Design-Build Documents for:

FedEx Hangar Mechanical and Electrical Upgrade Design-build

Project No. 16-120

Alaska Industrial Development Export Authority

813 West Northern Lights Blvd., Anchorage, Alaska 99503

Advertising Date: February 22, 2016

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REQUEST FOR PROPOSALS (RFP)

Competitive Sealed Proposals - Design Build - 3 AAC 100.340(5)

ISSUING OFFICE

Agency Contact (Technical Issues)..... : Lori Stender, 907.771.3966, lstender@aidea.org
..... :
Agency Contact (Proposal Procedures) .... : Rich Wooten, CDT, CPSM, 907.771.3019, rwooten@aidea.org
Contracting Agency ..... : Alaska Industrial Development Export Authority (AIDEA)

PROJECT

Project: FedEx Hangar Mechanical and Electrical Upgrade Design-build **Project No. : 16-120**

Project Site (City, Village, etc.): Anchorage, Alaska

Contract Description: The FedEx Maintenance Hanger and supporting Fire Suppression Building were constructed in 1990 and are a key component of the FedEx distributions center. As such, it is critical to their operations that they provide aircraft maintenance in a reliable, modern facility on a 24/7 basis. To that end AIDEA (the "Authority" and facility owner) has agreed to upgrade priority elements within the facility. These elements include upgrades to the fire suppression, mechanical and electrical systems for the hanger and fire suppression building.

SCHEDULE & PRICE

Anticipated period for performance-Begin/End: April 2016 – October 2016
Anticipated NTP Date: April 7, 2016; Substantial Completion Date: August 19, 2016; Completion Date: September 30, 2016

Estimated amount of proposed contract:

[ ] Not exceeding $200,000 [ ] $200,000 to $300,000
[ ] $300,000 to $600,000 [ ] $600,000 to $1,500,000 [X] $1,500,000 to $3,000,000
[ ] $3,000,000 to $5,000,000 [ ] $5,000,000 or greater

Proposed Method(s) of Payment:

[X] Firm Fixed Price (FFP) [ ] Cost Plus Fixed Fee (CPFF)
[ ] Fixed Price Plus Expenses (FPPE) [ ] Other:

SUBMITTAL DEADLINE AND LOCATION

OFFERORS ARE RESPONSIBLE TO ASSURE DELIVERY PRIOR TO DEADLINE (2 AAC 12.250).
ONLY PROPOSALS RECEIVED PRIOR TO THE FOLLOWING DATE AND TIME WILL BE OPENED.

DATE: March 15, 2016 PREVAILING TIME: **4:00 P.M.**
DELIVER DIRECTLY TO FOLLOWING LOCATION (and person, if named):

AIDEA
813 West Northern Lights Blvd.
Anchorage, Alaska 99503

IMPORTANT NOTICE: If you downloaded this solicitation from the AIDEA's Website, you must register on the online planholders list to receive subsequent addenda. Failure to register may adversely affect your proposal. It is the Offeror's responsibility to ensure that they have received all addenda affecting this RFP. To register, go to www.AIDEA.org and provide the project name & number, company name & contact person, address, phone number & fax number.

SELECTION PROCEDURE

1. The provisions of 2 AAC 12.931 – 2 AAC 12.949 set out requirements for the procurement and administration under AS 36.30.200 (c) of design build construction contracts.

2. Technical and Price proposals will be solicited from all offerors. Offerors will respond to a Design Criteria Package with separate technical and price proposals. Technical Proposals are evaluated first using a numerical points system (reference Section 00 02 20). Price Proposals are then opened and prices are figured into the points system to determine the final selection.

   2.1 Price Proposals will be separated from Offerors responses to other criteria, if not already done by the Offerors, and not examined until after all other criteria are evaluated.

3. Scoring of proposals will be accomplished as follows:

   3.1 Each Evaluator will individually read and rate Offeror's response to each criterion except price proposal. Ratings will be based solely on contents of proposals. Except as may be stated within any criterion description, a rating of "5" indicates the most responsive; ratings of "4-1" indicate progressively less responsiveness; and a rating of "0" indicates Non-responsive. Tie scores are permissible for evaluation criteria addressing schedule and design. Ratings are multiplied by the assigned weights for each criterion to obtain criterion scores.

   3.2 After completion of individual ratings, the Evaluation Committee will meet to discuss proposals. Evaluators may then alter their ratings however, any changes shall be based solely on the Evaluation Criteria set forth in the Project Manual. Additional criteria may not be considered. (2 AAC 12.260(b)).

   3.3 DESIGN BUILD TECHNICAL AND PRICE PROPOSALS SHALL NOT BE DISCLOSED TO THE PUBLIC OR TO COMPETING OFFERORS UNTIL AFTER A NOTICE OF INTENT TO AWARD IS ISSUED (see paragraph 7, below).

4. Evaluators may discuss factual knowledge of, and may investigate Offerors' and proposed Subcontractors' prior work experience and performance, including projects referenced in proposal, available written evaluations, etcetera, and may contact listed references or other persons knowledgeable of a Contractor's and/or a Subcontractor's past performance. Factors such as overall experience relative to the proposed contract, quality of work, control of cost, and ability to meet schedules may be addressed. If any issues of significant concern to the proposed contract are discovered, the Committee may:

   4.1 Provide written recommendations for consideration prior to contract award;

   4.2 Recommend suspension of the Offeror from consideration for award of the contract if there is probable cause for debarment (AS 36.30.635); or

   4.3 Conduct discussions in accordance with paragraph 5, below.

5. The Committee may decide to conduct discussions (or "interviews") with responsible Offerors whose proposals are determined to be reasonably susceptible of being selected for award for the purpose of clarification to assure full understanding of, and responsiveness to, the solicitation requirements (AS 36.30.240 & 2 AAC 12.290). After discussions, Evaluators will determine the final scoring and ranking for award by evaluating written and oral responses using only the Evaluation Criteria set forth in the Project Manual. Additional criteria may not be considered. (2 AAC 12.260(b)).

6. N/A

7. All Offerors will be advised of the Offeror selected for award after completion of the evaluation process. A Notice of Intent to Award will be provided to all Offerors.

NOTICES

COPIES

1. Copies of this Design Build Project Manual (including Proposal and Contract Requirements, Program Criteria and Design Criteria) are available for review and may be purchased for a fee at the following address:

ADDITIONAL INFORMATION

2. The Contractor shall be responsible for all permitting associated with this project.

PRE-PROPOSAL CONFERENCE

3. A Site visit will be held during the advertising period at 1:00 p.m. on March 1, 2016. Offerors need to submit their name and date of birth to Rich Wooten at Rwooten@aidea.org no later than Monday, February 29, 2016 at 1:00 p.m. to gain access to the work area for the site visit. The date of the visit, all attendees must first arrive at 6050 Rockwell Ave at the security screening entrance to sign-in and receive temporary badges from security. Parking should be in the visitor/vendor parking and not in customer parking. All attendees shall bring nothing they would not otherwise bring to an airport screening. All similar rules and confiscation risks apply. Cameras will be allowed provided no FedEx employees, FedEx logos or anything other than strict mechanical related data are in any photos. This site visit is mandatory.

ADDENDA

4. Every effort will be made by the Contracting Agency to insure that Offerors receive all addenda when issued. Addenda will be issued to the individuals and companies to whom the Project Manual was issued. Addenda may be issued by any reasonable method such as hand delivery, mail, email, telefacsimile, and courier and in special circumstances by phone. Addenda will be issued to the address, email address, telefacsimile number or phone number as stated on the planholder's list unless picked up in person or included with the Project Manual. It is the Offeror's responsibility to insure receipt of all addenda. No claim or protest will be allowed based on the Offeror's allegation that the Offeror did not receive all of the addenda.

TECHNICAL QUESTIONS

5. All questions relating to design features, constructability, quantities, or other technical aspects of the project and any requests to view the project should be directed to the Agency Project Manager cited under "Issuing Office" on page 1 of this RFP. All questions shall be submitted 72 hours before the proposal due date, any questions received after may be disregarded.

PROCEDURAL QUESTIONS

6. All questions concerning proposal procedures should be directed to the Contracting Officer cited under "Issuing Office" on page 1 of this RFP.

COST INCURRED PRIOR TO CONTRACT

7. Offerors are specifically advised that a contract shall not be in effect until a written agreement is executed by an authorized agent of the Contracting Agency. The Contracting Agency shall not be liable for any cost incurred by an Offeror in response to this solicitation, including any work done, even in good faith, prior to execution of a contract and issue of a Notice to Proceed.

CONFLICT OF INTEREST

8. The Contracting Agency may preclude or disqualify a Prospective Proposer from participation in the Contract if the Prospective Proposer is deemed to have an unfair competitive advantage or a conflict of interest as stated in 2 AAC 12.935 (e) and (f). The Prospective Proposer, including all Entities in the Prospective Proposer’s organization, shall voluntarily disclose to the Contracting Agency, in writing, any factors that may provide it with an unfair competitive advantage and/or potential or actual conflict of interest. Requests for clarification on this issue shall be made in writing to the Contracting Agency more than 10 days prior to the submittal deadline for Proposals.

LICENSING

9. Prospective Proposers shall possess an Alaska business license prior to award. Prospective Proposers shall also be registered as a general contractor in accordance with AS 08.18 and 12 AAC 21 prior to award, or licensed as an architect or engineer in accordance with AS 08.48 and 12 AAC 36. Both professional licensing and contractor

registration will be required for the appropriate entities and members of the Design-Builder's Project Team in accordance with Section 00 30 00. Prospective Proposers may contact the Alaska Department of Community and Economic Development, Division of Occupational Licensing, at P.O. Box 110806, Juneau, AK 99811-0806, telephone number (907) 465-2550, or at Internet address http://www.commerce.state.ak.us/CBP/ for information.

BID SECURITY

10. All Proposals shall be accompanied by a Bid Security in the amount of 5% of the Proposed Price. The Bid Security shall be in the form of an acceptable Bid Bond (section 00410), or a certified check, cashier's check or money order made payable to the State of Alaska. Bid Bonds must be accompanied by a legible Power of Attorney. The surety of a Bid Bond may be any corporation or partnership authorized to do business in Alaska as an insurer under AS 21.09. Telegraphic or telefacsimile notification of execution of a Bid Bond does not meet the requirements of Bid Security accompanying the Proposal. An individual surety will not be accepted as a Bid Security. Bid Securities, other than Bid Bonds, will be returned to all Offerors, except for the two highest scored proposals, as soon as practicable. The Bid Security of the two highest scored proposals will be returned immediately after the contract has been awarded. If all proposals are rejected, all Bid Securities will be returned as soon as practicable.

PROPRIETARY INFORMATION

11. Offerors should not include proprietary information in proposals if such information should not be disclosed to the public. Any language within a submittal purporting to render all or portions of a proposal confidential will be disregarded. Proprietary information which may be provided after selection for contract negotiations will be confidential if expressly agreed to by the Contracting Agency (AS 36.30.230).

MINOR INFORMALITIES

12. The Contracting Agency expressly reserves the right to waive minor informalities, negotiate changes or reject any and all proposals and to not award the proposed contract, if in its best interest. "Minor Informalities" means matters of form rather than substance which are evident from the submittal, or are insignificant matters that have a negligible effect on price, quantity, quality, delivery, or contractual conditions and can be waived or corrected without prejudice to other Offerors (2 AAC 12.990).

RECEIPT AND OPENING OF PROPOSALS

13. All proposals, including any amendment or withdrawal must be received by the Contracting Agency prior to the scheduled time for submitting proposals. Any proposal, amendment, or withdrawal which has not been actually received by the Contracting Agency prior to the scheduled time for submitting proposals will not be considered. No responsibility will be attached to any officer or employee of the Contracting Agency for the premature opening of, or failure to open, a proposal improperly delivered, addressed or identified.

    Design Build Proposals are not publicly opened because they are obtained under Alaska statutes and regulations regarding Competitive Sealed Proposals (vs Bids). Proposals are therefore not available for public inspection until after a Notice of Intent to AWARD is issued (AS 36.30.230). Proposals will be evaluated as described in the RFP under "Selection Procedure." The ranking of Offerors will be made available to the public in a Notice of Intent to AWARD as soon as practicable.

    Until award of the contract, the Contracting Agency reserves the right to reject any or all proposals, to waive technicalities or to advertise for new proposals without liability against the Contracting Agency, if in the judgment of the awarding authority the best interests of the Contracting Agency will be promoted thereby.

