actual construction, including:
 - 1. Measured depths of elements of foundation in relation to finish first floor datum, accurate to the nearest inch.
 - 2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements, accurate to the nearest inch.
 - 3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of construction.
 - 4. Field changes of dimension and detail.
 - 5. Changes made by modifications.
 - 6. Details not on original Contract Drawings.
 - 7. References to related Shop Drawings and modifications.
 - 8. Clearly label all changes and show dimensions to establish size and location. All identifications shall be sufficiently descriptive to relate reliably to Specifications.
- F. Specifications: Legibly mark each item to record actual construction, including:
 - 1. Manufacturer, trade name, and catalog number of each product actually installed, particularly optional items and substitute items.
 - 2. Changes made by Addenda and modifications.
- G. Other Documents: Maintain manufacturer's certifications, inspection certifications, and field test records required by individual Specifications sections.

1.5 SUBMITTALS

- A. Upon submittal of the completed Record Documents, make changes in Record Documents as required by AEA.

- B. Transmit with cover letter in duplicate, listing:
1. Date.
 2. Authority's Project title and number.
 3. Contractor's name, address, and telephone number.
 4. Number and title of each record document.
 5. Signature of Contractor or authorized representative.
- C. Final Record Documents shall include both hard copies and digitally scanned copies in .pdf format (high quality grayscale scans, minimum 200 pixels/inch). Scans shall include front and back of drawings/documents where information occurs on both sides.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

END OF SECTION

SECTION 01 94 00

DECOMMISSIONING FUEL PIPING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Procedures for Cleaning and Decommissioning the Fuel Piping System.

1.2 RELATED SECTIONS

- A. Section 01 11 00 Summary of Work.
- B. Section 01 33 00 Submittal Procedures.
- C. Appendix A – Soils Management Plan.

1.3 REFERENCES

- A. 18 AAC 75 Article 3 Discharge, Reporting, Cleanup, & Disposal of Oil and other Hazardous Substances.
- B. 18 AAC 75 Section 370 Soil Storage.
- C. 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response
- D. 40 CFR Chapter I, Subchapter I – Solid Wastes, Parts 260 through 265
- E. 49 CFR Subtitle B, Chapter I, Subchapter A – Hazardous Materials and Oil Transportation, and Subchapter C – Hazardous Material Regulations

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 33 00 Submittal Procedures.
- B. Provide a Health and Safety Plan which includes the Work Plan for decommissioning of fuel piping as required by this Section. The Work Plan shall include a detailed description of how the fuel will be removed and provide for the disposal of the residual fuel and liquid.

1.5 DECOMMISSIONING AND DISPOSAL REQUIREMENTS

- A. Decommission existing Port Heiden barge header and fuel header pipelines as shown on Plans and as required for new construction. Decommission existing barge fuel header and approximately 5,300 total feet of two separate aboveground fuel header pipelines in accordance with this specification. Demolish and remove portions of the existing fuel header and fuel header pipelines that are not reused in accordance with this specification.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Personal Protection Equipment must be appropriate for hazardous materials encountered on the work site and meet requirements in 29 CFR Subpart I, Sections 1910.132-1910.139.
- B. Contractor shall maintain a site-specific Health and Safety Plan that includes, but is not limited to:
 - 1. List of key personnel.
 - 2. Health and Safety Risk Analysis that meets 29 CFR Subpart I, Section 1910.120(c).
 - 3. Comprehensive Work Plan.
 - 4. Confined Space Entry Plan.
 - 5. Site Control Measures.
 - 6. Health and Safety Training Requirements.
 - 7. Standard Operating Procedures.
 - 8. Emergency Response Procedures.

PART 3 - EXECUTION

3.1 PIPE DECOMMISSIONING AND DISPOSAL

- A. All fuel and residual liquid shall be completely removed from existing piping in accordance with the Contractors approved Work Plan.
 - 1. Existing Fuel Piping from Barge Header to Bulk Fuel Tank Farm: Contractor shall purge all remaining fuel and residual liquid from the existing lines. The Contractor shall decommission the pipelines as specified in the contract documents and reuse the existing pipe to install buried fuel header pipelines from the barge landing to the existing tank farm. Contractor shall re-using existing decommissioned pipe materials to the greatest extent possible. Unusable decommissioned piping shall be removed and properly disposed of offsite by the Contractor.
- B. The Contractor shall contain, filter and transfer all useable fuel removed from piping to the respective entities tanks. Any unusable fuel or sludge shall be assumed to be hazardous waste and disposed of by the Contractor in accordance with this Specification.

3.2 HAZARDOUS WASTES

- A. The hazardous nature of containerized sludge will be based upon composite testing performed by the Contractor in accordance with 40 CFR 261.
- B. All waste that is deemed hazardous in accordance with 40 CFR 261 shall be manifested in accordance with 40 CFR 262 and shipped in accordance with US DOT 49 CFR parts 100-199 regulations. The Contractor shall use EPA Uniform Hazardous Waste Manifest, OMB No. 2050-0039, EPA form 8700-22.

3.3 FIELD QUALITY CONTROL

- A. All monitoring equipment must be calibrated daily in accordance with the manufacturer's requirements.
- B. The Contractor Safety Officer is responsible for implementing the OSHA requirements for worker safety on the work site. This includes, but is not limited to, confined entry, atmospheric monitoring, and proper personal protection equipment.

END OF SECTION

SECTION 05 50 00

METAL FABRICATIONS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Shop fabricated steel items.
- B. Miscellaneous metal fabrications and fasteners.
- C. Hot dipped galvanized metal fabrication such as handrails, platform supports, platforms and guardrails.
- D. Other hot dipped galvanized metal fabrications where specified or indicated.

1.2 RELATED REQUIREMENTS

- A. Section 01 33 00 Submittals.
- B. Section 09 96 00.03 Field Applied Pipeline Repair Coating.

1.3 REFERENCE STANDARDS

- A. ANSI A14.3 - American National Standard for Ladders -- Fixed -- Safety Requirements.
- B. ASTM A36/A36M - Standard Specification for Carbon Structural Steel.
- C. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
- D. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- E. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- F. ASTM A325 - Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength.
- G. ASTM A325M - Standard Specification for Structural Bolts, Steel, Heat Treated 830 MPa Tensile Strength (Metric).
- H. ASTM A500/A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
- I. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination; American Welding Society.
- J. AWS D1.1/D1.1M - Structural Welding Code - Steel; American Welding Society.

- K. IAS AC172 - Accreditation Criteria for Fabricator Inspection Programs for Structural Steel; International Accreditation Service, Inc.
- L. SSPC-Paint 15 - Steel Joist Shop Primer; Society for Protective Coatings.
- M. SSPC-Paint 20 - Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic"); Society for Protective Coatings.
- N. SSPC-SP 2 - Hand Tool Cleaning; Society for Protective Coatings.

1.4 SUBMITTALS

- A. See Section 01 33 00 – Submittals.
- B. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.
- C. Indicate welded connections using standard AWS A2.4 welding symbols. Indicate net weld lengths.
- D. Welders' Certificates: Submit certification for welders employed on the project, verifying AWS qualification within the previous 12 months.
- E. Fabricator's Qualification Statement: Provide documentation showing steel fabricator is accredited under IAS AC172.

1.5 QUALITY ASSURANCE

- A. Fabricator Qualifications: Fabricator must be a firm experienced in producing metal fabrications similar to those indicated for this project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- B. Welding: Qualify procedures and personnel according to the following:
 - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
 - 2. Certify that each welder has satisfactorily passed AWS qualification tests for welding processes involved and, if pertinent, has undergone recertification.

PART 2 - PRODUCTS

2.1 MATERIALS - STEEL

- A. Steel Wide Flange Shapes: ASTM A992.
- B. Miscellaneous Steel Sections and Plate: ASTM A36/A36M.
- C. Steel Tubing: ASTM A500, Grade B cold-formed structural tubing.

- D. Pipe: ASTM A53/A53M, Grade B Schedule 40, black and hot-dip galvanized finish, as indicated.
- E. Bolts, Nuts, and Washers: ASTM A325 (ASTM A325M), Type 1, galvanized to ASTM A153/A153M where connecting galvanized components.
- F. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded.
- G. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction.
- H. Touch-Up of Galvanized Surfaces: SSPC-Paint 20, Type I - Inorganic, complying with VOC limitations of authorities having jurisdiction.
- I. GS Metals Corp. Product Grip Strut Safety Grating with fasteners and saddle clips by manufacturer: Galvanized finish.
- J. Aluminum Plate Materials: ASTM B209, 5083-H321 Marine Grade Aluminum.

2.2 FABRICATION

- A. Fit and shop assemble items in largest practical sections, for delivery to site.
- B. Fabricate items with joints tightly fitted and secured.
- C. Continuously seal joined members by continuous welds.
- D. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
- E. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

2.3 FABRICATED ITEMS

- A. Pipe Supports: Steel members, connections, and fasteners as detailed in Drawings; hot-dipped galvanized finish.

2.4 FINISHES - STEEL

- A. Piping shall be coated as identified in Section 09 96 00.03 Field Applied Pipeline Repair Coating.

2.5 FABRICATION TOLERANCES

- A. Squareness: 1/8 inch maximum difference in diagonal measurements.
- B. Maximum Offset Between Faces: 1/16 inch.
- C. Maximum Misalignment of Adjacent Members: 1/16 inch.

- D. Maximum Bow: 1/8 inch in 48 inches.
- E. Maximum Deviation From Plane: 1/16 inch in 48 inches.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive work.

3.2 PREPARATION

- A. Clean and strip primed steel items to bare metal where site welding is required.