    Submitted design plans and/or design concepts become the property of the Contracting Agency.

DISQUALIFICATION OF OFFERORS

14. Either of the following reasons may be considered as being sufficient for the disqualification of an Offeror:

    * More than one proposal for the same work from an individual, firm, or corporation under the same or different name. [A party who has quoted prices to an Offeror is not thereby disqualified from quoting prices to other Offerors or from submitting a proposal directly for the project.]

    * Evidence of collusion among Offerors. Participants in such collusion will receive no recognition as Offerors for any future work of the Contracting Agency until any such participant shall have been reinstated as a qualified Offeror.

REJECTION OF PROPOSALS

15. The Contracting Agency reserves the right to reject any and all proposals when such rejection is in the best interest of the State; to reject the proposal of an Offeror who has previously failed to perform properly, or complete on time, contracts of a similar nature; to reject the proposal of an Offeror who is not, in the opinion of the Contracting Officer, in a position to perform the contract; and to reject a proposal as nonresponsive where the Offeror fails to furnish the required documents, fails to complete required documents in the manner directed, or makes unauthorized alterations to proposal documents.

NON-RESPONSIVE PROPOSALS

16. Proposals may be considered non-responsive and may be rejected for the following reasons:

* If the proposal is on a form other than that furnished by the Contracting Agency, or copies thereof; or if the form is altered or any part thereof is detached; or if the proposal is improperly signed.

* If there are unauthorized additions, conditional or alternative proposals, or irregularities of any kind which may tend to make the proposal incomplete, indefinite, or ambiguous as to its meaning.

* If the Offeror adds any provisions reserving the right to accept or reject any award, or to enter into a contract pursuant to an award. This does not exclude a proposal limiting the maximum gross amount of awards acceptable to any one Offeror at any one time, provided that any selection of awards will be made by the Contracting Agency.

* If the proposal does not contain a unit price for each pay item listed, except in the case of authorized alternate pay items.

* If the Offeror has not acknowledged receipt of each addendum by its assigned number and date of issue.

* If the Offeror fails to furnish an acceptable Bid Security with the proposal.

* If any of the alternate prices proposed are excessively unbalanced (either above or below the amount of a reasonable proposals) to the potential detriment of the Contracting Agency.

* If the Offeror fails to specifically name in their Technical Proposal, any of the required Design-Build team individuals who will be “in responsible charge” for performance of Architectural, Engineering, and/or Land Surveying disciplines as may be required by this solicitation and listed in Criterion 2 of Section 00 02 20.

TAXES

17. If it is discovered that a Prequalified Proposer is in arrears on taxes due to the State, a Contract may not be awarded until the Alaska Department of Revenue approves the payment provisions for the Contract.

DOCUMENTS FROM SUCCESSFUL OFFEROR PRIOR TO AWARD

18. Prior to award, the successful Offeror must complete and submit the following documents and such other documents as may be specified in the Intent to Award letter:

Section	Form
00 51 00	Standard Form of Agreement between Owner and Design Builder
00 61 00	Performance Bond (25D-13)
00 62 00	Payment Bond (25D-12).
00 76 00	Signed Page 7 of 8
00 76 00	Proof of registration in the System for Award Management (See page 8 of 8)
	Certificate(s) of Insurance

CHANGES

19. The successful Offeror may make no change to elements of its organization except upon prior written approval of the Contracting Agency.

PER DIEM

20. Alaska State law requires payment of food and lodging or per diem payments to some classes of workers stationed away from their hometown. Proposers may contact the Alaska Department of Labor at telephone number (907) 465-4842 or at Internet address http://www.labor.state.ak.us/lss/whhome.htm for information.

AWARD AND EXECUTION OF CONTRACT

21. All Offerors will be notified of the Contracting Agency's Intent to Award the contract and the successful Offeror will be requested to execute certain documents, including the Contract form and bonds.

The Offeror may be requested by the Contracting Agency to submit a statement of facts, in detail, as to previous experience in performing comparable work, business and technical organization, financial resources, and plant available to be used in performing the contemplated work.

Offerors and proposed subcontractors must be in compliance with statutory requirements for Alaska licensing.

If it is discovered that a selected Offeror is in arrears on taxes due the State of Alaska, a contract may not be awarded until the Alaska Department of Revenue approves the payment provisions for the contract.

The contract form and all other required documents shall be executed by the successful Offeror and returned to the Contracting Agency within the time frame specified in the Intent to Award Letter.

The Letter of Award, if the contract is to be awarded, will be issued to the highest scored Offeror generally as soon as practicable.

No contract shall be considered as effective until it has been fully executed by all of the parties thereto.

FAILURE TO EXECUTE CONTRACT

22. Failure of the successful Offeror to appropriately execute and return the contract form and other documents within 15 days after receipt from the Contracting Agency, will be just cause for the annulment of the award and the forfeiture of the Bid Security to the Contracting Agency, for damages sustained. Award may then be made to the next highest scored responsive and qualified Offeror, or the work may be readvertised.

If the contract is not executed by the Contracting Agency within 15 days following receipt from the Offeror of all required documents appropriately executed for the award of the contract, the Offeror shall have the right to withdraw its proposal without penalty.

PROTEST PROCEDURES

23. An interested party, as defined in AS 36.30.699, may protest this RFP. Protests based on alleged improprieties or ambiguities in the RFP must be filed at least 10 days prior to the submittal deadline. Protests must be submitted in writing to the Contracting Officer and shall be governed by the terms of AS 36.30.560 - 615.

EQUAL EMPLOYMENT OPPORTUNITY

24. The Contracting Agency is an equal opportunity employer.

STIPEND

25. There is no stipend available to proposers.

DESIGN BUILD (DB)
SUBMITTAL CHECKLIST

Design Build (DB) - Competitive Sealed Proposals - 3 AAC 100.340(5)

Project: FedEx Hangar Mechanical and Electrical Upgrade Design-build **Project No. : 16-120**

EXAMINATION OF WORK SITE AND PROJECT MANUAL

[ ] 1. Offerors are expected to examine carefully the site of the proposed work and the Project Manual before submitting a proposal. The submission of a proposal shall be considered prima facie evidence that the Offeror has made such examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements of the Contract Documents.

PREPARATION OF PROPOSAL

[ ] 2. Offerors must carefully review the Project Manual for defects and questionable material and become familiar with submittal requirements before preparing proposals. Any explanation desired by Offerors regarding the meaning or interpretation of any of the project documents provided by the Contracting Agency must be requested in writing to the address shown under "Submittal Deadline and Location" on page 1 of the Design Build Request for Proposals (DB RFP). Substantive issues will be addressed in an addendum to all recipients on record as receiving the Project Manual. Oral explanations or instructions given before the award of the contract will not be binding. Failure to comply with directions will result in lower score and may eliminate a submittal from consideration. ***Protests based upon any omission, error or content of this solicitation may be disallowed at the discretion of the contracting agency if the protest is not received in writing at least ten agency work days prior to the submittal deadline (2 AAC 12.615(a)).***

[ ] 3. Review all parts of the Project Manual, and then focus on the following documents: RFP, this Submittal Checklist, Evaluation Criteria, and the Proposal Form.

[ ] 4. Review the Evaluation Criteria. Read the criteria in each section in light of the proposed project as portrayed in the Project Manual. Be aware of the assigned weight for each criterion. Plan your proposal to address the applicable criteria. All criteria Responses shall not exceed the number of pages stated below.

[ ] 5. Prepare a distinct Response for each criterion. Failure to respond directly to any criteria will result in an evaluation score of zero for that criterion. Acceptable Responses must be specific and directly related to the proposed project. Marketing brochures and photographs, federal standard forms 254 and 255, and other non-project specific materials will be discarded without evaluation and should not be submitted.

[ ] 6. ***Each criterion Response must be titled, numbered and assembled in the order in which the criteria are listed in Section 00 02 20***, so the criterion to which information applies shall be plainly evident. Material not so identified or assembled may be discarded without evaluation. Responses shall be presented on 8 ½" X 11" paper, except for a minimal number of larger sheets (e.g. 11"x17") that may be used for drawings & schedules if they are folded to 8½" x 11" size. **CAUTION:** small print or typeface that is difficult to read will negatively influence evaluation of your submittal.

[ ] 7. Complete all entries on the DB Proposal Form, Section 00 30 00. Note the statutory requirements for Alaska Licenses and be sure to sign and date the Certification.

[ ] 8. Attach criteria Responses (**EXCEPT** PRICE PROPOSAL) to the DB Proposal Form. The maximum number of attached pages including any design drawings (each printed side equals one page) for criteria Responses shall not exceed: **10 Pages**.

Page limit does not include the two page DB Proposal form or the DB Price Proposal, ONE page resumes, requested submittals (Section 00 02 20, Criteria 4), Bid Schedule, and Bid Bond documents. **CAUTION**: Criteria Responses, which exceed the maximum page limit or otherwise do not meet requirements stated herein, may result in disqualification.

PRICE PROPOSAL

[ ] 9. Review the DB: Price Proposal, Bid Schedule, and Bid Bond documents. Prepare a PRICE PROPOSAL for all design, labor, subcontracts, equipment, expenses, etc., in compliance with the Project Manual. Complete the three documents on the forms furnished, or copies thereof.

[ ] 9.1 The Bid Schedule will provide for quotation of a price or prices for one or more contract 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 proposed price for the work. When an item in the Bid Schedule contains a choice to be made by the Offeror, the Offeror shall indicate his choice in accordance with the specifications for that particular item, and no further choice will be permitted.

[ ] 9.2 Where required, Offerors 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, Offerors should insert the words "no bid" in the space provided for any item not requiring a quotation and for which no quotation is made.

[ ] 9.3 On unit price contracts Offerors 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 words and figures shall be in ink or typed.

[ ] 9.4 When provided within the supplements to the bid schedule Offerors shall specify Alaska Bidder to their proposal. All entries made by Offerors and designating applicable preferences must conform to the requirements of AS 36.30 and the instructions on the forms to warrant consideration.

[ ] 9.5 Neither conditional nor alternative bids will be considered unless called for.

[ ] 9.6 Unless specifically called for, telegraphic or telefacsimile bids will not be considered.

[ ] 9.7 The Price Proposal must be signed with ink. If the Offeror is a corporation, the proposal shall be signed by an individual having authority to sign the contract. If the Offeror is a partnership, the proposal shall be signed by any authorized member of the partnership. If the Offeror is a sole proprietorship, the proposal shall be signed by the owner. Any erasure or change on the Price Proposal or Bid Schedule must be initialed by the person signing the proposal.

ACKNOWLEDGEMENT OF ADDENDA

[ ] 10. The Proposal Form provides for acknowledgement individually of all Addenda to the Project Manual. All addenda shall be acknowledged on the Proposal Form or by email prior to the scheduled time for submittal of proposals. If no addenda are received, the word "None" should be shown as specified.

REQUIRED DOCUMENTS

[ ] 11. Submittals shall consist of the following applicable items assembled as follows and in the order listed. Proposals will not be considered if documents are not completely filled out. Telegraphic or telefacsimile submittals are NOT acceptable.

[ ] 11.1 Seven (7) copies of DB Proposal Form (at least one copy with original signature) with responses to all Evaluation Criteria [**EXCEPT PRICE PROPOSAL**] attached. Each copy shall be fastened with one staple in the upper left corner. No other form of binding shall be used and no cover and no transmittal letter other than the DB Proposal Form will be included. CAUTION: Failure to comply with this instruction will negatively influence evaluation of Submittal.

[ ] 11.2 **One copy** of the DB Price Proposal, with the DB Bid Schedule and DB Bid Bond attached, with one staple in the upper left corner. The Price Proposal, Bid Schedule and Bid Bond shall be enclosed together in a separate sealed envelope marked on the outside to identify it as **PRICE PROPOSAL** and with the names of the Project and Offeror.

DO NOT place the Design Build (DB) Proposal Form (Section 00 30 00) in the sealed price proposal envelope.

[ ] 11.3 **CAUTION:** If you replicate (other than by photocopy) any form in the Project Manual in lieu of filling out forms provided by the Contracting Agency, provide a signed certification that lists such forms and attests that they are exact replicas of that issued by the Contracting Agency. Changed forms may result in rejection at the Contracting

Agency's discretion. Any alteration may be cause for rejection without recourse.

DELIVERY

[ ] 12. Deliver **submittals in one sealed package** to the location and before the submittal deadline cited on page 1 of the DB Request for Proposal. Do not include in the package any proposals or bids for other projects. **Mark the outside of the package** to identify the Project and the Offeror. Proposals must be received prior to the specified date and time. Late proposals will not be opened (2 AAC 12.250).

WITHDRAWAL OR REVISION OF BIDS

[ ] 13. A Offeror may withdraw or revise a proposal after it has been delivered to the Contracting Agency, provided that the request for such withdrawal or revision is received by the designated office, in writing, or by telefacsimile, before the time set for submittal of proposals. If the Price Proposal is to be changed, the 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 Price Proposal.

DESIGN BUILD
EVALUATION CRITERIA

Design Build (DB) - Competitive Sealed Proposals – 3 AAC 100.340(5)

1. Prime Contractor | **1. Weight: 10**

Response must describe the history and experience of the firm and the current principals. How long has the firm been in business? How long under the current management? Describe the firm's **experience with Design Build projects** on which the prime contractor performed a lead role. Discuss other ongoing work which may have relevance to this project. How much work does the firm perform on an annual basis? How long has the firm been established in Alaska?

Address the design-builder's safety record, to include safety and drug-testing policies and programs. Address quality control and quality assurance policies and programs to be employed on this project.

Identify any **distinct and substantive qualifications** for undertaking the proposed contract such as the availability of specialized equipment, technical resources and information technology, as well as unique approaches or concepts relevant to the project.

Address capacity to bond the entirety of the Contract. Address any arrangements you have made to finance the work. Has the firm ever failed to complete a contract due to insufficient resources?

2. Design Build Team (Prime and Subcontractors) | **2. Weight: 20**

Response must name all the firms to participate in the contract and define areas of responsibility that apply including, but not limited to, the following:

a) General Contractor
b) Architecture*
c) Civil/Structural Engineering*
d) Mechanical Engineering*
e) Project Manager
f) Electrical Engineering*
g) Mechanical Subcontractor
h) Electrical Subcontractor
i) Other Major Suppliers/Subcontractors

*Response must name all individuals to be "in responsible charge" for performance of Architecture, Engineering and Construction plus any other key functions, and other key individuals you deem essential to perform the contract. Caution – all individuals "in responsible charge" must be identified (See Section 000200 Notice 16).

Describe the work to be performed by the individuals you name and detail their specific qualifications and substantive **experience directly related to the proposed contract.** A response prepared specifically for this proposal is required. Provide a detailed narrative that demonstrates specific knowledge and or experience with projects on the Air Operations Areas (AOA) of the Ted Stevens Anchorage International Airport and project development path. Marketing resumes often include non-relevant information which may detract from the evaluation of proposals and should be limited to one page per team member. Lists of projects are not useful. Focus on individual's specific duties and responsibilities and how project experience is relevant to the proposed contract.

For each person named, identify their: employer, professional discipline or job classification, professional registration number if applicable, and state of residency. List at least 3 professional references (contact persons and telephone numbers) for each person.

Discuss any prior work relationships among the firms - in particular, Design Build projects. Discuss each firm's particular responsibilities for prior contracts that were similar to the work proposed in the RFP. Indicate which of the firms were involved in such contracts. For each contract, list the contracting entity and a reference (contact person and a telephone number).

Specifically for the Project Manager, address the following:

1) Response must name the one individual "in responsible charge" to perform daily project management (single point-of-contact directly engaged in contract performance).
2) Experience in Management of design/build projects of the type described in the RFP.
3) Knowledge of the Contracting Agency's construction management, engineering, and inspection policies and procedures.

4) List recent projects managed including employer, project name, location, client/owner, project value, and proposed **Project Manager's role** on the management team for each project. Provide a reference name and phone number.

3. Project Schedule and Management Plan | **3. Weight: 10**

The Contracting Agency anticipates this work starting in June. During the month of June, the design-builder will have consistent access to the project to complete work. Access after the month of June may be limited as the lease holder's use of the facility takes priority. The design-builder will need to coordinate with the lease holder at all times. Address your team's projected workload during the scheduled time for this project. Provide a Project Schedule which shows how your team will achieve (or beat) this schedule and address major project components including:

a) Design, Approvals and Permitting
b) Materials procurement and delivery
c) Site preparation and construction
d) Phasing of Construction
e) Building will be occupied during construction, address coordination issues
f) Inspections by design professionals
g) Substantial and Final Completion

The most specific schedule is desired (dates in lieu of time blocks, time blocks in lieu of ranges etc.)

Discuss your proposed management plan and indicate the following:
a) Organization structure, chain of command, decision authority, and communications.
b) Construction approach including: logistics, use of local labor, etc.
c) Procedure for solving problems on the project.

4. Design Narratives/Drawings | **4. Weight: 20**

Response must demonstrate knowledge of project requirements. Provide a design narrative showing a clear understanding of the design-build bridge documents and expected outcome. Include - but do not limit discussion to - quality of materials, durability and serviceability of equipment, etc. Design-build firms may provide related drawings

5. Deviations From Design-build Bridge Drawings and Specifications | **5. Weight: 20**

The Owner will consider deviations from the design-build bridge drawings and specifications when those deviations meet the intent of the project and represent a reduced cost to the Owner:

Deviations include modification to components or systems defined in the design-build bridge documents. The Design-Builder is encouraged to provide deviations only if they: Are commensurate with the intent of the design-build bridge drawings; Provide a reduced construction or life cycle cost; Are easier to maintain; other benefit noted by the design-builder. The Design-Builder shall provide sufficient information on proposed deviations in their technical proposal to determine quantity and quality.

Response must specifically identify and list which, if any, deviations are included in the Design-Builder's proposal and in the Total Basic Bid price. **Do not reveal pricing information in your technical responses.** All accepted deviations offered in the proposal become a part of the awarded contract.

6. Price Proposal	6. Weight: 20

Provide a Price Proposal (as instructed by the Submittal Checklist) for all design, labor, subcontracts, equipment, expenses, etc., in compliance with the RFP. Submit a completed DB Price Proposals (Section 003100), the Bid Schedule (Section 003120), and Bid Bond (Section 004100.)

The Price Proposal score will be calculated as follows:

$$\text{Criterion Score} = \frac{\text{(Lowest Total Basic Bid Price x MPP)}}{\text{Offeror's Total Basic Bid Price}}$$

Wherein: For the purpose of scoring, the Total Basic Bid Price will be the Total Basic Bid as stated on the Bid Schedule, and:

The MPP (Maximum Possible Points) will equal (5) x (# of Evaluators) x (Weight assigned to Criterion).

DESIGN BUILD (DB)
PROPOSAL FORM

Competitive Sealed Proposals - Design Build (DB) - 3 AAC 100.340(5)

THIS FORM MUST BE THE FIRST PAGE OF EACH COPY OF PROPOSAL. Attach criteria responses as explained in the Submittal Checklist. ***No transmittal letter or cover sheet will be used.***

Project: FedEx Hangar Mechanical and Electrical Upgrade Design-build Project: 16-120

OFFEROR (PRIME CONTRACTOR)

Contractor :

Street :
P.O. Box :
City, State, Zip :
Alaska Business License Number :
General Contractor Registration No :
Federal Tax Identification No. :
Individual(s) to sign contract :
Title(s) :
Type of business enterprise (check one) : ..... [ ] Corporation in the state of :
[ ] Individual [ ] Partnership..... [ ] Other(specify) :

PROPOSED SUBCONTRACTOR(S)

Subcontractor	AK Business License No.	Contractor Registration No.

ACKNOWLEDGEMENT OF ADDENDA

The undersigned acknowledges receipt of the following addenda to the RFP (give number and date of each).

Addenda	Date Issued	Addenda	Date Issued	Addenda	Date Issued
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

CERTIFICATIONS

I certify: that I am a duly authorized representative of the Contractor; that this Submittal accurately represents capabilities of the Contractor and Subcontractors identified herein for providing the services indicated; and, that the requirements of the Certifications on page 2 of this form for: 1) Alaska Licenses/Registrations, 2) Insurance, 3) Cost and Pricing Data, and 4) Covenant Against Contingent fees - will be complied with in full. These Certifications are material representations of fact upon which reliance will be placed if the proposed contract is awarded. Failure to comply with these Certifications is a fraudulent act. The Contracting Agency is hereby authorized to request any entity identified in this proposal to furnish information deemed necessary to verify the reputation and capabilities of the Contractor and Subcontractors. 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, a Offerer on this project has, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competition in connection with this proposal. This proposal is valid for at least ninety days.

Signature:
Name: Date .... :
Title: Telephone(voice/fax)..... :

CERTIFICATION FOR ALASKA BUSINESS LICENSES/REGISTRATIONS

Contractor and all Subcontractors shall comply with the following applicable requirements of Alaska Statutes prior to contract award unless otherwise noted:

1. **Alaska Business License** (Form 08-070 issued under AS 43.70) for the Prospective Proposer prior to contract award. Required for Construction Subcontractors prior to award of subcontract.

2. **Certificate of Registration** (Form 08-2407) as required by AS 08.18.011 for Construction Contractors, including General Contractors, Specialty Contractors (AS 08.18.024), Residential Contractors (AS 08.18.025), Electrical Contractors (AS 08.18.026), and Mechanical Contractors (AS 08.18.028). Required for the Prospective Proposer prior to contract award. Required for Construction Subcontractors prior to award of subcontract.

3. **Certificate of Registration** for each individual to be in "responsible charge" (AS 08.48.341(14)) for Architecture, Engineering or Land Surveying (Form 08-2407 issued under AS 08.48.211) issued prior to submittal of proposal. Associates, consultants, or specialists under the supervision of a registered individual in "responsible charge" are exempt from registration requirements (AS 08.48.331).

4. **Certificate of Authorization for Corporate Practice** for incorporated Contractors and incorporated Subcontractors for Architecture, Engineering or Land Surveying (Form 08-2407 issued under AS 08.48.241). Corporations offering to provide Architectural, Engineering or Land Surveying services do not need to be registered for such disciplines at the time proposal is submitted provided they obtain corporate registration before contract award (AS 08.48.241).

5. **Certificate of Incorporation** (Alaska firms) or **Certificate of Authorization for Foreign Firm** ("Out-Of-State" firms). All corporations, regardless of type of services provided, must have one of the certificates (AS 10.06.218 and other sections of Title 10.06 - Alaska Corporations Code).

6. **Current Board of Director's Resolution** for incorporated Contractors and incorporated Subcontractors for Architecture, Engineering or Land Surveying (reference AS 08.48.241) which names the person(s) designated in "responsible charge" for each discipline. Such persons shall be licensed in Alaska and shall participate as project staff in the Contract/Subcontracts.

7. **All partners** in a Partnership to provide Architectural, Engineering, or Land Surveying **must be legally registered in Alaska** prior to submittal of proposal for at least one of those disciplines (AS 08.48.251) which the Partnership offers.

8. **Partnerships and Joint Ventures**, regardless of type of services provided, must be licensed/registered in the legal name of the Partnership or Joint Venture as used in this proposal (AS 43.70.020 and 43.70.110(4)).

CERTIFICATION FOR INSURANCE

Contractor will ensure that it and all Subcontractors have insurance coverage to effectuate the requirements of General Conditions of the Construction Contract for Buildings, Article 5 - Bonds, Insurance and Indemnification.

CERTIFICATION - COST AND PRICING DATA

In accordance with AS 36.30.400, any cost and pricing data submitted herewith, or in any future price proposals for the proposed contract, will be accurate, complete and current as of the date submitted and will continue to be accurate and complete during the performance of the contract, if awarded.

COVENANT AGAINST CONTINGENT FEES

The Contractor warrants that he has not employed any person to solicit or secure this contract upon any agreement for a commission, percentage, brokerage, or contingent fee. Breach of this warranty shall give the Contracting Agency the right to annul the contract, or, at its discretion, to deduct from the contract price, the amount of such commission, percentage, brokerage, or contingent fee. This warranty shall not apply to commissions payable by the Contractor upon contracts or sales secured or made through bona fide established commercial or selling agencies maintained by the Contractor for the purpose of securing business.

DESIGN BUILD (DB)
PRICE PROPOSAL

Competitive Sealed Proposals - Design Build - 3 AAC 100.340(5)

Project: FedEx Hangar Mechanical and Electrical Upgrade Design-build Project No. : 16-120

Price Proposal of ..... : _____

Address ..... : _____

_____

_____

_____

To the CONTRACTING OFFICER of the ALASKA INDUSTRIAL DEVELOPMENT EXPORT AUTHORITY:

In compliance with your REQUEST FOR PROPOSAL the Undersigned proposes to furnish and deliver all the material and do all the work and labor required in the construction of the above identified project located at or near:

FEDEX HANGAR, Anchorage, Alaska

according to the Project Manual 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 Price Proposal.