3.3 INSTALLATION

- A. Install items plumb and level, accurately fitted, free from distortion or defects.
- B. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
- C. Perform field welding in accordance with AWS D1.1/D1.1M.
- D. Obtain approval from Architect / Engineer prior to site cutting or making adjustments not scheduled.

3.4 TOLERANCES

- A. Maximum Offset From True Alignment: 1/4 inch.
- B. Maximum Out-of-Position: 1/4 inch.

END OF SECTION

SECTION 09 96 00.03

FIELD APPLIED PIPELINE REPAIR COATING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This specification defines the minimum requirements for surface preparation, materials, and application of a high-performance industrial repair coating system for the exterior surfaces of the fuel pipelines.

1.2 SCOPE

- A. Work includes the following principal items:
1. Schedule and conduct cleaning/coating work during favorable atmospheric conditions.
 2. The entire length of both existing pipelines (diesel and gas) and the stored piping located at the project site shall be walked down and inspected by the Owner's Representative and Coating Contractor to examine and inspect all surfaces that will need to be coated under this project. The entire surface of all piping shall be visually inspected. Pipe will need to be lifted and/or vegetation will need to be removed to perform the inspections. All coating defects detected by visual observations and/or other inspections shall be marked to be coated according to this specification. Repair coating of the pipe coating defect areas shall be prepared for recoating in accordance with this specification and shall extend at a minimum 1-inch in all directions beyond the coating defect area.
 3. Portable coating and abrasive blasting hooch's shall be used to perform coating/surface preparation activities. No coating or abrasive blasting materials shall be allowed to contaminate the surrounding environment. The hooch's may need to be moved along the length of the pipelines where the pipe is being installed. The locations where coating/surface preparation activities will occur shall be coordinated with the General Contractor and Owner's Representative.
 4. Surface preparation by solvent cleaning and abrasive blast cleaning.
 5. Maintain the prepared surface prior to coating application. This may require heaters, dehumidification and other equipment.
 6. Proper application and inspection of the specified coating materials on the exterior surfaces of the fuel pipelines.
 7. It is the responsibility of the Coating Contractor to meet the requirements of this Specification, to use equipment capable of meeting these requirements, and to perform all tests and inspections necessary to ensure compliance to this Specification.

8. All surfaces to receive protective coatings shall be cleaned as specified herein prior to the application of the specified coating materials. The Owner's Representative and Coating Contractor shall examine all surfaces to be coated and the Coating Contractor shall correct all surface defects before application of any coating materials.
9. Surfaces which are not to receive protective coatings shall be protected during surface preparation, cleaning, and coating operations. The Coating Contractor shall be responsible for and shall repair any and all damage to adjacent work or adjoining property occurring from surface preparation or coating activities.
10. The Owner's Representative shall have the right to stop all work when it does not fully comply with the requirements of this Specification. The Owner's Representative shall make the final determination for acceptance of the finished product. Where a conflict exists between this Specification, the referenced standards, and the Coating Manufacturer's product data sheets or recommendations, promptly notify the Owner's Representative in writing and the Owner's Representative shall make a determination on which applies.
11. The Coating Contractor shall correct any work which the Owner's Representative has determined to be non-compliant with the requirements of this Specification. Corrections for non-compliant work shall be made without additional cost to the Owner. Failure to discover or reject defective work or materials does not constitute acceptance of such items.
12. The Coating Contractor shall use the best practices of the trade, and when not in conflict with these specifications use the applicable portions of SSPC-PA 1, Shop, Field and Maintenance Painting and the Coating Manufacturer's recommendations. In general, the most stringent requirements will apply.
13. The Coating Contractor shall adhere to all pertinent Owner, federal, state and local safety requirements, codes and regulations.

1.3 COORDINATION OF WORK

- A. Other construction activities and/or projects may be occurring simultaneously and in proximity to this project. The Coating Contractor must schedule and coordinate all work activities with the other contractors and Owner's personnel to avoid conflicts or impacts.

1.4 SAFETY

- A. Adhere to all Owner location specific safety requirements.
- B. Adhere to all pertinent federal, state and local safety requirements, codes and regulations including all applicable 29 CFR 1910 standards.

- C. The Coating Contractor shall submit a project specific safety plan for approval prior to start of any work.
- D. The Coating Contractor shall follow the safety procedures as recommended by the Coating Manufacturer and work in a well-ventilated area. The Coating Contractor shall provide, and require workers to use, impervious clothing, gloves, face shields, and all other appropriate protective clothing that is necessary to prevent eye and skin contact with the abrasive blast and coating materials. Coatings shall be kept away from heat, sparks and flames.
- E. The Coating Contractor shall use suitable and approved equipment for the intended purpose, the equipment shall be properly grounded and have the required safety equipment and/or devices. The equipment shall be kept in satisfactory working condition to permit proper operation.

1.5 REFERENCES

The standards listed below shall govern the work, unless otherwise specified in this specification. All standards shall be the latest edition in effect:

- A. Steel Structures Painting Council (SSPC):
 - 1. SSPC Vol. 1 Good Painting Practices
 - 2. SSPC-SP 1 Solvent Cleaning
 - 3. SSPC-SP 10 Near White Blast Cleaning
 - 4. SSPC-VIS 1 Guide and Reference Photographs for Steel Surfaces Prepared By Dry Abrasive Blast
 - 5. SSPC-PA 1 Shop, Field and Maintenance Painting of Steel
 - 6. SSPC-PA 2 Measurement of Dry Coating Thickness with Magnetic Gauges
- B. National Association of Corrosion Engineers (NACE):
 - 1. NACE SP-0287 Field Measurement of Surface Profile of Abrasive Blast Cleaned Steel Surfaces Using Replica Tape
 - 2. NACE SP-0188 Discontinuity (Holiday) Testing of Protective Coating
- C. American Society for Testing and Materials (ASTM):
 - 1. ASTM D4285 Standard Test Method for Indicating Oil or Water in Compressed Air
 - 2. ASTM D4414 Practice for Measurement of Wet Film Thickness by Notch Gages.
 - 3. ASTM D4417 Field Measurement of Surface Profile of Blast Cleaned Steel

4. ASTM D5162 Standard Practice for Discontinuity (Holiday) Testing of Non-Conductive Protective Coating on Metallic Substrates.
- D. State of Alaska Statute:
1. AS 18.63 Hazardous Painting Certification
- E. Code of Federal Regulations (CFR):
1. 29 CFR 1910 Occupational Safety and Health Standards
 2. 29 CFR 1926 Safety and Health Regulations for Construction

1.6 SUBMITTALS

- A. All submittals require approval from the Owner's Representative prior to initiating work (the coating inspection reports shall be submitted during and after completion of the work). The following shall be submitted for approval:
1. Submit abrasive blast media product data sheets and safety data sheets (SDS) for materials to be used at the job site.
 2. Submit product data sheets and safety data sheets (SDS) for coating materials and solvents to be used at the job site in accordance with 29 CFR 1926.59.
 3. Submit the Coating Manufacturer's recommendations regarding safety procedures, application temperature range, shelf-life of the materials, and material storage requirements.
 4. Submit the Coating Manufacturer's recommendations concerning cure times between coats.
 5. Submit the Coating Manufacturer's touch-up/repair procedures.
 6. Submit documentation that the Coating Contractor has a minimum of five (5) years of recent documented experience applying high-performance industrial coatings on similar projects.
 7. Submit resumes of persons performing the surface preparation and coating application. Applicators (individuals) shall have a minimum of five (5) years of recent documented experience applying similar industrial coatings on similar projects.
 8. Submit a current Hazardous Painting Certification for each worker in accordance with State of Alaska statute AS18.63.
 9. Submit a site-specific work plan & schedule.
 10. Submit a project specific safety plan.

11. Submit proof of any necessary federal, state or local permits or licenses necessary for the project.
12. Submit daily coating inspection reports within 24 hours of the day they were performed.
13. Submit an electronic copy and two hard copies of the final coating inspection report to the Owner's Representative within sixty (60) days of completion of the coating activities.

1.7 QUALITY ASSURANCE

- A. The Coating Contractor shall conform to the Coating Manufacturer's application procedures, product data sheets, recommendations, and this Specification.
- B. The Coating Contractor shall document and maintain accurate quality control records. Records shall be kept for a minimum of five (5) years on all aspects of the coating work, including the results of all quality control testing and inspections.
- C. The Coating Contractor shall have qualified personnel and the necessary equipment to perform all quality assurance tests required by this Specification and the Coating Manufacturer. All equipment must be in good working order and properly calibrated. Testing must be completed in a timely manner to avoid disrupting the production schedule.
- D. Coating Contractor/Applicator Qualifications:
 1. The Coating Contractor (company) shall specialize in performing the type of work described in this Specification. The Coating Contractor shall have a minimum of five (5) years of recent documented experience in surface preparation and applying high-performance industrial coatings on similar projects.
 2. Each applicator (individual) shall have a minimum of five (5) years of recent documented experience applying similar industrial coatings on similar projects.
 3. Each applicator (individual) shall have a current Hazardous Painting Certification in accordance with State of Alaska statute AS18.63.