The Undersigned declares that we have carefully examined the contract requirements and that we have made an examination of the site of the work; that we understand that the quantities, where such are specified in the Bid Schedule or in the Project Manual for this project, are approximate only and subject to increase or decrease, and that we are willing to perform increased or decreased quantities of work at unit prices proposed 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 Price Proposal, and it is hereby mutually understood and agreed that in case the Undersigned does not, the accompanying Bid Security shall be forfeited to the State of Alaska, Department of Transportation & Public Facilities as liquidated damages, and the said Contracting Officer may proceed to award the contract to others.

The Undersigned agrees to commence the work within **10** calendar days and ***to substantially complete the work by August 19, 2016***, unless extended in writing by the Contracting Officer.

The Undersigned proposes to furnish Payment Bond in the amount of 50% (of the contract) and Performance Bond in the amount of 50% (of the contract), as surety conditioned for the full, complete and faithful performance of this contract.

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, a Offeror on this project has, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competition in connection with this proposal.

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

_____
Signature

_____
Name and Title of Person Signing

_____
Telephone Number

DESIGN-BUILD (DB)
BID SCHEDULE

Competitive Sealed Proposals - Design Build - 3 AAC 100.340(5)

Project: FedEx Hangar Mechanical and Electrical Upgrade Design-build Project No. : 16-120

Offerors, please read the following carefully before preparing this bid schedule:

The Offeror shall insert a fixed price in figures opposite each pay item which appears in the bid schedule. No price is to be entered or tendered for any item not appearing in the bid schedule.

Conditioned or qualified proposals will be considered non-responsive.

NOTICE: Price Proposals will be evaluated as described in the Evaluation Criteria under "Price."
Proposal Schedule – Proposers shall provide a cost to design and construct each of the work elements listed below. The owner reserves the right to select work elements in any order deemed to be in its best interest. Each line item shall contain the total price for the Design, Procurement, Permitting, Construction, and all ancillary costs related to overhead, insurance, labor, materials, management, etc. Described below are the tasks included in the RFP in order of priority. The "P" identified numbers correspond to the mechanical and electrical design drawings and are further described there.

Line	Description	Lump Sum
P21	Add fire water flow loop	
P22	Replace fire pump assemblies and test piping integrity	
P23	Replace foam fire suppression manifold system	
P31	Replace air compressor	
P32	Replace/repair Hanger heating system	
P33	Install redundant heat system circulation pump	
P34	Replace Boiler Room make-up air unit	
P35	Install isolation valves at all pumps	
P36	Replace U.G. effluent diverter valve	
P37	Relocate wing tank exhaust	
P38	Reverse motor control starter	
P39	Replace heat system valves	
P310	Install backup heater in Boiler room	
P311	Replace Air handler heating coils	
	TOTAL	$

Total Basic Bid, Lump Sum: $_____

_____
Signature

_____
Name and Title of Person Signing (Printed)

_____
Name of Business (Printed)

DESIGN-BUILD (DB)
BID BOND

Competitive Sealed Proposals - Design Build - 3 AAC 100.340(5)

Project: FedEx Hangar Mechanical and Electrical Upgrade Design-build **Project No. : 16-120**

(See Instructions on Reverse)		DATE BOND EXECUTED
PRINCIPAL (Legal name and business address)		TYPE OF ORGANIZATION [ ] INDIVIDUAL [ ] PARTNERSHIP [ ] JOINT VENTURE [ ] CORPORATION
		STATE OF INCORPORATION
SURETY(IES) (Name and business address)		
A.	B.	C.
PENAL SUM OF BOND		DATE OF PROPOSAL

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/proposal in writing, date as shown above, on Project: **FedEx Hangar Mechanical and Electrical Upgrade Design-build in accordance with contract documents filed in the office of the Contracting Officer, and under the Request for Proposals therefor, 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 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.	Corporate Seal
Name(s) & Titles (Typed)	1.	2.	3.	

CORPORATE SURETY(IES)					
SURETY C	Name of Corporation		State of Incorporation	Liability Limit $	
	Signature(s)	1.	2.		Corporate Seal
	Name(s) & Titles (Typed)	1.	2.		
CORPORATE SURETY(IES) (Continued)					
SURETY C	Name of Corporation		State of Incorporation	Liability Limit $	
	Signature(s)	1.	2.		Corporate Seal
	Name(s) & Titles (Typed)	1.	2.		
CORPORATE SURETY(IES) (Continued)					
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 submittal deadline for proposals 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 submittal deadline for proposals.

ALASKA INDUSTRIAL DEVELOPMENT EXPORT AUTHORITY

BID MODIFICATION

FedEx Hangar Mechanical and Electrical Upgrade Design-build
Project No. 16-120

Modification Number: _____

Note: All revisions shall be made to the unadjusted bid amount(s).
Changes to the adjusted bid amounts will be computed by the Department.

PAY ITEM NO.	PAY ITEM DESCRIPTION	REVISION TO UNIT BID PRICE +/-	REVISION TO BID AMOUNT +/-

TOTAL REVISION: $_____

_____
Name of Bidding Firm

_____
Responsible Party Signature **Date**

This form may be duplicated if additional pages are needed.

Standard Form of Agreement Between Owner and Design-Builder
Lump Sum

This **AGREEMENT** is made as of the _____ day of _____ in the year of _____, by and between the following parties, for services in connection with the Project identified below.

OWNER:

AIDEA(Contracting Agency)
813 West Northern Lights Blvd
Anchorage, Alaska 99503

DESIGN-BUILDER:

(Name and address)

PROJECT:

FedEx Hangar Mechanical and Electrical Upgrade Design-build
Anchorage, Alaska
Project Number: 16-120

In consideration of the mutual covenants and obligations contained herein, Owner and Design-Builder agree as set forth herein.

Article 1

Scope of Work

1.1 Design-Builder shall perform all design and construction services, and provide all material, equipment, tools and labor, necessary to complete the Work described in and reasonably inferable from the Contract Documents.

Article 2

Contract Documents

2.1 The Contract Documents are comprised of the following:

2.1.1 All written modifications, amendments and change orders to this Agreement issued in accordance with Section 00 92 00, *Standard Form of General Conditions of Contract Between Owner and Design-Builder* ("General Conditions of Contract");

2.1.2 This Agreement, including all exhibits and attachments, executed by Owner and Design-Builder;

2.1.3 The General Conditions of Contract;

2.1.4 Owner's Project Criteria; including the Owner's Request for Proposals (RFP) dated February 5, 2014 and all addenda thereto, in their entireties.

2.1.5 Design-Builder's Proposal, and Proposal Exhibits submitted in response to Owner's Project Criteria and Request for Proposals.

Article 3

Interpretation and Intent

3.1 The Contract Documents are intended to permit the parties to complete the Work and all obligations required by the Contract Documents within the Contract Time(s) for the Contract Price. The Contract Documents are intended to be complementary and interpreted in harmony so as to avoid conflict, with words and phrases interpreted in a manner consistent with construction and design industry standards. In the event of any inconsistency, conflict, or ambiguity between or among the Contract Documents, the Contract Documents shall take precedence in the order in which they are listed in Section 2.1 hereof with the lower numbered Contract Documents having precedence over higher numbered Contract Documents. Within listed documents or group of documents, the later dated shall have precedence over the earlier, and specific requirements shall have precedence over general requirements.

3.2 Terms, words and phrases used in the Contract Documents, including this Agreement, shall have the meanings given them in the General Conditions of Contract.

3.3 The Contract Documents form the entire agreement between Owner and Design-Builder and by incorporation herein are as fully binding on the parties as if repeated herein. No oral representations or other agreements have been made by the parties except as specifically stated in the Contract Documents.

Article 4

Ownership of Work Product

4.1 Work Product. All drawings, specifications and other documents and electronic data furnished by Design-Builder to Owner under this Agreement ("Work Product"), except items which have pre-existing copyrights, are the property of the Owner. Payments to the Design-Builder for services hereunder include full compensation for all work products produced by the Design-Builder and its Subcontractors and the Owner shall have royalty free non-exclusive and irrevocable right to reproduce, publish, or otherwise use, and to authorize others to use, such work products.

4.2 Owner's Limited License. Owner shall own a paid-up, nonexclusive, royalty-free license to use and utilize the Work Product in connection with the Owner's design and construction of the Project.

4.3 Owner' Responsibility for Use of the Work Product Except in Connection with the Work. Should the Owner elect to reuse Work Products provided under this Agreement for other than the original project and/or purpose, the Owner will indemnify the Design-Builder and its Subcontractors against any responsibilities or liabilities arising from such reuse. Additionally, any reuse of design drawings or specifications provided under this Agreement must be limited to conceptual or preliminary use for adaptation and the original Design-Builder's or Subcontractor's signature, professional seals and dates removed. Such reuse of drawings and specifications, which require professional seals and dates removed, will be signed, sealed and dated by the professional who is in direct supervisory control and responsible for all adaptation.

Article 5

Contract Time

5.1 Date of Commencement. The Work shall commence within ten (10) days of Design-Builder's receipt of Owner's Notice to Proceed ("Date of Commencement") unless the parties mutually agree otherwise in writing.

5.2 Substantial Completion and Final Completion

5.2.1 Scheduled Substantial Completion Date: Substantial Completion of all Work shall be achieved no later than **August 19, 2016**.

5.2.2 Not Used

5.2.3 Final Completion of the Work or identified portions of the Work shall be achieved within the time frame identified in 00 51 00-5.4.

5.2.4 All of the dates set forth in this Article 5 ("Contract Time(s)") shall be subject to adjustment in accordance with the General Conditions of Contract.

5.3 Time is of the Essence. Owner and Design-Builder mutually agree that time is of the essence with respect to the dates and times set forth in the Contract Documents.

Article 6

Contract Price

6.1 Contract Price. Owner shall pay Design-Builder in accordance with Article 6 of the General Conditions of Contract the sum of _____ Dollars ($ _____) ("Contract Price"), subject to adjustments made in accordance with the General Conditions of Contract. Unless otherwise provided in the Contract Documents, the Contract Price is deemed to include all sales, use, consumer and other taxes mandated by applicable Legal Requirements.

6.2 Markups for Changes. If the Contract Price requires an adjustment due to changes in the Work, and the cost of such changes is determined under Sections 9 of the General Conditions of Contract, markups shall be as provided for in Article 9.14 Contractors Fee:

Article 7

Procedure for Payment

7.1 Progress Payments

7.1.1 Design-Builder shall submit to Owner on the seventh (7th) day of each month, beginning with the first month after the Date of Commencement, Design-Builder's Application for Payment in accordance with Article 6 of the General Conditions of Contract. However, the first Application shall not be submitted until the Design-Builder's schedule of values have been received and approved by the Owner.

7.1.2 Owner shall make payment within thirty (30) days after Owner's receipt of each properly submitted and accurate Application for Payment in accordance with Article 6 of the General Conditions of Contract and with AS 36.90.200(a), but in each case less the total of payments previously made, and less amounts properly withheld under Section 6.3 of the General Conditions of Contract.

7.2 Withholding Payments and Retainage on Progress Payments

7.2.1 Withholding Payments. The Owner 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:

7.2.1.1 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;

7.2.1.2 The Contract Price has been reduced by Change Order;

7.2.1.3 The Owner has been required to correct defective Work or complete Work in accordance with Article 2.10.2 of the General Conditions of Contract.

7.2.1.4 The Owner has actual knowledge of the occurrence of any of the events enumerated in Article 11.2.1 of the General Conditions of Contract;

7.2.1.5 Claims have been made against the Owner or against the funds held by the Owner on account of the Design-Builder's actions or inactions in performing this Contract, or there are other items entitling the Owner to set off funds to satisfy such claims;

7.2.1.6 Subsequently discovered evidence or the results of subsequent inspections or tests, nullify any previous payments for reasons stated in Articles 7.2.1.1 through 7.2.1.5 above;

7.2.1.7 The Design-Builder has failed to fulfill or is in violation of any of its obligations under any provision of this Contract.

7.2.2 Joint Payment of Funds. If the Owner has received written notice from the Surety that a Subcontractor, laborer or material man has not been paid as required in their contract with the Design-Builder for services performed, labor furnished or materials supplied; then the Owner may issue payment jointly to both the Design-Builder and Surety. If initiated, joint payment shall continue until notified in writing by the Surety that such action is no longer necessary.

7.2.3 Retainage. At any time the Owner finds that satisfactory progress is not being made it may in addition to the amounts withheld under Article 7.2.1 above retain a maximum amount equal to ten percent (10%) of the total amount earned on all subsequent progress payments. This retainage may be released at such time as the Owner finds that satisfactory progress is being made.

7.2.4 Upon Substantial Completion of the entire Work or, if applicable, any portion of the Work, pursuant to Section 6.6 of the General Conditions of Contract, Owner shall release to Design-Builder all retained amounts relating, as applicable, to the entire Work or completed portion of the Work, less an amount equal to the reasonable value of all remaining or incomplete items of Work as noted in the Certificate of Substantial Completion.

7.3 Final Payment. Design-Builder shall submit its Final Application for Payment to Owner in accordance with Section 6.7 of the General Conditions of Contract.

7.4 Interest. Payments due and unpaid by Owner to Design-Builder, whether progress payments or final payment, shall accrued interest in accordance with the provisions of AS 36.90.200-290.

7.5 Record Keeping and Finance Controls. With respect to changes in the Work performed on a cost basis by Design-Builder pursuant to the Contract Documents, Design-Builder shall keep full and detailed accounts and exercise such controls as may be necessary for proper financial management, using accounting and control systems in accordance with generally accepted accounting principles and as may be provided in the Contract Documents. During the performance of the Work and for a period of five (5) years after Final Payment, or longer as required by applicable laws, Owner and Owner's representatives shall be afforded access from time to time, upon reasonable notice, to Design-Builder's records, books, correspondence, receipts, subcontracts, purchase orders, vouchers, memoranda and other data relating to changes in the Work performed on a cost basis in accordance with the Contract Documents, all of which Design-Builder shall preserve for a period of five (5) years after Final Payment.

Article 8

Termination for Convenience

8.1 In accordance with Article 12.4 of Section 00 92 00.

Article 9

Representatives of the Parties

9.1 Owner's Representatives

9.1.1 Owner designates the individual listed below as its, Contracting Officer which individual has the authority and responsibility for avoiding and resolving disputes under Article 10 of the General Conditions of Contract:

Lori J. Stender
Project Manager
Alaska Industrial Development and Export Authority
903 West Northern Lights Blvd, Suite 218
Anchorage, Alaska 99503
(907) 771-3986

9.1.2 Owner designates the individual listed below as its Owner's Representative, which individual has the authority and responsibility set forth in Section 3.4 of the General Conditions of Contract:

Kent Crandall, AIA
Senior Project Manager
ARCADIS U.S., Inc.
880 H Street, Suite 101
Anchorage, Alaska 99501
(907) 276-8095

9.2 Design-Builder's Representatives

9.2.1 Design-Builder designates the individual listed below as its Design-Builder's Representative, which individual has the authority and responsibility set forth in Section 2.1.1 of the General Conditions of Contract: *(Identify individual's name, title, address and telephone numbers)*

Article 10

Bonds and Insurance

10.1 Insurance and Indemnification. Design-Builder shall procure in accordance with Article 5 of the General Conditions of Contract the following insurance coverages:

10.1.1 The Design-Builder shall provide evidence of insurance with a carrier or carriers satisfactory to the OWNER covering injury to persons and/or property suffered by the State of Alaska or a third party, as a result of operations which arise both out of and during the course of this Contract by the DESIGN BUILDER or by any Subcontractor. This coverage will also provide protection against injuries to all employees of the DESIGN BUILDER and the employees of any Subcontractor engaged in Work under this Contract. The delivery to the OWNER of a written notice in accordance with policy provisions is required before cancellation of any coverage or reduction in any limits of liability. Insurance carriers shall have an acceptable financial rating.

10.1.2 The DESIGN BUILDER shall maintain in force at all times during the performance of the work under this agreement the following policies and minimum limits of liability. Failure to maintain insurance may, at the option of the Contracting Officer, be deemed Defective Work and remedied in accordance with the Contract. 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 DESIGN BUILDER's responsibility to indemnify under paragraph 10.1.5. Additional insurance requirements specific to this Contract are contained in the Supplementary Conditions, when applicable.

a. Workers' Compensation Insurance: The DESIGN BUILDER shall provide and maintain, for all employees of the DESIGN BUILDER engaged in work under this contract, Workers' Compensation Insurance as required by AS 23.30.045. The DESIGN BUILDER 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 State.

    2. Employer's Liability Protection in the amount of $500,000 each accident / $500,000 each disease.

    3. If the DESIGN BUILDER 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.

b. Comprehensive or Commercial General Liability Insurance: Such insurance shall cover all operations by or on behalf of the DESIGN BUILDER and provide insurance for bodily injury and property damage liability including coverage for: premises and operations; products and completed operations; contractual liability insuring obligations assumed under paragraph 10.1.5, Indemnification; broad form property damage; and personal injury liability.

The minimum limits of liability shall be:

1. If the DESIGN BUILDER 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:

a) $1,000,000 each occurrence

b) $2,000,000 aggregate

2. If the CONTRATOR carries a *Commercial General Liability* policy, the limits of liability shall not be less than:

a) $1,000,000 each occurrence (Combined Single Limit for bodily injury and property damage)

b) $1,000,000 for Personal Injury Liability

c) $2,000,000 aggregate for Products-Completed Operations

d) $2,000,000 general aggregate

The State of Alaska, DEPARTMENT of Transportation and Public Facilities shall be named as an "Additional Insured" under all liability coverages listed above.

c. Automobile Liability Insurance: Such insurance shall cover all owned, hired and non-owned vehicles and provide coverage not less than that of the Business Automobile Policy in limits not less than the following:

$1,000,000 each occurrence
(Combined Single Limit for bodily injury and property damage.)

d. Other Coverages:
As specified in the General Conditions.

10.1.3 In addition to providing the above coverages the DESIGN BUILDER 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 State of Alaska and to add the State of Alaska as additional named indemnity and as additional insured.

Evidence of insurance shall be furnished to the OWNER prior to the award of the contract. Such evidence, executed by the carrier's representative and issued to the OWNER, 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 OWNER of deficient evidence does not constitute a waiver of contract requirements.

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).

10.1.4 Design Builders Professional Liability.

a. **Design Professional Liability (E&O) Insurance**. A policy providing coverage for claims involving design errors or omissions of the design professionals employed by the Design Builder, Subcontractor or anyone directly or indirectly employed by them, for professional services and design documents provided under this Agreement. Professional liability policy(s) may be provided by the individual professionals as a subcontractor to the General Contractor. Such Professional Liability policy shall provide for an aggregate limit of not less than $1,000,000. The Department shall be listed as the Certificate Holder for this policy whether provided by the Design Builder or Subcontractor. *If a project specific policy is provided,* at the conclusion of the work, and as part of the Certificate of Substantial Completion, the Design-Builder shall transmit to the Owner a certificate of insurance indicating that the policy has been prepaid for 12 months from the Date of Substantial Completion.

10.1.5 Indemnification: The DESIGN BUILDER shall indemnify, save harmless, and defend 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 construction or the DESIGN BUILDER's performance of this Contract; however, this provision has no effect if, but only if, the sole proximate cause of the injury or damage is the OWNER's negligence.

10.2 Bonds and Other Performance Security. Design-Builder shall provide the following performance bond and labor and material payment bond or other performance security: Bid Bond at 5% of total bid amount (see sections 00 41 00 and 00 02 00), Performance Bond at 50% of the total bid amount (see section 00 61 00) and Payment Bond at 50% of the total bid amount (see section 00 62 00).

Article 11

Other Provisions

11.1 Other provisions, if any, are as follows:

11.2 Information and Services from Others. The Owner may, at its election or in response to a request from the Design-Builder, furnish information or services from other contractors. If, in the Design-Builder's opinion, such information or services is inadequate, the Design-Builder must notify the Owner of the specific service or material deemed inadequate and the extent of the inadequacy prior to use in the performance of this Agreement. The Owner will then evaluate and resolve the matter in writing. Unless so notified by the Design-Builder, the Owner may assume the information or services provided are adequate.

11.3 Equal Employment Opportunity.

11.3.1 The Design-Builder shall comply with the following applicable laws and directives and regulations of the Owner which effectuate them; all of which are incorporated herein by reference:

- Title IV of Federal Civil Rights Act of 1964;
- Title VII of the Civil Rights Act of 1964
- Executive order 11246 [3CFR, 1964-1965 Comp. p. 339], as implemented by Department of Labor regulations issued thereunder 941 CFR part 60)

- Section 504 of the Rehabilitation Act of 1973 (29 U.S.C.-794) as implemented by Department of Justice Regulations at 28 CFR part 41 and DoD Regulations at 32 CFR Part 56

- Age Discrimination Act of 1975 (42 U.S.C-6101 et seq.) as implemented by Department of Health and Human Services regulations at 45 CFR Part 90

- Federal Executive Order 11625 (Equal Employment Opportunity);

- Title 41, Code of Federal Regulations, Part 60 (Equal Employment Opportunity);

- Title 49 Code of Federal Regulations, Part 21 (Discrimination);

- Title 49, Code of Federal Regulations, Part 23 (Minority Business Enterprises);

- Office of Management and Budget (OMB) circular 102, Attachment O (Procurement Standards);

- Alaska Statute (AS) 18.80.200-300 (Discrimination).

11.3.2 The Design-Builder may not discriminate against any employee or applicant for employment because of race, religion, color, national origin, age, physical disability, sex, or marital status, change in marital status, pregnancy or parenthood when the reasonable demands of the position do not require distinction on such basis. The Design-Builder shall take affirmative action to insure that applicants are employed and that employees are treated during employment without regard to their race, religion, color, national origin, age, physical disability, sex, or marital status. This action must include, but need not be limited to, the following: employment, upgrading, demotion, transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training including apprenticeship. The Design-Builder shall post in conspicuous places, available employees and applicants for employment, notices setting out the provisions of this paragraph.

11.3.3 The Design-Builder shall state, in all solicitations or advertisements for employees to work in performance of this Agreement, that it is an equal opportunity employer and that all qualified applicants will receive consideration for employment without regard to race, religion, color, national origin, age, physical disability, sex, or marital status.

11.3.4 The Design-Builder shall send to each labor union or representative or workers with which the Design-Builder has a collective bargaining Agreement or other contract or understanding a notice advising the labor union or workers' representative of the Design-Builder's commitments under this article and post copies of the notice in conspicuous places available to all employees and applicants for employment.

11.3.5 In the event the Design-Builder subcontracts any part of the services to be performed under this Agreement, the Design-Builder agrees to make good faith efforts to utilize Disadvantaged Business Enterprises, to affirmatively solicit their interest, capability and prices and to furnish documentation of the results of all such direct contacts on forms provided by or acceptable to the Owner.

11.3.6 The Design-Builder shall make, keep and preserve such records necessary to determine compliance with equal employment opportunity obligations and shall furnish required information and reports. All records must be retained and made available in accordance with Article A9, Audits and Records.

11.3.7 The Design-Builder shall include the provisions of this article in every contract, and shall require the inclusion of these provisions in every contract entered into by any of its Subcontractors, so that these provisions will be binding upon each Subcontractor.

11.4 Owner Inspections. The Owner has the right to inspect, in the manner and at reasonable times it considers appropriate during the period of this Agreement, all facilities and activities of the Design-Builder as may be engaged in the performance of this Agreement.

11.5 Officials Not to Benefit. No member of or delegate to Congress, United States Commissioner or other officials of the Federal, State, Political subdivision or Local Government shall be admitted to any share or part of this Agreement or any benefit to arise therefrom.

11.6 Independent Contractor

11.6.1 The Design-Builder and its agents and employees shall act in an independent capacity and not as officers or agents of the Owner in the performance of this Agreement except that the Design-Builder may function as the Owner’s agent as may be specifically set forth in this Agreement.

11.6.2 Any and all employees of the Design-Builder, while engaged in the performance of any work or services required by the Design-Builder under this Agreement, shall be considered employees of the Design-Builder only and not of the Owner and any and all Claims that may or might arise under the Worker's Compensation Act on behalf of said employees, while so engaged and any and all Claims made by a third party as a consequence of any negligent act or omission on the part of the Design-Builder's employees, while so engaged on any of the services to be rendered herein, shall be the sole obligation and responsibility of the Design-Builder.