PART 2 – PRODUCTS

2.1 COATING SYSTEM

- A. Use the following coating system or an Owner’s Representative approved equal coating system:

Coating System - Denso		
Coating Type	Coating Thickness (Mils)	
	Minimum (DFT)	Maximum (DFT)
<i>Gas Pipeline</i>		
Protal 7200 (Green)	25	40
Total DFT	25	40
<i>Diesel Pipeline</i>		
Protal 7200 (Green)	25	40
Total DFT	25	40

- B. The Coating Manufacturer’s instructions and safety precautions shall be followed.
- C. All coating materials shall remain in unopened and in the original Coating Manufacturer’s containers until required for use and shall be stored as per the Coating Manufacturer’s recommendations. Any damaged containers found with their seal broken or leaking shall not be used.
- D. Deliver all coating materials to the project in the original unopened containers with plainly marked packaging identifying the name of the Coating Manufacturer, product, date of manufacture, shelf life, and batch number.
- E. Coating materials that have exceeded the Coating Manufacturer’s recommended shelf life, which has jelled, or otherwise deteriorated during storage shall not be used.
- F. Shelf life, temperature, and humidity limitations for each of the coating system components shall be maintained in strict accordance with the Coating Manufacturer’s recommendations during shipping and storage. If the coating materials freeze or are overheated, reject the coating materials and notify the Owner’s Representative.
- G. Before and during the coating application, all ingredients shall be thoroughly mixed to a smooth and uniform consistency per the Coating Manufacturer’s recommendations.

PART 3 – EXECUTION

3.1 SURFACE PREPARATION

- A. Protect all items which could be damaged during surface preparation or coating activities.
- B. Solvent cleaning shall be performed, per SSPC-SP 1, as necessary to remove all foreign matter including, but not limited to, dirt, salts, tar, oil, mastics, grease or other hydrocarbon residue prior to abrasive blasting. All solvents used for cleaning purposes must comply with the project specific safety plan and be handled in a safe manner.
- C. The compressed air that is used shall be clean and dry in accordance with ASTM D4285.
- D. The blast abrasive shall be sharp grit, garnet, nickel slag, or aluminum oxide. Reuse of abrasives is not permitted.
- E. Abrasives shall meet the following minimum requirements:
 - 1. Contain less than 1% free silica.
 - 2. Be free of harmful quantities of toxic metals.
 - 3. Contain less than 20-ppm water-soluble chlorides.
 - 4. Contain less than 200-ppm water-soluble sulfates.
 - 5. Be free of clay, limestone, shells, undersize and oversize particles, organic material and other detrimental foreign material.
 - 6. Be of the proper size and material to provide the Coating Manufacturer's required surface profile.
- F. All sharp edges, slivers, weld slag, weld spatter and metal laminations shall be removed. Edges, including welds, shall be rounded to 1/8" radius minimum, prior to abrasive blasting.
- G. All edges of the surrounding coatings shall be feathered.
- H. A near-white metal finish, per SSPC-SP 10, shall be achieved on all steel surfaces to be coated. The cleanliness of the steel surface shall be verified by comparison with SSPC-VIS 1 Visual Standard for Abrasive Blast Cleaned Steel.

- I. The anchor pattern or surface profile shall be of a sharp, jagged (angular) nature as opposed to a “peened” pattern. The surface profile shall be between 2.5 and 5.0 mils. The surface profile shall be determined by the Keane-Tator Surface Profile Comparator, Clemtex Anchor Pattern Standards, or Testex Tape in accordance with ASTM D4417/NACE SP-0287. Attach the surface profile test tapes to the coating inspection reports. When surfaces are re-blasted for any reason, retest the profile as specified.
- J. All oil, grease, mastics, or other foreign matter deposited on the surface after the surface preparation is completed shall be removed prior to coating. In the event corrosion occurs after the completion of the surface preparation, the surface shall be cleaned again to a near-white metal cleanliness (SSPC-SP 10).
- K. All spent abrasive, scale, dust, and other debris shall be removed from the surface to be coated by blowing the surface with clean dry compressed air, by sweeping, or by vacuum cleaning prior to the coating application. All materials removed from the work site shall be identified, handled, and disposed of in accordance with local, state, and federal environmental requirements.
- L. Apply the coatings to dust free surfaces in a dust free environment. To test the surfaces, apply a strip of clear adhesive tape to the surface and rub it onto the surface with a finger. When removed, the tape should show little or no dust, blast abrasive, or other contaminants. Reject contaminated surfaces, clean again, and retest.
- M. For marking of cleaned surfaces, use chalk or soapstone for marking bare steel and water-based markers for marking coated surfaces. Remove marks prior to coating application. Do not use any wax or grease-based markers, or any other markers that leave a residue or stain.
- N. Pinhole repairs shall be roughened a minimum of 1-inch around the pinhole using Carborundum cloth or 80 grit sandpaper and wiped clean with a cloth or brush prior to coating application.
- O. Coating defect areas greater than 0.15 square inches, but less than 1 square foot can be prepared with a surface grinder or by grit blasting as long as an angular surface profile is achieved.
- P. The Owner’s Representative reserves the right to inspect and to approve the prepared surface prior to the coating application.

3.2 COATING APPLICATION

- A. The coatings shall be applied in accordance with SSPC-PA1, the Coating Manufacturer’s recommendations, and this Specification.
- B. The coatings shall be applied in accordance with the Coating Manufacturer’s recommendations and approved parameters. The Coating Contractor shall, at a minimum, obtain and have onsite the following information from the Coating Manufacturer: recommended safety procedures, application temperature range, shelf-life of the materials, material storage requirements, cure times between coats, holiday detection voltages, and touch-up/repair procedures.

- C. Coatings shall be applied to surfaces, which are cleaned as specified, dry, at least 5 degrees F above the dew point and the metal surface temperature shall be a minimum of 50 degrees F.
- D. Coating application shall not take place when the surface temperatures are below 50 degrees F or above those recommended by the Coating Manufacturer or when such temperatures are expected to fall below or rise above those temperatures within eight hours of completing the coating application.
- E. The coatings shall be applied as a continuous film of uniform thickness. Any thin spots or areas missed in the application shall be recoated and permitted to properly cure.
- F. Blast-cleaned surfaces shall be coated prior to the occurrence of flash rusting with one complete application of coating, as soon as practical, but in no case shall the surface be coated more than eight (8) hours after blast cleaning without approval by the Owner's Representative.
- G. The Coating Manufacturer's recommendations concerning cure times shall be followed. Cure times will be based on the coating products used, coating thicknesses, steel temperature, atmospheric conditions and other criteria identified by the Coating Manufacturer.
- H. The equipment used shall be suitable for the intended purpose, be capable of properly atomizing the coating to be applied and be equipped with suitable pressure regulators, gauges, properly grounded and have the required safety equipment and/or devices. The equipment shall be kept in satisfactory condition to permit proper coating application.
- I. Coatings shall be kept properly mixed in the containers during application by mechanical agitation or per the Coating Manufacturer's mixing procedure.
- J. Thinning of the coating materials is prohibited unless the Coating Manufacturer's printed instructions provide the amount and types to be used.
- K. Coatings shall be applied in a uniform layer, with over lapping at the edge of the pattern. The spray pattern shall be adjusted so that the coating is deposited uniformly. During application, the gun shall be held perpendicular to the surface and at the optimum distance from the surface being coated.
- L. During the coating application, the Coating Contractor is to check the wet film thickness (WFT) in accordance with ASTM D4414 and this Specification.
- M. All welds and irregular surfaces shall receive a stripe coat prior to any coating work. Apply stripe coating by brush application, working the material into corners, crevices, pitted areas, and welds, and onto outside corners and angles.
- N. All coating damage, field repairs and defects disclosed by visual or coating inspections shall be repaired by the Coating Contractor in a manner complying with this Specification and the Coating Manufacturer's recommendations.

- O. The Coating Contractor shall apply coatings to be free of film characteristics or defects that would adversely affect the performance or appearance of the coating system.
- P. Pinhole repairs and areas of less than 1.0 square feet may be repaired by using a Denso Protal Repair Cartridge.
- Q. The coatings shall be allowed to cure per the Coating Manufacturer's recommendations prior to handling, installing, and burying the pipelines.

3.3 COATING INSPECTION

- A. Prior to the start of any pipe coating repair work, the existing aboveground pipeline material and stored pipe material shall be cleaned, and the entire surface of all piping shall be visually inspected. All coating defects detected by visual observations and/or other inspections shall be marked to be coated according to this specification. All abrasive blast and coating materials shall be inspected for conformance to this Specification.
- B. Inspection reports shall be filled out daily, signed by the SSPC or NACE Level III Certified Coating Inspector and submitted to the Owner's Representative for review. Daily coating inspection reports shall be submitted within 24 hours of the day they were performed.
- C. Daily coating inspection reports and/or testing shall include the following minimum requirements:
 - 1. Record the coating material batch numbers and the type of blast media used.
 - 2. Inspection of all cleaning, surface preparation, coating, and air supply equipment for the presence of oil and other contaminants.
 - 3. Results of inspections for surface imperfections, including slivers, scabs, weld spatter, and gouges. Edges, including welds, shall be rounded to 1/8" radius, minimum.
 - 4. Results of surface cleanliness inspections in accordance with SSPC-SP 10, Near-White metal blast cleaning, and shall be determined by comparison with SSPC-VIS 1. Dust, abrasives, and other loose contaminants shall be completely removed.
 - 5. Anchor Profile shall be measured and recorded in accordance with NACE SP-0287/ASTM D4417.
 - 6. Record the ambient air temperature, substrate temperature, humidity, dew point, and difference (Δ) between dew point and surface temperature. Record measurements before/during abrasive blasting and coating operations. Indicate whether or not environmental conditions were acceptable for coating operations.
 - 7. Prior to coating, verify the surfaces are cleaned as specified, dry, at least 5

degrees F above the dew point and the metal surface temperature is a minimum of 50 degrees F and the temperature is not expected to fall below 50 degrees F within eight hours of completing the coating application.