11.6.3 This Agreement will be declared null and void should the Owner determine that by Internal Revenue Service definitions the Design-Builder is an employee of the Owner.

11.7 Proselytizing. The Design-Builder agrees that it will not engage on a full or part time basis, during the period of this Agreement, any person or persons who are or have been employed by the Owner during the period of this Agreement or during the 90 days immediately preceding the date of this Agreement except those who have been regularly retired or approved in writing by the Owner.

11.8 Covenant Against Contingent Fees

11.8.1 The Design-Builder shall comply with the Copeland "Anti-Kickback" Act (18 USC 874) as supplemented in Federal Department of Labor regulations (29 CFR, part 3), which are incorporated by reference and made a part of this Agreement.

11.8.2 The Design-Builder warrants that it has not employed or retained any organization or person, other than a bona fide employee, to solicit or secure this Agreement and that it has not paid or agreed to pay any organization or person, other than a bona fide employee, any fee, commission, percentage, brokerage fee, gift or other consideration contingent upon or resulting from the award or making of this Agreement. For breach or violation of this warranty, the Owner has the right to annul this Agreement without liability or, in its discretion, to deduct from the allowable compensation the full amount of such commission, percentage, brokerage or contingent fee.

11.8.3 The Owner warrants that the Design-Builder or the Design-Builder's representative has not been required, directly or indirectly as an express or implied condition in obtaining or carrying out this

Agreement, to employ or retain, or agree to employ or retain, any organization or person or to make a contribution, donation or consideration of any kind.

11.9 Extent Of Agreement

11.9.1 This Agreement including appendices represents the entire and integrated Agreement between the Owner and the Design-Builder and supersedes all prior negotiations, representations or Agreements, written or oral.

11.9.2 Nothing contained herein may be deemed to create any contractual relationship between the Owner and any Subcontractors or material suppliers; nor may anything contained herein be deemed to give any third party Claim or right of action against the Owner or the Design-Builder which does not otherwise exist without this Agreement.

11.9.3 This Agreement may be changed only by written Amendment executed by both the Owner and the Design-Builder.

11.9.4 All communications that affect this Agreement must be made or confirmed in writing and must be sent to the addresses designated in this Agreement.

11.9.5 The Design-Builder on receiving final payment will execute a release, if required, in full of all Claims against the Owner arising out of or by reason of the services and work products furnished and under this Agreement.

In executing this Agreement, Owner and Design-Builder each individually represents that it has the necessary financial resources to fulfill its obligations under this Agreement, and each has the necessary corporate approvals to execute this Agreement, and perform the services described herein.

OWNER:	**DESIGN-BUILDER:**
_____	_____
(Name of Owner)	*(Name of Design-Builder)*
_____	_____
(Signature)	*(Signature)*
_____	_____
(Printed Name)	*(Printed Name)*
_____	_____
(Title)	*(Title)*
Date: _____	Date: _____

ALASKA INDUSTRIAL DEVELOPMENT EXPORT AUTHORITY

PERFORMANCE BOND

Bond No. _____

For

FedEx Hangar Mechanical and Electrical Upgrade Design-build

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 Department of Transportation and Public Facilities 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 Department of Transportation & Public Facilities 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 INDUSTRIAL DEVELOPMENT EXPORT AUTHORITY

PAYMENT BOND

Bond No. _____

For

FedEx Hangar Mechanical and Electrical Upgrade Design-build

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-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 Department of Transportation & Public Facilities 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.

General Conditions
of Contract Between Owner and Design-Builder

Table of Contents

Article 1

General

1.1 Mutual Obligations

1.1.1 Owner and Design-Builder commit at all times to cooperate fully with each other, and proceed on the basis of trust and good faith, to permit each party to realize the benefits afforded under the Contract Documents.

1.2 Basic Definitions

1.2.1 *Agreement* refers to the executed contract between Owner and Design-Builder under article 00 51 00.

1.2.2 *Day* or *Days* shall mean calendar days unless otherwise specifically noted in the Contract Documents.

1.2.3 *Design Consultant* is a qualified, licensed design professional who is not an employee of Design-Builder, but is retained by Design-Builder, or employed or retained by anyone under contract with Design-Builder or Subcontractor, to furnish design services required under the Contract Documents.

1.2.4 *Hazardous* Materials and Waste are any materials, wastes, substances and chemicals deemed to be hazardous under applicable Legal Requirements, or the handling, storage, remediation, or disposal of which are regulated by applicable Legal Requirements. This term is further defined in Article 13 - Design-Builder Generated Hazardous Materials and Waste.

1.2.5 *General Conditions of Contract* refer to this section of the contract.

1.2.6 Regulatory *Requirements* are all applicable federal, state and local laws, codes, ordinances, rules, regulations, orders and decrees of any government or quasi-government entity having jurisdiction over the Project or Site, the practices involved in the Project or Site, or any Work.

1.2.7 *Owner's Project Criteria* are developed by or for Owner to describe Owner's program requirements and objectives for the Project, including use, space, price, time, site and expandability requirements, as well as submittal requirements and other requirements governing Design-Builder's performance of the Work. Owner's Project Criteria may include conceptual documents, design criteria, performance requirements and other Project-specific technical materials and requirements. Owner's Project Criteria includes the Owner's Request for Qualifications (RFQ) and the Owner's Request for Proposals (RFP) in their entireties.

1.2.8 *Site* is the land or premises on which the Project is located.

1.2.9 *Subcontractor* is any person or entity retained by Design-Builder as an independent contractor to perform a portion of the Work and shall include firms that employ Design Consultants, materialmen and suppliers.

1.2.10 *Sub-Subcontractor* (lower tier subcontractor) is any person or entity retained by a Subcontractor as an independent contractor to perform any portion of a Subcontractor's Work and shall include firms that employ Design Consultants, materialmen, and suppliers.

1.2.11 *Substantial Completion* is the date on which the Work, or an agreed upon portion of the Work, is sufficiently complete so that Owner can occupy and use the Project or a portion thereof for its intended purposes.

1.2.12 *Work* is comprised of all Design-Builder's design, construction and other services required by the Contract Documents, including procuring and furnishing all materials, equipment, services and labor reasonably inferable from the Contract Documents.

1.2.13 *Contracting Officer* is the individual identified in the Agreement and authorized by the Owner to execute the Agreement between the Owner the Design-Builder.

Article 2

Design-Builder's Services and Responsibilities

2.1 General Services

2.1.1 Design-Builder's Project Manager shall be reasonably available to Owner and shall have the necessary expertise and experience required to manage the Work. Design-Builder's Representative shall communicate regularly with Owner and shall be vested with the authority to act on behalf of Design-Builder. Design-Builder's Project Manager may be replaced only with the mutual agreement of Owner and Design-Builder.

2.1.1.1 Construction Superintendence by Design-Builder:
During any onsite construction activities, the Design-Builder shall keep on the Work at all times during its progress a competent resident superintendent. The Owner 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 Owner. The superintendent will be the Design-Builder 's representative at the site and shall have full authority to act and sign documents on behalf of the Design-Builder. The Design-builders superintendent shall be the OWNERS primary point of contact during the construction phase and shall be reasonably available to OWNER during normal business hours or at any time that construction work is active.

All communications given to the superintendent shall be as binding as if given to the Design-Builder. The Design-Builder shall cooperate with the Owner in every way possible

2.1.1.2 Character of the 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 Contracting Officer may, in writing, require the CONTRACTOR to remove from the Work any employee the Contracting Officer deems incompetent, careless, or otherwise detrimental to the progress of the Work, but the Contracting Officer shall have no duty to exercise this right.

2.1.1.3 Design-Build Team:
All services must be performed by or under the direct supervision of the individuals and or subcontractors identified in the Design Builders proposal as incorporated into the contract by Section 00 51 00 Article 2.1.5. Replacement of, or addition to, the Design-Build Team identified above shall only be accomplished only by prior written approval from the Contracting Agency.

2.1.2 Design-Builder shall provide Owner with a monthly status report detailing the progress of the Work, including whether (i) the Work is proceeding according to schedule, (ii) discrepancies, conflicts, or ambiguities exist in the Contract Documents that require resolution, (iii) health and safety issues exist in connection with the Work, and (iv) other items require resolution so as not to jeopardize Design-Builder's ability to complete the Work for the Contract Price and within the Contract Time(s).

2.1.3 Design-Builder shall prepare and submit, at least three (3) days prior to the meeting contemplated by Section 2.1.4 hereof, a schedule for the execution of the Work for Owner's review and response. The schedule shall be prepared in accordance Section 01 32 00. The schedule shall be revised only as prescribed in Section 13 20 00. Owner's review of and response to the schedule shall not be construed as relieving Design-Builder of its complete and exclusive control over the means, methods, sequences and techniques for executing the Work.

2.1.4 The parties will meet within seven (7) days after execution of the Agreement to discuss issues affecting the administration of the Work and to implement the necessary procedures, including those relating to submittals and payment, to facilitate the ability of the parties to perform their obligations under the Contract Documents.

2.2 Design Professional Services

2.2.1 Design-Builder shall, consistent with applicable state licensing laws, provide through qualified, licensed design professionals employed by Design-Builder, or procured from qualified, independent licensed Design Consultants, the necessary design services, including architectural, engineering and other design professional services, for the preparation of the required drawings, specifications and other design submittals to permit Design-Builder to complete the Work consistent with the Contract Documents. The Owner is a third-party beneficiary of the contracts between the Design-Builder and the Design Consultants. Without limiting the generality of the foregoing, the Owner is a third-party beneficiary of the duty of care owed by the Design Consultant to the Design-Builder.

2.3 Standard of Care for Design Professional Services

2.3.1 The standard of care for all design professional services performed to execute the Work shall be the care and skill ordinarily used by members of the design profession practicing under similar conditions at the same time and locality of the Project. Notwithstanding the preceding sentence, if the parties agree upon specific performance standards for any aspect of the Work, which standards are set forth below in the paragraph entitled “Performance Standard Requirements,” the design professional services shall be performed to achieve such standards.

2.3.2 Performance Standard Requirements.

2.3.2.1 The standard of care for all design professional services performed to execute the Work shall be the care and skill ordinarily used by members of the design profession that possess the same or similar skills and experiences as the Design-Builder, as evidenced by the Design-Builder’s Statement of Qualifications submitted in response to the Owner’s Request for Qualifications (RFQ). Such Statement of Qualifications is attached to and made a part of this Agreement. This remedy of reperformance shall be in addition to, and not exclusive of, any other remedy allowed by law.

2.3.2.2 When such standards are in dispute, they shall be established by a panel of three qualified, impartial professionals objectively selected and appointed by the Owner’s Contracting Officer.

2.3.2.3 The Design-Builder shall correct, through reperformance at its expense, any service which is deficient or defective because of the design-builder’s failure to perform said services in accordance with professional standards, provided Owner has notified the Design-builder in writing within a reasonable time, not to exceed 60 days, of the discovery of any such deficiency during the performance of the services and within 12 months of the date of final payment under this Agreement.

2.4 Design Development Services

2.4.1 Design-Builder and Owner shall, consistent with any applicable provision of the Contract Documents, agree upon any interim design submissions that Owner may wish to review, which interim design submissions may include design criteria, drawings, diagrams and specifications setting forth the Project requirements. On or about the time of the scheduled submissions, Design-Builder and Owner shall meet and confer about the submissions, with Design-Builder identifying during such meetings, among other things, the evolution of the design and any significant changes or deviations from the Contract Documents, or, if applicable, previously submitted design submissions. Minutes of the meetings will be maintained by Design-Builder and provided to all attendees for review. Following the design review meeting, Owner shall review and approve the interim design submissions in a time that is consistent with the turnaround times set forth in Design-Builder’s schedule.

2.4.2 Design-Builder shall submit to Owner, Construction Documents setting forth in detail drawings and specifications describing the requirements for construction of the Work. The Construction Documents shall be consistent with the latest set of interim design submissions, as such submissions may have been modified in a design review meeting. The parties shall have a design review meeting to discuss, and Owner shall review and approve, the Construction Documents in accordance with the procedures set forth Section 2.4.1 above. Design-Builder shall proceed with construction in accordance with the approved Construction Documents and shall submit one set of approved Construction Documents to Owner prior to commencement of construction.

2.4.3 Owner's review and approval of interim design submissions and the Construction Documents is for the purpose of mutually establishing a conformed set of Contract Documents compatible with the requirements of the Work. Neither Owner's review nor approval of any interim design submissions and Construction Documents shall be deemed to transfer any design liability from Design-Builder to Owner.

2.4.4 Not Used.

2.5 Regulatory Requirements

2.5.1 Design-Builder shall perform the Work in accordance with all Regulatory Requirements and shall provide all notices applicable to the Work as required by the Regulatory Requirements.

2.5.2 The Contract Price and/or Contract Time(s) shall be adjusted to compensate Design-Builder for the effects of any changes in the Regulatory Requirements enacted after the date of the Agreement affecting the performance of the Work, or if a Guaranteed Maximum Price is established after the date of the Agreement, the date the parties agree upon the Guaranteed Maximum Price. Such effects may include, without limitation, revisions Design-Builder is required to make to the Construction Documents because of changes in Regulatory Requirements.

2.6 Government Approvals and Permits

2.6.1 Design-Builder shall obtain and pay for all necessary building and occupancy permits, approvals, licenses, government charges and inspection fees required for the prosecution of the Work by any government or quasi-government entity having jurisdiction over the Project. The Design-Builder shall cooperate with and assist the Owner to obtain the necessary zoning and land-use permits.

2.6.2 Design-Builder shall provide reasonable assistance to Owner in obtaining those permits, approvals and licenses that are Owner's responsibility.

2.7 Design-Builder's Construction Phase Services

2.7.1 Unless otherwise provided in the Contract Documents to be the responsibility of Owner or a separate contractor under contract to Owner, Design-Builder shall provide through itself or Subcontractors the necessary supervision, labor, inspection, testing, start-up, material, equipment, machinery, temporary utilities and other temporary facilities to permit Design-Builder to complete construction of the Project consistent with the Contract Documents.

2.7.2 Design-Builder shall perform all construction activities efficiently and with the requisite expertise, skill and competence to satisfy the requirements of the Contract Documents. Design-Builder shall at all times exercise complete and exclusive control over the means, methods, sequences and techniques of construction.

2.7.3 Subcontractors:
The Design-Builder 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:

2.7.3.1 The Design-Builder shall not award any Work to any Subcontractor without prior written Approval of the Contracting Officer. This Approval will not be given until the Design-Builder 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 Owner, 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 A.S. 36.90.210. Contracts between subcontractors, regardless of tier, must also contain these provisions. No acceptance by the Contracting Officer of any such Subcontractor shall constitute a waiver of any right of the Owner to reject Defective Work.

2.7.3.2 The Design-Builder shall be fully responsible to the Owner 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 Design-Builder just as Design-Builder is responsible for Design-Builder 's own acts and omissions.

2.7.3.3 All Work performed for Design-Builder by a Subcontractor will be pursuant to an appropriate written agreement between Design-Builder and the Subcontractor which specifically binds the Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of the Owner and contains waiver provisions as required by Section 00 51 00-Article 7.2.1 and termination provisions as required by Section 00 92 00 Article 11.

2.7.3.4 Nothing in the Contract Documents shall create any contractual relationship between the Owner and any such Subcontractor, Supplier or other person or organization, nor shall it create any obligation on the part of the Owner 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 Owner will not undertake to settle any differences between or among the Design-Builder, Subcontractors, or Suppliers.

2.7.3.5 The Design-Builder 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 Design-Builder with no change in Contract Price or Contract Time.

2.7.3.6 The Design-Builder 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.

2.7.3.7 The Design-Builder may, without penalty, replace a subcontractor who:

1. Fails to comply with the licensing and registration requirements of 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 Design-Builder has acted in good faith;
5. Fails to obtain bonding acceptable to the Owner;
6. Fails to obtain insurance acceptable to the Owner;
7. Fails to perform subcontract work for which the subcontractor was listed;
8. Must be replaced to meet the Design-Builder’s required state or federal affirmative action requirements.
9. Refuses to agree to abide by the Design-Builder’s labor agreement; or
10. Is determined by the Owner to be not responsible.

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

The Design-Builder 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 begin 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 Design-Builder violates this article, the Contracting Officer may:

1. Cancel the Contract after Award without any damages accruing to the Department; or
2. After notice and hearing, assess a penalty on the bidder in an amount not exceeding 10 percent of the value of the subcontract at issue.

2.7.4 Design-Builder assumes responsibility to Owner for the proper performance of the Work of Subcontractors and any acts and omissions in connection with such performance. Nothing in the Contract Documents is intended or deemed to create any legal or contractual relationship between Owner and any Subcontractor or Sub-Subcontractor, including but not limited to any third-party beneficiary rights.

2.7.5 Design-Builder shall coordinate the activities of all Subcontractors. If Owner performs other work on the Project or at the Site with separate contractors under Owner's control, Design-Builder agrees to reasonably cooperate and coordinate its activities with those of such separate contractors so that the Project can be completed in an orderly and coordinated manner without unreasonable disruption.

2.7.6 Design-Builder shall keep the Site free from debris, trash and construction wastes to permit Design-Builder to perform its construction services efficiently, safely and without interfering with the use of adjacent land areas. Upon Substantial Completion of the Work, or a portion of the Work, Design-Builder shall remove all debris, trash, construction wastes, materials, equipment, machinery and tools arising from the Work or applicable portions thereof to permit Owner to occupy the Project or a portion of the Project for its intended use.

2.7.7 BUY AMERICAN STEEL AND MANUFACTURED PRODUCTS. (Federal-Aid Contracts)

2.7.7.1 The Contractor agrees that only domestic steel and manufactured products will be used by the contractor, subcontractors, material, men, and suppliers in the performance of this contract, as defined below.

2.7.7.2 The following terms apply to this clause:

(1) Steel and Manufactured Products. As used in this clause, steel and manufactured products include (1) those produced in the United States or (2) a manufactured product produced or manufactured in the United States, if the cost of its components mined, produced or manufactured in the United States exceeds 60% of the cost of all its components and final assembly has taken place in the United States. Components of foreign origin of the same class or kind, as the products referred to in subparagraphs **c.(1)** or **c.(2)** shall be treated as domestic.

(2) Components. As used in this clause, components means those articles, materials, and supplies incorporated directly into steel and manufactured products.

(3) Cost of Components. This means the costs for production of the components, exclusive of final assembly labor costs.

2.7.7.3 **Buy American Certificate.** Execution and submission of the Buy American Certificate Form 25D-061, is required. If there are no exceptions to be listed on the certificate, the bidder shall enter "NONE" on the first line.

If exceptions are listed on the Buy American Certificate, they shall meet at least one of the following criteria for the certificate to be considered appropriately executed:

(1) Those products or materials that the U.S. Department of Transportation has determined, under the *Aviation Safety and Capacity Expansion Act of 1990*, are not produced in the United States

in sufficient and reasonably available quantities and of a satisfactory quality. (The current list is included on the back of Form 25D-061.)

(2) Those products or materials where the U.S. Department of Transportation has determined, under the *Aviation Safety and Capacity Expansion Act of 1990*, that domestic preference would be inconsistent with the public interest.

(3) Where inclusion of domestic material will increase the cost of the overall project contract by more than 25%.

2.8 Design-Builder's Responsibility for Project Safety

2.8.1 Design-Builder recognizes the importance of performing the Work in a safe manner so as to prevent damage, injury or loss to (i) all individuals at the Site, whether working or visiting, (ii) the Work, including materials and equipment incorporated into the Work or stored on-Site or off-Site, and (iii) all other property at the Site or adjacent thereto. Design-Builder assumes responsibility for implementing and monitoring all safety precautions and programs related to the performance of the Work. Design-Builder shall, prior to commencing construction, designate a Safety Representative with the necessary qualifications and experience to supervise the implementation and monitoring of all safety precautions and programs related to the Work. Unless otherwise required by the Contract Documents, Design-Builder's Safety Representative shall be an individual stationed at the Site who may have responsibilities on the Project in addition to safety. The Safety Representative shall make routine daily inspections of the Site and shall hold weekly safety meetings with Design-Builder's personnel, Subcontractors and others as applicable.

2.8.2 Design-Builder and Subcontractors shall comply with all Legal Requirements relating to safety, as well as any Owner-specific safety requirements set forth in the Contract Documents, provided that such Owner-specific requirements do not violate any applicable Regulatory Requirement. Design-Builder will immediately report in writing any safety-related injury, loss, damage or accident arising from the Work to Owner's Representative and, to the extent mandated by Regulatory Requirements, to all government or quasi-government authorities having jurisdiction over safety-related matters involving the Project or the Work.

2.8.3 Design-Builder's responsibility for safety under this Section 2.8 is not intended in any way to relieve Subcontractors and Sub-Subcontractors of their own contractual and legal obligations and responsibility for (i) complying with all Legal Requirements, including those related to health and safety matters, and (ii) taking all necessary measures to implement and monitor all safety precautions and programs to guard against injury, losses, damages or accidents resulting from their performance of the Work.

2.9 Design-Builder's Warranty

2.9.1 Design-Builder warrants to Owner that the construction, including all materials and equipment furnished as part of the construction, shall be new unless otherwise specified in the Contract Documents, of good quality, in conformance with the Contract Documents fit for their intended purposes, and free of defects in materials and workmanship. Design-Builder's warranty obligation excludes defects caused by abuse, alterations, or failure to maintain the Work by persons other than Design-Builder or anyone for whose acts Design-Builder may be liable. Nothing in this warranty is intended to limit any manufacturer's warranty which provides Owner with greater warranty rights than set forth in this Section 2.9 or the Contract Documents. Design-Builder will provide Owner with all manufacturers' warranties upon Substantial Completion.

2.9.1.1 Qualifications: Design-Builder warrants to the Owner that it and its Design Consultants, Subcontractors, suppliers, materials men, and manufacturers have specialized knowledge and expertise of the Work described in the Contract Documents, including, but not limited to, design, installation, construction details, methods, procedures, and techniques necessary to provide the specified Work at specific locations in the Project in accordance with the Contract Documents.

2.9.1.2 Exclusion of Restrictions: No warranty or guarantee shall be impaired, limited, reduced, or restricted for overseas shipment of Products, or Products installed outside of the "contiguous United States", or Products installed outside of the "continental United States", or Products installed outside of the "48 states", or Products installed in the forty ninth (49th.) state, or Products installed in the State of Alaska. No warranty or guarantee shall be impaired, limited, reduced, or restricted by any language that limits the rights, privileges, or obligations of citizens of the State or Alaska or the United States of America; or by any language that limits the rights, privileges, or obligations of legally chartered corporations of the State or Alaska or the United States of America; or by any language that limits the rights, privileges, or obligations of legally empowered governmental entities of the State of Alaska or the United States of America.

2.9.1.3 "Manufacturer's Standard Warranties and Guarantees": "Manufacturer's Standard Warranties and Guarantees" shall mean "those warranties and guarantees normally furnished by a manufacturer, wholesaler, seller, or reseller to the consumer, without payment of additional charges, surcharges or premiums by the purchaser".

2.9.1.4 Fees For Warranties And Guarantees: Design-Builder shall pay all fees, additional charges, surcharges, premiums, or additional sums of money necessary or required by manufacturers, materials men, suppliers, subcontractors, or other persons and entities to obtain for the benefit of the Owner the Warranties and Guarantees described in the Contract Documents.

2.9.1.5 Warranty And Guaranty Provisions: Design-Builder shall include these Warranty and Guaranty provisions in all subcontracts, purchase orders and agreements. Design-Builder shall include specific Warranty and Guaranty provisions specified in individual sections in the applicable subcontracts, purchase orders and agreements. Failure of the Design-Builder to include these provisions in applicable subcontracts, purchase orders and agreements shall not relieve the Design-Builder of the obligation to obtain these Warranties and Guarantees for the benefit of the Owner.

2.10 Correction of Defective Work

2.10.1 Design-Builder agrees to correct any Work that is found to not be in conformance with the Contract Documents, including that part of the Work subject to Section 2.9 hereof, within a period of one year from the date of Substantial Completion of the Work or any portion of the Work, or within such longer period to the extent required by the Contract Documents.

2.10.1.1 Warranties and Guaranties All Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. If required by the Owner, the Design-Builder shall furnish satisfactory evidence as to the kind and quality of materials and equipment. If, within one year after the date of Substantial Completion of the Work or designated portion thereof or within one year after acceptance by the Owner of designated equipment or within such longer periods of time as may be prescribed by law or by the terms of any applicable special warranty required by the Contract Documents, any Work is found to be defective or not in accordance with the Contract Documents, the Design-Builder shall correct it promptly after receipt of a written notice from the Owner to do so, unless the Owner has previously given the Design-Builder a written acceptance of such condition. Warranties may be separate documents covering portions of the Work. This

obligation shall survive termination of the Contract. The Owner shall give such notice promptly after discovery of the condition.