8. Inspect DFT in accordance with SSPC-PA 2.
 10. All touch-up/repair procedures shall follow the Coating Manufacturer's recommendations.
- D. Verify that the coatings have cured per the Coating Manufacturer's recommendations prior to allowing the pipelines to be handled, installed, and buried.
 - E. The Coating Contractor shall submit an electronic copy and two hard copies of the final report to the Owner's Representative within 60 days of completion of the coating activities. The final report shall be compiled of all test data, photographs, inspection checklists, daily reports, and a summary stating that the coating system was applied and inspected in accordance with the design documents.
 - F. The Owner's Representative shall be permitted full access, at all times, to observe coating and surface preparation activities.

END OF SECTION

SECTION 10 44 16.13

PORTABLE FIRE EXTINGUISHERS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Fire extinguishers at locations indicated in the project drawings.

1.2 REFERENCES

- A. UL "A" Building Materials Directory.
- B. NFPA No. 10 Fire Extinguishers, Portable.
- C. NFPA No. 30 Flammable and Combustible Liquid Code.

PART 2 - PRODUCTS

2.1 EXTINGUISHERS

- A. Manufacturer: Larsen's Manufacturing Co., 7421 Commerce Lane, N.E., Minneapolis, MN 55432, (612) 571-1181, or approved equal.
- B. Extinguisher shall have a minimum rating of 3-A, 40-B:C and a 20 lb. capacity. Fire rating in accordance with NFPA No. 10 and No. 30.
 - 1. Gasoline Fires: Class III Hazard; BC
 - 2. Fuel Oil Fires: Class II Hazard; BC
 - 3. Wood, Paper and All Above: Class I, II, or III; ABC
- C. Extinguisher Brackets: Larsen's Manufacturing Co., bottom support, quick release strap-buckle type.

PART 3 - PART 3 EXECUTION

3.1 INSTALLATION

- A. Mount top of extinguishers 3 to 4 feet above ground, pavement, or floor.
- B. Fasten extinguisher brackets securely to structure. Provide additional brackets, uni-strut, fasteners, and components as required. All miscellaneous hardware shall be hot dip galvanized.

END OF SECTION

SECTION 11 80 00

SPILL RESPONSE EQUIPMENT

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. This section includes procurement of required spill response equipment and furnishing and installing one standard size steel shipping container (conex) for storing this equipment (20' x 8').

1.2 RELATED REQUIREMENTS

- A. Section 01 33 00 Submittals.

1.3 REFERENCES

- A. United States Department of Labor, Occupational Safety and Health Administration (OSHA):
 - 1. 29 Code of Federal Regulations (CFR) 1910

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 33 00 Submittals.
- B. Submit manufacturer's data for all spill response equipment and supplier for each item. Group item by supplier.
- C. Submit standard manufacturer's data, pictures, and standard shop drawings for each container provided. Unless otherwise indicated, alternate manufacturers will be acceptable so long as they supply similar equipment with the same quality and performance.

1.5 GENERAL

- A. The Contractor is responsible for providing spill response equipment as specified and in accordance with this Section. The Contractor shall be responsible for all work and equipment associated with procuring, shipping, handling and storing the specified equipment.
- B. Place all spill response equipment inside overpack drums. Provide the required number of overpack drums to securely contain all materials. Permanently label all overpack drums with "Spill Response Equipment" with a minimum of 3" high letters. Securely attach a laminated manifest to the outside of each drum listing all of the materials contained within.
- C. Place overpack drums, and any equipment and materials too large to fit in overpack drums, neatly inside the spill response container (conex) in their final position.

D. All equipment shall be new unless otherwise indicated.

PART 2 - PRODUCTS

2.1 SPILL RESPONSE EQUIPMENT

A. The following list of Spill Response Equipment shall be provided by the Contactor.

Quantity	Item/Description
Absorbent Material and Containers, as provided by Unitech of Alaska or equal	
3	95 Gallon Poly Screw Top Over-pack Spill Kit Drums to Include:
1 ea.	55 Gallon Metal Open-top Drum
2 ea.	Absorbent toll, min. 30" x 140' or comparable
2 ea.	White, Oil Specific Sorbent Pads, 16" x 20" or comparable, 100 pieces ea.
2 ea.	Yellow, Universal Sorbent Pads, min. 16" x 20" or comparable, 100 pieces ea.
6 ea.	Absorbent Boom, min. 4" by 40' or comparable
2 ea.	Absorbent Sweep, 19" by 100' or comparable
Personal Protective Equipment	
4 pr.	Gloves, Nitrile AF18 Chem-Resist, Pairs
4 pr.	Tyvek Suits, XL Polyethylene Coated
4 pr.	Vented Safety Goggles
4 pr.	Hardhats
Recovery Equipment	
1 .	2-inch portable centrifugal pump, gas-powered, UL listed petroleum pump. Marlow Petro-Guard Model 2AM32-P or equal with 2" camlocks
1	Absorbent Wringer for fuel recovery
1	Smart Ash Burner
1	Discharge Hose with 2" camlocks, 100' total length
1	Suction Hose with 2" camlocks, 5' total length
2	Non-Sparking Shovel
2	Rake

Quantity	Item/Description
1 roll	Garbage/Waste Disposal Bags
Fuel Storage Tank Water Removal Equipment	
1	Fuel-rated Hand Pump for water removal with 25'-50' hose
1	55 Gallon Water Scrubber with pillows and loose media
6	Tubes of Water Finding Paste
Miscellaneous	
5	Fire Extinguishers, Portable, Type 3A-40BC
2	Padlocks, keyed-alike for storage site
10	Zip Tie
2	Caution Barricade Tape Roll
1	Emergency Response Guide

- B. Product substitutions must be approved by the Engineer.
- C. Absorbent material can be natural or synthetic.

PART 3 - EXECUTION

3.1 INSTALLATION.

- A. Coordinate the location and Placement of the spill response container (connex) with City of Port Heiden personnel.

END OF SECTION

SECTION 23 11 00

FACILITY FUEL PIPING

PART 1 - GENERAL

1.1 SUMMARY

- A. This section includes fuel piping system materials, equipment, supports, and accessories for installation of barge header fuel piping system. The intent of this specification, along with other specifications, and the accompanying Contract Drawings is to provide a complete and workable facility with complete systems as shown, specified and required by applicable codes.

1.2 RELATED REQUIREMENTS

- A. Section 01 33 00 Submittals.
- B. Section 01 33 23 Shop Drawings, Product Data, and Samples.
- C. Section 05 50 00 Metal Fabrications.
- D. Section 09 96 00.03 Field Applied Pipeline Repair Coating.

1.3 PERFORMANCE REQUIREMENTS

- A. Minimum Working-Pressure Rating: Unless otherwise indicated, minimum pressure requirement for fuel piping is 150 psig.
- B. Design Service Conditions: All pipeline system components shall be rated for the following service conditions:
 - 1. Fluids: Gasoline and Diesel fuel.
 - 2. Operating temperature range: -50° F to 120° F.
- C. Any referenced standards that do not comply with these service conditions shall be brought to the Engineer's attention immediately.

1.4 REFERENCED STANDARDS

- A. The standards listed below form a part of this specification to the extent referenced.
 - ASME B16.5 Flanges and Flanged Fittings
 - ASME B16.9 Factory-Made Wrought Steel Butt welding Fittings
 - ASME B16.11 Forged Fittings, Socket-Welding and Threaded
 - ASME B31.3 Chemical Plant and Petroleum Refinery Piping

ASME BPV IX Boiler and Pressure Vessel Code; Section IX, Welding and Brazing Qualifications

ASTM A53 Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless

ASTM A105 Forgings, Carbon Steel, for Piping Components

ASTM A106 Seamless Carbon Steel Pipe for High-Temperature Service

ASTM A234 Pipe Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and Elevated Temperatures ASTM D3035 Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter

ASTM A320 Alloy-Steel and Stainless Steel Bolting for Low-Temperature Service

ASTM D3350 Standard Specification for Polyethylene Plastics Pipe and Fittings Materials

1.5 SUBMITTALS

- A. Submit under provisions of Section 01 33 00 Submittals.
- B. Shop Drawings: Indicate assembly, required clearances, and location and size of field connections.
- C. Product Data: Provide manufacturer's literature and data indicating rated capacities, weights, accessories, electrical nameplate data, and wiring diagrams.
- D. Manufacturer's Installation Instructions: Indicate rigging, assembly, and installation instructions.
- E. Welding Procedure Qualification Records (PQRs) and Welding Procedure Specification.
- F. Pipe coating process and schedule.
- G. Inspection and Testing Procedures and Results.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Contractor is responsible for protection of all material, equipment, and apparatus provided from damage during transportation, storage, and installation processes.
- B. Material, equipment, or apparatus damaged because of improper storage or protection will be rejected and replaced at Contractor's expense.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Materials shall be new unless otherwise specified. All items of the same type shall be of the same manufacturer.

2.2 PIPE

- A. Steel Pipe: All steel pipe shall be Schedule 80, Black, Seamless, ASTM A53 or ASTM A106. 3" pipe shall be provided in double random lengths (42' nominal).
- B. Steel Pipe nipples: ASTM A53 carbon steel, threaded schedule to match adjoining piping.

2.3 PIPE FITTINGS

- A. Steel Pipe
 - 1. Elbows, tees, and reducers shall be Schedule 80, ASTM A234 wrought carbon steel butt welding type, except where noted.
 - 2. Flanges shall be ANSI class 150 lbs., ASTM A105 weld neck type. Bore shall match the pipe in which the flange is installed.
 - 3. Gaskets shall be spiral wound metallic, Lamons Spiral Seal style WR or equal and rated for -50°F service.
 - 4. Dielectric gaskets shall be non-conductive, fuel rated full face fiber gaskets with nylon bushings and washers, Calpico EQDW or equal.
 - 5. All flanged fittings, including valves, shall have flange nuts and bolts meeting the requirements of ASTM A320, B8, Class 2, Stainless Steel (Low Temperature ANSI 304 Strain Hardened).
 - 6. Pipe and Fittings shall be full penetration butt welded. Fittings smaller than 2" may be ASTM A105 forged steel socket weld fittings, 3000 pound minimum. Threaded fittings are not allowed except where shown on the drawings, or required for connection to specified equipment.
 - 7. Provide flanged connections or unions to allow removal of individual components.

2.4 PIPE COATING SYSTEM

- A. Repairs to existing fuel pipe and joints scheduled for reuse shall be made in accordance with Section 09 96 00.03 Field Applied Pipeline Repair Coating.

2.5 VALVES

- A. All valves shall be factory coated with approved epoxy coating for corrosion resistance.

- B. Check Valves: Carbon steel, ANSI Class 150 lbs., raised face flanged, swing check valve suitable for the service conditions. Crane No. 147, no substitutes. Check valves at the barge line connection of the marine header shall be carbon steel, ANSI Class 150 lbs., raised face flanged, outside lever and weight check valve suitable for the service conditions.
- C. Ball Valves (Flanged): ANSI class 150 lbs., Cast carbon steel body, stainless steel ball, Teflon seat and stuffing box seals, lockable lever handle, raised faced flanged. All materials shall be suitable for the service conditions. NACE MR-01-75 Conformance and fire safe per API 607. PBV C-5410-31-2236-FT-NL, no substitutes. Pad locks shall be provided for all ball valves.

2.6 EQUIPMENT NAME AND OPERATIONAL TAGS

- A. Material: 2-inch diameter brass plate with 3/16-inch diameter hole drilled to secure to component as described in Section 3.2 of this Specification.
- B. Lettering shall be stamped with the following information:
 - 1. Name and Operational Tags: Provide name and operational tags for all valves in accordance with the valve schedules in the Contract Drawings.
 - 2. Tags shall include component ID (e.g. TP-1, BV-15), normal operating condition (normally open or closed), component owner and any additional information required for proper operation.

2.7 MISCELLANEOUS PIPING ACCESSORIES

- A. Quick Connect Couplings: Aluminum body cam and groove fitting with dust cap. Male fitting with ANSI 150-pound class flanged, MPT, or FPT connection, as shown, 150 psig minimum working pressure. PT Coupling or approved equal.
- B. Cam Lock Couplings: Aluminum body cam and groove male fittings with FPT connection, 150 psi minimum working pressure. Provide dust cap with Buna-N seal for each fitting provided. PT couplings or equal.
- C. Utility Markers: Continuous glass fiber and resin reinforced marker, one-piece, vandal and vehicle impact resistant. Provide Carsonite CUM 375 or approved equal.

2.8 PIPE SUPPORTS

- A. All pipe supports, clamps, fittings, and hardware shall be Hot Dip Galvanized in accordance with Section 09 96 00.02 Hot Dipped Galvanized Coatings.
- B. Pipe Straps: Carbon steel two-hole pipe strap. Unistrut P2558 (EG), or equal.
- C. Wood-Preservative-Treated Lumber:
 - 1. All dimensional lumber shall be wood – preservative treated lumber.

2. Treated Lumber: Comply with requirements of AWPA U1 – Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
 - a. Preservative-Treated Wood: Provide lumber marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.
 3. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
 4. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
 5. Application: Treat all rough carpentry, unless otherwise indicated.
 6. Preservative Treatment:
 - a. Preservative Pressure Treatment of Lumber in Contact with Soil: AWPA U1, Use Category UC4B, Commodity Specification A using waterborne preservative to 0.6 lb. /cu ft. retention. Apply preservative treatment compatible with factory applied treatment at site-sawn cuts, complying with manufacturer's instructions.
- D. Fasteners:
1. Bolts, nuts and washers: Galvanized or zinc plated carbon steel unless stainless steel is specifically shown. Stainless steel shall be: Type 316L.
 2. Lags: Hot dipped galvanized steel unless stainless steel is specifically shown. Stainless steel shall be: Type 316L.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.
- B. Remove scale and dirt on inside and outside before assembly.
- C. Prepare piping connections to equipment with flanges or unions as shown in the Contract Drawings.
- D. Keep open ends of pipe free from scale and dirt. Protect open ends with temporary plugs or caps.

3.2 INSTALLATION

- A. Steel Pipe
 1. Install in accordance with manufacturer's instructions and applicable codes and standards.

2. Route piping in an orderly manner and maintain gradient.
3. Group piping whenever practical at common elevations.
4. Install piping to allow for expansion and contraction without stressing pipe, joints or connected equipment. Install valves to allow full operation without obstruction of operating handle.
5. Perform welding in accordance with ASME BPV, IX and API 1104. Welding procedures shall be submitted and approved. Visually inspect weld joints in accordance with API 1104. Welder shall be certified for the approved procedure and welder certification shall be submitted and approved.
6. Make threaded joints using pipe joint compound applied to the male threads. Hercules Grip, no substitution.
7. Coat flange gaskets with anti-seize compound prior to assembly.
8. Provide non-conducting dielectric connections wherever jointing dissimilar metals. Provide dielectric flange kits at all transitions between aboveground and buried piping.
9. Support piping and equipment as shown on the drawings using specified supports and fasteners. If not detailed on the drawings, support from structural members with pipe hangers, clamps or pipe straps specifically intended for the application. Do not support piping from connections to equipment. Provide piping supports spaced per the following table.

Pipe Size	Maximum Support spacing
1-1/2 inch	9 ft
2 inch	10 ft
2-1/2 inch	11 ft
3 inch	12 ft
4 inch	14 ft

10. Provide piping supports as shown and as required to adequately support piping. Touch up all cut ends and damaged surfaces of galvanized steel and zinc plated supports and fasteners with spray-on cold galvanizing compound. ZRC, or approved equal.
11. Do not use stainless steel in contact with galvanized supports.
12. Provide clearance for installation of insulation and access to valves and fittings.
13. Label contents of all piping in accordance with ASTM A13.1.
14. Fasten name and operational tags on or adjacent to component with double safety wire or other approved means.

3.3 UTILITY MARKERS

- A. Utility markers shall be installed at 100 foot intervals along the center line of the fuel pipeline and at the edge of drivable surfaces, trails, or roads. Markers shall be clearly visible and out of the way of vehicles and pedestrians.
- B. Above Grade Pipe: Install utility markers every 50 feet along the pipe or as shown on the drawings.

3.4 TESTING

- A. Before operating any equipment or systems, make thorough check to determine that systems have been flushed and cleaned as required and equipment has been properly installed, lubricated and serviced in accordance with factory instructions.
- B. Steel Pipe:
 - 1. Isolate and pressure test each run of piping with compressed air at 125 psig minimum pressure for a minimum of one hour. Provide blind flanges, threaded caps or plugs at each end of the test section as needed. Test 100% of welds visually for leaks with a leak detection solution. Do not conceal pipe joints before pressure testing is complete. Isolate equipment and components rated for lesser pressures so as not to damage these.
 - 2. Pressure test piping system again after all equipment is installed at 75 psi for a minimum of one (1) hour, or the maximum rated pressure of the weakest component, whichever is less. Test 100% of welds and pipe joints for leaks with a leak detection solution. Piping system shall maintain pressure for one hour minimum.
 - 3. Notify Project Manager in writing seven (7) days in advance of pressure tests. Project Manager shall be present at all testing. Pressure testing performed without Project Manager present will be rejected, unless prior written approval is received from Project Manager.
 - 4. Pressure shall be maintained for sufficient time to complete the visual inspection of all joints but shall be not be less than one (1) hour.
 - 5. Care shall be taken to ensure that these pressures are not applied to vented tanks.
 - 6. Submit written procedures for testing, including test pressures, equipment to be used and items to be tested.
 - 7. Cut out, reweld and retest all leaking welded joints. Repair any leakage found and retest until system proves leak-free. Retesting after the repair of defects shall be performed at no cost to AEA.
 - 8. Certified test results shall be submitted to the Project Manager for approval.

9. Test certification shall include gauge pressure, air temperature, time, date, witness, and pipeline identification.

END OF SECTION

SECTION 26 05 26

GROUNDING AND BONDING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. This section describes general requirements, products, and methods of execution relating to the furnishing and installation of a grounding system complete as required for this project.

1.2 RELATED REQUIREMENTS

- A. Section 23 11 00 – Facility Fuel Piping

1.3 MINIMUM REQUIREMENTS

- A. The minimum requirement for the system shall conform to Article 250 of the NEC.
- B. Unless specified elsewhere, the ohmic values for grounds and grounding systems shall be 10 ohms maximum.

PART 2 - PRODUCTS

2.1 GROUND RODS, CONDUCTORS AND APPURTENANCES

- A. All ground rods and conductors for ground systems shall be as follows:
 - 1. Ground rods to be 3/4-inch by 10-foot copper clad steel.
 - 2. Grounding shall be as noted on the conceptual drawings. If not shown, #6 AWG copper is the minimum size. Bond in accordance with manufacturer's requirements.

2.2 CONNECTIONS

- A. Joints in grounding conductors and mats below grade shall be made with exothermic welds. Terminations above grade shall be made with exothermic welds, except where noted.

PART 3 - EXECUTION

3.1 SERVICE AND STRUCTURE GROUND

- A. Create a Grounding Electrode System (GES) for this project by connecting the following:
 - 1. All connections shown on the drawings and connections in accordance with NEC.

2. Current carrying capacity of the grounding and bonding conductors shall be in conformity with Table 250-94 of the NEC.
- B. All bonding shall be in accordance with manufacturer's recommended practice.

3.2 SUBMITTAL DATA

- A. Provide typewritten report on the ground test for each ground system installed under this contract.

END OF SECTION

SECTION 31 20 00

EARTH MOVING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. This section describes general requirements for all types of earthwork and is applicable to all earthwork required on the Project.
- B. IMPORTANT NOTES:
 - 1. Dewatering low areas and depressions present along the pipe alignment will be required prior to trench excavation.
 - 2. Due to ground water fluctuation and the depth of excavation, dewatering trenches should be anticipated.
 - 3. In the event contaminated soils are encountered in the excavation, stop work and notify the Owner immediately.

1.2 RELATED REQUIREMENTS

- A. Section 23 11 00 Facility Fuel Piping.

1.3 PROTECTION

- A. Protect equipment and vehicular traffic from trenches and excavations by providing adequate barricades and signage.
- B. Protect excavation side-slopes or adjacent structures by providing adequate back-slopes, shoring, bracing or other methods required to prevent failure of the excavations or existing soils.
- C. Protect all above and below ground utilities.
- D. Notify the Engineer of unexpected sub-surface conditions.
- E. Grade top perimeter of the excavation to prevent surface water runoff from entering the excavation.
- F. Provide for dewatering of the trench where groundwater is encountered.
- G. Appropriate Personal Protection Equipment will be used to protect workers from work site hazards.
- H. The Contractor is responsible for meeting the OSHA requirements for worker safety on the work site.

1.4 QUALITY CONTROL ASSURANCE

- A. Testing Procedures and Methods:

1. Earthwork Quality Control Assurance testing procedures and methods shall be in accordance with Paragraph 3.10 Field Quality Control.
 2. Other testing procedures and methods referenced in individual specification sections.
- B. Quality Control Monitoring:
1. Contractor shall secure and pay for all required quality control monitoring. Contractor shall utilize Engineer approved, certified, independent laboratory and field personnel for all required testing.
 2. Provide certified test results as required in Paragraph 1.5 Submittals of this specification.
 3. Fill material placed prior to Engineer approval of test results is at the sole risk of the Contractor. Material not meeting requirements shall be removed and replaced at Contractor's expense.
- C. Minimum testing requirements are indicated in Paragraph 3.10 Field Quality Control.

1.5 SUBMITTALS

- A. Submittals shall be made in accordance with the General Conditions, Division 1, and this Section.
- B. Provide the following submittals:
1. Name of proposed independent certified testing laboratory and field testing subconsultant.
 2. Format of proposed laboratory and field test forms.
 3. Laboratory results of gradation and moisture density tests for each fill type to be used on the Project.
 4. If the Contractor changes the source and/or stockpile from which materials are obtained, gradation analysis and moisture-density test reports for these new sources shall be submitted to the Engineer.
 5. Catalog and manufacturer's data sheets for proposed compaction equipment.
- C. Additional Testing:
1. All testing necessary for the Contractor to locate acceptable sources material for the Project shall be provided by the Contractor at no additional cost to the Owner.
 2. During construction, the Owner/Engineer may elect to have further gradation and compaction testing completed on the materials being furnished by the Contractor. This testing shall be at the expense of the Owner. The Contractor shall provide material samples as may be necessary to complete this testing and these material

samples shall be furnished from material available on the Project site or from the Contractor's source and/or supplier.

1.6 MATERIAL SOURCES

- A. When the quantity of usable excavation required for the work exceeds that available from excavated materials, the additional material shall be from Contractor-furnished borrow areas (material sources). The Contractor shall locate, obtain, develop, and process satisfactory material to complete the requirements of work.
- B. The Contractor shall coordinate as necessary with the material source property owners, shall acquire all necessary permits and/or material sales agreements, and shall pay required fees, royalties, and other costs associated with pit access and material extraction.
- C. The Contractor shall be responsible for all costs associated with locating, procuring, and transporting, testing, storing, placing, and compacting fill material. The Owner is not responsible for fill lost during transportation or subsidence.

1.7 CLASSIFICATION OF EXCAVATION

- A. General. Excavation specified shall be done on a classified basis, in accordance with the following designations and classifications:
 - 1. **Unsatisfactory Material.** Material that does not meet the testing requirement for satisfactory material. Material containing vegetable or organic matter, such as muck, peat, organic silt, or sod is considered unsatisfactory for use in embankment construction.
 - 2. **Satisfactory Material.** Satisfactory material may be obtained from classified Usable Excavation or borrow. The Engineer will approve material as "satisfactory" for use in embankment when the material meets the following criteria:
 - a. Sand, rock, gravel, silt, and other inorganic material;
 - b. Gradation of 100% by weight passing 6 inch screen; and
 - c. Comprise any materials classified by ASTM D 2487 as GW, GP, GM, GP-GM, GW-GM, SW, SP, SM, SW-SM, SP-SM, SP-SC, ML. ML materials shall not be used under roads or driveways.
 - d. The Engineer may, in their discretion, approve oversize material as "satisfactory" for use in embankment when the material is well graded with an even distribution of rock sizes, and can be compacted with a minimal amount of voids.
 - 3. **Usable Excavation.** Usable excavation shall include the excavation of satisfactory materials re-used on the site in fills or backfills.
 - 4. **Unusable Excavation.** Unusable excavation shall include the excavation and disposal of all materials not re-used on the site, including surplus usable excavation and unsatisfactory materials. Materials that do not comply with the

requirements for usable excavation materials are unusable excavation materials. Unusable excavation materials also include man-made fills; trash; refuse; backfills from previous construction; and material classified as unsatisfactory which contains root and other organic matter or frozen material. The Owner's Representative shall be notified of any contaminated materials. Material that is contaminated by hazardous substances, including fuel or oil, in greater quantity than state and federal standards may be considered unsatisfactory and unsuitable for use.

PART 2 - PRODUCTS

2.1 EXCAVATION

- A. Complete all excavation regardless of the type, nature or condition of the materials encountered as shown on the drawings and/or at the Engineer's direction.
- B. Satisfactory materials excavated from the project area shall be considered Usable Excavation.
- C. Unsatisfactory materials excavated from the project area shall be considered Unusable Excavation.

2.2 FILL MATERIAL

- A. Fill Material shall meet the requirements for material types listed below

1. Classified Fill:

- a. Classified Fill shall consist of reasonably well graded aggregate containing no muck, frozen material, roots, sod or other deleterious matter and with a plasticity index not greater than 6 as determined by ATM 204 and ATM 205.
- b. Classified fill material shall conform to the following gradation as determined by ATM 304:

<u>Sieve Size</u>	<u>Percent Passing,</u> <u>by Weight</u>
3 inch	100
2 inch	75-100
No. 4	15-60
No. 200	0-10

2. **Surface Material:**

- c. Surface Material shall consist of reasonably well graded aggregate containing no muck, frozen material, roots, sod or other deleterious matter and with a plasticity index not greater than 6 as determined by ATM 204 and ATM 205.
- d. Surface Material shall conform to the following gradation as determined by ATM 304:

U.S. Standard	Percent Passing,
<u>Sieve Size</u>	<u>by Weight</u>
1 inch	100
No. 4	15-60
No. 200	0-10

3. **Fill from Usable Excavation:**

- a. Usable Excavation shall consist of native granular materials that are free of contaminated soils, silts, organics, debris, ice, excess moisture and other deleterious materials.

2.3 **LOCATOR/WARNING TAPE**

- A. Metallic Locator/Warning tape shall be capable of being inductively detected electronically. Materials shall conform to the following:
 - 1. **Film:** Inert plastic. Each film layer shall be not less than 0.0005-inch thick (0.5 mil).
 - 2. **Imprint:** 3/4-inch or larger bold black letters.
 - 3. **Legend:** The buried utility line tape shall be identified with imprint such as "Caution: Fuel Line Below" and the identification repeated on approximately 24-inch intervals.
 - 4. Metallic foil laminated between two layers of impervious plastic film not less than 2 inches wide. The adhesive shall be compatible with the foil and film. Total thickness of tape shall not be less than 0.005 inch (5 mil).

PART 3 - EXECUTION

3.1 GENERAL

- A. Vehicles and equipment shall be restricted to traveling within the project area and established roads, unless otherwise approved by the Engineer.
- B. Safety: The Contractor shall be solely responsible for making all excavations in a safe manner. Provide appropriate measures to retain excavation sideslopes and prevent sloughing to ensure that persons working in or near the excavation are protected.
- C. Earthwork safety, excavation slope stability, and dewatering will be the responsibility of the Contractor.
- D. Contact local utilities to locate all existing underground utilities in the vicinity prior to beginning excavation.
- E. Maintain and protect the existing utilities that may pass through the work area.
- F. Carefully lay out work to minimize disruption and damage to existing structures.
- G. Perform all work in accordance with OSHA requirements. Barricade open excavations to prohibit public entry.
- H. Notify Engineer of any discrepancies between Contractual requirements and site conditions prior to start of Work.
- I. Maintain subgrade, backfill and embankment areas or lifts open until testing is complete and testing requirements are met, or approval of testing is secured from the Engineer.
- J. Any work covered up prior to test completion and achieving testing requirements or Engineer's approval shall be excavated and reconstructed at Contractor's expense.
- K. Work in inclement weather is at the Contractor's risk. Any materials which become unstable as the result of improper moisture content, improper selection of techniques, equipment, or operations during inclement weather shall be replaced at Contractor's expense.
- L. Excavations and embankment shall be accomplished in such a manner that drainage is maintained at all times. Any areas not graded to drain shall be kept free of standing water by pumping if necessary.
- M. The Contractor shall provide for the proper maintenance of traffic flow and accessibility as may be necessary, and shall also make adequate provisions for the safety of property and persons.
- N. No separate payment for any excavation shall be made. All excavation shall be incidental to the Bid Item being performed.

3.2 GENERAL EXCAVATION

- A. The Contractor shall perform excavation of every type of material encountered within the limits of the project to the lines, grades, and elevations indicated and as specified. Satisfactory excavated materials shall be transported to and placed in fill or embankment within the limits of

the work. Unsatisfactory materials encountered within the limits of the work shall be excavated below grade and replaced with satisfactory materials as directed. Such excavated material and the satisfactory material ordered as replacement shall be included in excavation. Surplus satisfactory excavated material not required for fill or embankment shall be disposed of as unusable excavation, unless otherwise indicated on Drawings. Unsatisfactory excavated material shall be disposed of as unusable excavation. During construction, excavation and fill shall be performed in a manner and sequence that will provide proper drainage at all times. Material required for fill or embankment in excess of that produced by excavation within the grading limits shall be obtained from Contractor-furnished borrow areas.

- B. Drainage. Provide for the collection and disposal of surface and subsurface water encountered during construction. Completely drain construction site during periods of construction to keep soil materials sufficiently dry. The Contractor shall grade the construction area to provide positive surface water runoff away from the construction activity and/or provide temporary ditches, swales, and other drainage features and equipment as required to maintain dry soils. When unsuitable working platforms for equipment operation and unsuitable soil support for subsequent construction features develop, remove unsuitable material and provide fill from usable excavation. It is the responsibility of the Contractor to assess the soil and ground water conditions presented by the plans and specifications and to employ necessary measures to permit construction to proceed.
- C. Dewatering. Groundwater flowing toward or into excavations shall be controlled to prevent sloughing of excavation slopes and walls, boils, uplift and heave in the excavation and to eliminate interference with orderly progress of construction. Control measures shall be taken by the time the excavation reaches the water level in order to maintain the integrity of the in-situ material. While the excavation is open, the water level shall be maintained continuously, at least 2 feet below the working level. Operate dewatering system continuously until construction work below existing water levels is complete.
- D. Stockpiles. Stockpiles shall be kept in a neat and well-drained condition, giving due consideration to drainage at all times. The ground surface at stockpile locations shall be cleared, grubbed, and sealed by rubber-tired equipment. Excavated satisfactory and unsatisfactory materials shall be separately stockpiled. Stockpiles of satisfactory materials shall be protected from contamination which may destroy the quality and fitness of the stockpiled material. If the Contractor fails to protect the stockpiles, and any material becomes unsatisfactory, such material shall be removed and replaced with satisfactory material from approved sources. Contractor shall provide a dewatering plan and any permits required for dewatering operations.
- E. Underground Utilities. Movement of construction machinery and equipment over pipes and utilities during construction shall be at the Contractor's risk. Perform work adjacent to non-owner utilities as indicated in accordance with procedures outlined by utility company. Report damage to utility lines or subsurface construction immediately to the Owner's Representative.

3.3 GROUND SURFACE PREPARATION

- A. General Requirements. Sloped surfaces steeper than 1 vertical to 4 horizontal shall be stepped or benched so that the fill material will bond with the existing material. Ground surfaces shall be plowed, disked, or otherwise broken up to a depth of 6 inches; pulverized; moistened or aerated as necessary; thoroughly mixed; and compacted in accordance with the Plans. Compaction shall be accomplished by sheepsfoot rollers, pneumatic-tired rollers, steel-

wheeled rollers, vibratory compactors, or other approved equipment. The prepared ground surface shall be scarified and moistened or aerated as required just prior to placement of embankment materials to assure adequate bond between embankment material and the prepared ground surface.

- B. Frozen Material. Fill shall not be placed on a foundation which contains frozen material, or which has been subjected to freeze-thaw action. This prohibition encompasses all foundation types, including the natural ground, all prepared subgrades (whether in an excavation or on an embankment) and all layers of previously placed and compacted earth fill which become the foundations for successive layers of earth fill. All material that freezes or has been subjected to freeze-thaw action during the construction work, or during periods of temporary shutdowns, such as, but not limited to, nights, holidays, weekends, winter shutdowns, or earthwork operations, shall be removed to a depth that is acceptable to the Owner's Representative and replaced with new material. Alternatively, the material will be thawed, dried, reworked, and recompact to the specified criteria before additional material is placed. The Owner's Representative will determine when placement of fill shall cease due to cold weather. The Owner's Representative may elect to use average daily air temperatures, and/or physical observation of the soils for his determination. Fill material shall not contain frozen clumps of soil, snow, or ice.

3.4 UTILIZATION OF EXCAVATED MATERIALS

- A. Unusable excavation and unsatisfactory materials removed from excavations shall be disposed of off-site in Contractor provided approved locations. Satisfactory material removed from excavations shall be used, where practicable, in the construction of fills, embankments, subgrades, and for similar purposes. No satisfactory excavated material shall be wasted without specific written authorization.

3.5 FILLS FROM USABLE EXCAVATION

- A. Fills from Usable Excavation. Fills from usable excavation shall be constructed from satisfactory materials free of organic or frozen material. The material shall be placed in successive horizontal layers of loose material not more than 8 inches in depth unless otherwise approved by the Owner's Representative. Place layers in the deepest portion of the fill first and progress in layers approximately parallel to the horizontal. Each layer shall be spread uniformly on a soil surface that has been moistened or aerated as necessary, and scarified or otherwise broken up so that the fill will bond with the surface on which it is placed. After spreading, each layer shall be plowed, disked, or otherwise broken up; moistened or aerated as necessary; thoroughly mixed; and compacted in accordance with the plans. Compaction shall be accomplished by pneumatic-tired rollers, steel-wheeled rollers, vibratory compactors, or other approved equipment. Route haul equipment over previously placed material to aid in compaction.

3.6 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.

1. Scarify or remove and replace soil material to depth as directed by Owner's Representative, reshape and recompact.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to the greatest extent possible.

3.7 EXCAVATION FOR UTILITY TRENCHES

- A. General. Excavation shall be performed to the lines and grades indicated. During excavation, material satisfactory for backfilling shall be stockpiled in an orderly manner at a distance from the banks of the trench equal to 1/2 the depth of the excavation, but in no instance closer than 2 feet. Excavated material not required or not satisfactory for backfill shall be removed from the site. Grading shall be done as may be necessary to prevent surface water from flowing into the excavation, and any water accumulating shall be removed to maintain the stability of the bottom and sides of the excavation. Unauthorized over excavation shall be backfilled in accordance with paragraph 3.8.

3.8 UTILITY TRENCH BACKFILLING AND COMPACTION.

- A. Trench Excavation Requirements. The trench shall be excavated as recommended by the manufacturer of the pipe to be installed. Trench walls below the top of the pipe shall be made vertical, and of such width as recommended in the manufacturer's installation manual. Where no manufacturer's installation manual is available, trench walls shall be made vertical. Trench walls more than 4 feet high shall be shored, cut back to a stable slope, or provided with equivalent means of protection for employees who may be exposed to moving ground or cave in. Vertical trench walls more than 4 feet high shall be shored. Trench walls which are cut back shall be excavated to at least the angle of repose of the soil. Special attention shall be given to slopes which may be adversely affected by weather or moisture content.
1. Bottom Preparation. The bottoms of trenches shall be accurately graded to provide uniform bearing and support for the bottom quadrant of each section of the pipe. Bell holes shall be excavated to the necessary size at each joint or coupling to eliminate point bearing. Stones of 1 inches or greater in any dimension, or as recommended by the pipe manufacturer, whichever is smaller, shall be removed to avoid point bearing.
 2. Removal of Unsatisfactory Material. Where unsatisfactory material is encountered in the bottom of the trench, such material shall be removed to the depth directed and replaced to the proper grade with select granular material. When removal of unstable material is required due to the Contractor's fault or neglect in performing the work, the resulting material shall be excavated and replaced by the Contractor without additional cost to the Owner.
 3. General. Backfill material shall consist of satisfactory material, and select granular material, as required. Backfill shall be placed in layers not exceeding 6 inches loose thickness for compaction by hand operated machine compactors, and 8 inches loose thickness for other than hand operated machines, unless otherwise specified. Each layer shall be compacted to the density specified.

4. Trench Backfill. Trenches shall be backfilled to the grade shown. The trench shall be backfilled to a minimum of 3 feet above the top of pipe prior to performing the required pressure tests.
 5. Replacement of Unsatisfactory Material. Unsatisfactory material removed from the bottom of the trench or excavation shall be replaced with Satisfactory Material placed in layers not exceeding 8 inches loose thickness.
 6. Bedding and Initial Backfill. Bedding and initial backfill shall be material and thickness as shown on the Drawings. Initial backfill material shall be placed and compacted with approved tampers to a height above the pipe as shown on the Drawings. The backfill shall be brought up evenly on both sides of the pipe for the full length of the pipe. Care shall be taken to ensure thorough compaction of the fill under the haunches of the pipe. Compaction shall be as shown on the Drawings. Install warning tape as shown on the Drawings.
 7. Final Backfill. The remainder of the trench shall be filled with material as detailed on the Drawings.
 8. Backfill shall be deposited in layers of a maximum of 12 inch loose thickness, and compacted as detailed on the Drawings. Compaction by water flooding or jetting will not be permitted.
 9. Frozen Material. Embankment shall not be placed on a foundation which contains frozen material, or which has been subjected to freeze-thaw action. This prohibition encompasses all foundation types, including the natural ground, all prepared subgrades (whether in an excavation or on an embankment) and all layers of previously placed and compacted earth fill which become the foundations for successive layers of earth fill. All material that freezes or has been subjected to freeze-thaw action during the construction work, or during periods of temporary shutdowns, such as, but not limited to, nights, holidays, weekends, winter shutdowns, or earthwork operations, shall be removed to a depth that is acceptable to the Owner's Representative and replaced with new material. Alternatively, the material will be thawed, dried, reworked, and re-compacted to the specified criteria before additional material is placed. The Owner's Representative will determine when placement of fill shall cease due to cold weather. The Owner's Representative may elect to use average daily air temperatures, and/or physical observation of the soils for his determination. Embankment material shall not contain frozen clumps of soil, snow, or ice.
- B. Drainage shall be maintained during trench excavation and backfill in accordance with Paragraph 3.2, Subparagraph B of this Specification.
- C. Dewater trenches is accordance with Paragraph 3.2 Subparagraph C of this Specification.
- D. Underground Utilities. Movement of construction machinery and equipment over pipes and utilities during construction shall be at the Contractor's risk. Perform work adjacent to non-owner utilities as indicated in accordance with procedures outlined by utility company. Report damage to utility lines or subsurface construction immediately to the Owner's Representative.

- E. Separate surface organic layer during trench excavation and place separated organics on top of usable excavation during trench back fill for top soil as shown in the plans. After trench back fill and final grading is completed, seed all disturbed areas in accordance with specification Section 32 92 00.

3.9 MAINTENANCE

- A. As necessary, Contractor shall water the site to control dust.
- B. Contractor shall protect newly graded areas from traffic and erosion and keep free of trash and debris.
- C. Contractor shall repair and re-establish grades in settled, eroded, and rutted areas as directed by the Project Manager.
- D. Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, reshape, and compact in accordance with these Specifications prior to further construction.
- E. All open excavations shall be adequately signed and barricaded to protect the public.

3.10 FIELD QUALITY CONTROL

- A. The following number of tests, if performed at the appropriate time, will be the minimum acceptable for each item and type of operation:
- B. Testing Facilities: Tests shall be performed by an approved commercial testing laboratory or may be tested by facilities furnished by the Contractor. No work requiring testing will be permitted until the facilities have been inspected and approved by the Owner's Representative.
- C. Notify the Engineer at least 24 hours in advance of trench backfilling operations to allow for inspection. Failure to obtain inspection prior to placement of backfill may be cause for rejection of installed buried pipelines and placed fills.
- D. Owner Testing: Owner may, at his option, use a testing agency to perform field and laboratory testing to verify compliance with requirements of this Section.
- E. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil materials to depth required; recompact and retest until specified compaction is obtained.
- F. The results of each density test shall be recorded on a test sheet. The following information shall be recorded.
 - 1. Horizontal and vertical location.
 - 2. Density and percent of referenced standard compaction.
 - 3. Material description and appropriate compaction control standard.

END OF SECTION

SECTION 32 92 00

SEEDING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Requirements for seeding, mulching, watering, and establishment.
- B. Related Sections:
 - 1. Section 01 33 00 – Submittal Procedures
 - 2. Section 31 00 00 – Earthwork.

1.2 REFERENCES

- A. ASTM International:
 - 1. ASTM C602 - Standard Specification for Agricultural Liming Materials.

1.3 DEFINITIONS

- A. Weeds: Include Dandelion, Jimsonweed, Quackgrass, Horsetail, Morning Glory, Rush Grass, Mustard, Lambsquarter, Chickweed, Cress, Crabgrass, Canadian Thistle, Nutgrass, Poison Oak, Blackberry, Tansy Ragwort, Bermuda Grass, Johnson Grass, Poison Ivy, Nut Sedge, Nimble Will, Bindweed, Bent Grass, Wild Garlic, Perennial Sorrel, and Brome Grass.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Submit certification tag for the seed mixes provided listing species, proportion by weight, percent purity, and percent germination. The certification tag shall come from the specified seed mixes and be removed from the unopened bags in the presence of the Engineer.
- C. Submit fertilizer certificate from supplier/manufacturer with guaranteed analysis of the contents of the fertilizer, showing the percentage for each ingredient.
- D. Planting Schedule indicating anticipated planting dates.

1.5 QUALITY ASSURANCE

- A. Provide seed mixture in containers showing percentage of seed mix, germination percentage, inert matter percentage, weed percentage, year of production, net weight, date of packaging, and location of packaging.

1.6 QUALIFICATIONS

- A. Seed Supplier: Company specializing in manufacturing Products specified in this section with minimum three years' experience.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. See Section 01 60 00 - Product Requirements for product storage and handling requirements.
- B. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable.
- C. Fertilizer shall be of standard commercial types supplied separately or in mixtures, and furnished in moisture-proof containers. Each container shall be marked with the weight and with the manufacturer's guaranteed analysis of the contents showing the percentage for each ingredient contained therein.

PART 2 PRODUCTS

2.1 SEED MIXTURE

- A. Materials: Meet applicable requirements of the State of Alaska Seed Regulations, 11 AAC 34, Article 1 and Article 4.
- B. Seed Mixture:

Name	% by Weight	Min. % Sproutable*
Nortan Tuffed Hairgrass (<i>Deshampsia caespitosa</i>)	45%	71%
Red Fescue (Arctared) (<i>Festuca ruba 'arctared'</i>)	20%	78%
Alyeska Polargrass (<i>Arctagrostis latifolia</i>)	10%	80%
Annual Rye (<i>Lolium multiflorum</i>)	25%	76%

*Sproutable seed is the mathematical product of Germination and Purity.

- C. Acceptable Manufacturers: Subject to compliance with requirements of this Section and Contract Documents acceptable manufacturers include the following
 1. Alaska Mill and Feed.
 2. Polar Supply Company.
 3. Or approved equal substitutions per Section 01 25 00 – Substitution Procedures.

2.2 FERTILIZER

- A. Fertilizer: Complete dry packaged fertilizer with a mixture of chemical ingredients providing a total available nitrogen, phosphoric acid, and potassium in a 20-20-10 percentage.

2.3 MULCH

- A. Processed wood fiber that contains no germination or growth inhibiting factors. It shall remain in uniform suspension with the seed, to form a homogeneous slurry. It shall have moisture absorption and percolation properties and the ability to cove and hold the seed in contact with the soil. It shall have a dye of suitable color to facilitate inspection of its placement.

PART 3 EXECUTION

3.1 SOIL PREPARATION

- A. Clear all areas to be seeded of stones 2 inches in diameter and larger and of all weeds, plant growth, sticks, stumps, and other debris or irregularities that might interfere with the seeding operation, growth of grass, or subsequent maintenance of the grass-covered areas.
- B. Roughen the soil surface by walking a dozer transversely up and down the slopes, or by grading with a scarifying slope board. The resulting indentations shall be perpendicular to the fall of the slope.
- A. Seed application season shall be between May 15 and August 15.
- B. Apply seed, mulch, and fertilizer in a single application at a rate that ensures 2 pounds of seed per 1,000 square feet, 46 pounds of mulch per 1,000 square feet, and 12 pounds of fertilizer per 1,000 square feet.
- C. Use hydraulic seeding equipment that will maintain a continuous agitation and apply a homogeneous mixture through a spray nozzle. The pump must produce enough pressure to maintain a continuous, nonfluctuating spray that will reach the extremities of the seeding area.
- D. Add mulch to water slurry in the hydraulic seeder after adding seed and fertilizer.
- E. Add seed to slurry mixture no more than 30 minutes before application.
- F. General: Maintain and establish grass by watering, fertilizing, weeding, replanting, and performing other operations as required to establish healthy, viable grass. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth grass. Provide materials and installation the same as those used in the original installation.

3.3 MAINTENANCE

- A. Water to prevent seeded areas and soil from drying out.

- B. Reseed any areas not showing evidence of satisfactory growth within 3 weeks of seeding.
- C. Repair eroded areas, provide topsoil and reseed as needed to obtain healthy stand of plants.

3.4 ACCEPTANCE

- D. Acceptance of the ground cover requires a minimum of 70% cover density in the inspection area, gullies repaired and reseeded, and no bare patches of soil more than 10 square feet in area.

END OF SECTION

SECTION 33 05 26.13

SIGNAGE

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. This section covers the furnishing and installation of signs at the bulk tank farm, and marine header.
- B. The Contractor shall furnish all signs and fasteners.

1.2 RELATED REQUIREMENTS

- A. Section 01 33 00 Submittals

1.3 REFERENCES

- A. International Fire Code (IFC), Sections 3404.
- B. National Fire Protection Association, No. 704
- C. State of Alaska, Department of Transportation, "Standard Specification for Highway Construction" and "Standard Drawings Manual".

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 33 00 Submittals.
- B. Submit shop drawings of all signs, including height and width as well as sign thickness. Indicate background color and text color, text information (i.e. height and stroke) proposed for each sign.
- C. Submit manufacturer's data and standard colors for vinyl backgrounds and letters.
- D. Submit one (1) sample for approval of each type of fastener used to install, hang or otherwise fasten signs.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Signs shall be provided in the locations indicated in the Contract Drawings.
- B. Signs posted shall be constructed of 0.08" minimum aluminum plate. Warning signs shall be white non-reflective letters on a red non-reflective background. Informational signs shall be black non-reflective letters on a white non-reflective background, unless otherwise indicated.
- C. Lay out letters such that no letters touch or overlap, and all words are clearly readable.

- D. Signs and letters shall be sized as indicated on the Contract Drawings.
- E. Provide 3M series 255 High Performance vinyl letters on 3M 3650-10 white vinyl background, or Gerber thermal transfer film printed letters on Gerber High Performance vinyl background as indicated on the Drawings, or as appropriate for the application.

PART 3 - EXECUTION

3.1 GENERAL

- A. Install in accordance with IFC flammable and combustible liquid signage standards, and NFPA 704.
- B. Signs shall be conspicuously mounted and easily read.
- C. Where signs are fastened to fences, the fasteners used shall be steel hog rings or steel wire ties.

END OF SECTION