2.10.2 Design-Builder shall, within seven (7) days of receipt of written notice from Owner that the Work is not in conformance, with the Contract Documents, take meaningful steps to commence, and diligently and continuously prosecute, correction of such nonconforming Work, including the correction, removal or replacement of the nonconforming Work and any damage caused to other parts of the Work affected by the nonconforming Work. If Design-Builder fails to commence the necessary steps within such seven (7) day period, Owner, in addition to any other remedies provided under the Contract Documents, may provide Design-Builder with written notice that Owner will commence correction of such nonconforming Work with its own forces. If Owner does perform such corrective Work, Design-Builder shall be responsible for all reasonable costs incurred by Owner in performing such correction. If the nonconforming Work creates an emergency requiring an immediate response, the seven (7) day periods identified herein shall be deemed inapplicable.

2.10.3 The one-year period referenced in Section 2.10.1 above applies only to Design-Builder's obligation to correct nonconforming Work and is not intended to constitute a period of limitations for any other rights or remedies Owner may have regarding Design-Builder's other obligations under the Contract Documents. This remedy of correction shall be in addition to, and not exclusive of, any other remedy allowed by law.

Article 3

Owner's Services and Responsibilities

3.1 Duty to Cooperate

3.1.1 Owner shall, throughout the performance of the Work, exercise due diligence to cooperate with Design-Builder and perform its responsibilities, obligations and services in a timely manner to facilitate Design-Builder's timely and efficient performance of the Work and so as not to delay or interfere with Design-Builder's performance of its obligations under the Contract Documents.

3.1.2 Owner shall exercise due diligence to provide timely reviews and approvals of interim design submissions and Construction Documents consistent with the turnaround times set forth in Design-Builder's schedule.

3.1.3 Design-Builder and the Owner shall mutually agree upon the length of review time necessary for each interim submission and Contract Documents consistent with complexity of the submission. In no case shall a review time be less than five (5) workdays.

3.2 Furnishing of Services and Information

3.2.1 Unless expressly stated to the contrary in the Contract Documents, Owner shall provide, at its own cost and expense, for Design-Builder's information and use the following, all of which Design-Builder is entitled to rely upon in performing the Work:

3.2.1.1 To the extent available, surveys describing the property, boundaries, topography and reference points for use during construction, including existing service and utility lines;

3.2.1.2 Geotechnical studies describing subsurface conditions, and other surveys describing other latent or concealed physical conditions at the Site;

3.2.1.3 Temporary and permanent easements, zoning and other requirements and encumbrances affecting land use, or necessary to permit the proper design and construction of the Project and enable Design-Builder to perform the Work;

3.2.1.4 A legal description of the Site;

3.2.1.5 To the extent available, as-built and record drawings of any existing structures at the Site; and

3.2.1.6 To the extent available, environmental studies, reports and impact statements describing the environmental conditions, including Hazardous Conditions, in existence at the Site.

3.2.2 Owner is not responsible for securing and executing all necessary agreements with adjacent land or property owners that are necessary to enable Design-Builder to perform the Work.

3.3 Financial Information

3.3.1 Owner represents and warrants that it has adequate funds available and committed to fulfill all of Owner's contractual obligations under the Contract Documents.

3.3.2 Design-Builder shall cooperate with the reasonable requirements of Owner's lenders or other financial sources. Notwithstanding the preceding sentence, after execution of the Agreement Design-Builder shall have no obligation to execute for Owner or Owner's lenders or other financial sources any documents or agreements that require Design-Builder to assume obligations or responsibilities greater than those existing obligations Design-Builder has under the Contract Documents.

3.4 Owner's Representative

3.4.1 Owner's Representative shall be responsible for providing Owner-supplied information and approvals in a timely manner to permit Design-Builder to fulfill its obligations under the Contract Documents. Owner's Representative shall also provide Design-Builder with prompt notice if it observes any failure on the part of Design-Builder to fulfill its contractual obligations, including any errors, omissions or defects in the performance of the Work.

3.5 Government Approvals and Permits

3.5.2 Owner shall provide reasonable assistance to Design-Builder in obtaining those permits, approvals and licenses that are Design-Builder's responsibility.

3.6 Owner's Separate Contractors

3.6.1 Owner is responsible for all work performed on the Project or at the Site by separate contractors under Owner's control. Owner shall contractually require its separate contractors to cooperate with, and coordinate their activities so as not to interfere with, Design-Builder in order to enable Design-Builder to timely complete the Work consistent with the Contract Documents.

Article 4

Hazardous Materials and Waste

4.1 Hazardous Materials and Waste

4.1.1 Design-Builder is responsible for any and all Hazardous Materials and Waste generated or discharged at the Site by Design-Builder or any of its Subcontractors of any tier. As between Design-Builder and Owner, Owner is responsible for all other Hazardous Material and Waste found at the Site. Known hazardous materials identified in the scope of work for abatement or containment shall be abated or contained by the Design-Builder in accordance with all applicable laws and regulations.

4.1.2 Upon encountering any suspected discharges of Hazardous Materials or Waste not identified in the scope of work, the Design-Builder will stop Work immediately in the affected area and notify the Owner. Owner and Design-Builder will attempt to characterize the Hazardous Materials or Waste and to determine whether the presence of the Hazardous Materials or Waste at the Site is the responsibility of the Design-Builder or the Owner.

4.1.3 The party that is responsible for the presence of the Hazardous Materials or Waste at the Site shall take the necessary measures required to ensure that the Hazardous Materials or Waste are remediated or rendered harmless. Such necessary measures shall include retaining qualified independent experts to (i) ascertain whether Hazardous Materials or Waste have actually been encountered, and, if they have been encountered, (ii) prescribe the remedial measures that Owner must take either to remove the Hazardous Materials or Waste or render the Hazardous Materials or Waste harmless. The Owner may by Work Change Directive or Change Order request the Design-Builder to undertake these measures.

4.1.4 Design-Builder will be entitled, in accordance with these General Conditions of Contract, to an adjustment in its Contract Price and/or Contract Time(s) to the extent Design-Builder's cost and/or time of performance have been adversely impacted by the presence of Hazardous Materials or Waste.

Article 5

Insurance and Bonds

5.1 Design-Builder's Insurance Requirements

5.1.1 Design-Builder is responsible for procuring and maintaining from insurance companies authorized to do business in the state in which the Project is located, and with a minimum rating set forth in the Agreement, the following insurance coverages for certain claims which may arise from or out of the performance of the Work and obligations under the Contract Documents:

5.1.1.1 Coverage for claims arising under workers' compensation, disability and other similar employee benefit laws applicable to the Work;

5.1.1.2 Coverage for claims by Design-Builder's employees for bodily injury, sickness, disease, or death;

5.1.1.3 Coverage for claims by any person other than Design-Builder's employees for bodily injury, sickness, disease, or death;

5.1.1.4 Coverage for usual personal injury liability claims for damages sustained by a person as a direct or indirect result of Design-Builder's employment of the person, or sustained by any other person;

5.1.1.5 Coverage for claims for damages (other than to the Work) because of injury to or destruction of tangible property, including loss of use;

5.1.1.6 Coverage for claims of damages because of personal injury or death, or property damage resulting from ownership, use and maintenance of any motor vehicle; and

5.1.1.7 Coverage for contractual liability claims arising out of Design-Builder's obligations under Section 7.4.1 hereof.

5.1.2 Design-Builder's liability insurance required by Section 5.1.1 above shall be written for the coverage amounts set forth in the Agreement and shall include completed operations insurance for the period of time set forth in the Agreement.

5.1.3 Design-Builder's liability insurance set forth in Sections 5.1.1.1 through 5.1.1.7 above shall specifically delete any design-build or similar exclusions that could compromise coverages because of the design-build delivery of the Project.

5.1.4 To the extent Owner requires Design-Builder or any Design Consultant to provide professional liability insurance for claims arising from the negligent performance of design services by Design-Builder or the Design Consultant, the coverage limits, duration and other specifics of such insurance shall be as set forth in the Agreement. Any professional liability shall specifically delete any design-build or similar

exclusions that could compromise coverages because of the design-build delivery of the Project. Such policies shall be provided prior to the commencement of any design services hereunder.

5.1.5 Prior to commencing any construction services hereunder, Design-Builder shall provide Owner with certificates evidencing that (i) all insurance obligations required by the Contract Documents are in full force and in effect and will remain in effect for the duration required by the Contract Documents and (ii) no insurance coverage will be canceled, renewal refused, or materially changed unless at least thirty (30) days prior written notice is given to Owner.

5.2 Owner's Liability Insurance

5.2.1 The parties acknowledge that Owner is a governmental entity which has a comprehensive program of self-insuring all risks of general liability for part or all of the Owner's risks of loss or damage.

5.3 Owner's Property Insurance

5.3.1 The parties acknowledge that Owner is a governmental entity which has a comprehensive program of self-insuring all real property risks.

5.4 Bonds and Other Performance Security

5.4.1 If Owner requires Design-Builder to obtain performance and labor and material payment bonds, or other forms of performance security, the amount, form and other conditions of such security shall be as set forth in the Agreement.

Article 6

Payment

6.1 Schedule of Values

6.1.1 Within ten (10) days of execution of the Agreement, Design-Builder shall submit for Owner's review and approval a schedule of values for all of the Work. The Schedule of Values will (i) subdivide the Work into its respective parts, (ii) include values for all items comprising the Work and (iii) serve as the basis for monthly progress payments made to Design-Builder throughout the Work. Items in the schedule of values shall correspond with the Design Builder's activities in the Design Builder's project schedule prepared in accordance with Section 01 32 00 such that no item in the schedule of values does not appear in the Progress Schedule. Items required for listing in the Project Schedule that have zero value need not appear in the Schedule of Values.

6.1.2 Owner's minimum acceptable value amounts for specific line items are listed below and must be included on all approved Schedules of Values and Applications for Payment.

a. The value of Mobilization to the site for construction activities shall be less than or equal to three and one half percent (3.5%) of the total Contract Price. The aggregate value of **all other** preconstruction costs and activities (excluding bonding) such as but not limited to all design activities, permitting, submittals, preconstruction conferences etc. shall be less than or equal to 10% of the total contract amount. Bonding shall be a separate line item on the schedule of values and shall not exceed the documented cost of the bonding.

b. The value of Demobilization shall be greater than or equal to one and a half percent (1.5%) of the total Contract Price.

c. The value of all required Closeout Submittals shall be $25,000 dollars. No progress payments will be made for Closeout Submittals until all submittals have been submitted to and accepted by Owner's concurrent review section. This means that the payment for this item will be on the Design-Builder's Final Application for Payment.

6.2 Monthly Progress Payments

6.2.1 On or before the date established in the Agreement, Design-Builder shall submit for Owner's review and approval its Application for Payment requesting payment for all Work performed as of the date of the Application for Payment. The Application for Payment shall be accompanied by all supporting documentation required by the Contract Documents and/or established at the meeting required by Section 2.1.4 hereof. A schedule update, current to the date of the application for payment and approved in accordance with Section 13 20 00 is required before the Owner will review any application for payment.

6.2.2 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 OWNER 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 OWNER's interest therein, all of which will be satisfactory to the Contracting Officer. 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.

6.2.3 The Application for Payment shall constitute Design-Builder's representation that the Work has been performed consistent with the Contract Documents, has progressed to the point indicated in the Application for Payment, and that title to all Work will pass to Owner free and clear of all claims, liens, encumbrances, and security interests upon the incorporation of the Work into the Project, or upon Design-Builder's receipt of payment, whichever occurs earlier.

6.2.4 Each Application for Payment shall be accompanied by Releases of Lien from the Design-Builder and each of his subcontractors, whatever tier, for the full amount of the previous Application for Payment. Release of Liens is a condition precedent for processing the current Application for Payment.

6.3 Withholding of Payments

6.3.1 This Agreement is subject to the requirements of AS 36.90.200-290. See Agreement Article 7.2 Withholding Payments and Retainage on Progress Payments

6.4 Not Used

6.5 Design-Builder's Payment Obligations

6.5.1 Design-Builder shall pay Design Consultants and Subcontractors, in accordance with its contractual obligations to such parties, all the amounts Design-Builder has received from Owner on account of their work. Design-Builder will impose similar requirements on Design Consultants and Subcontractors to pay those parties with whom they have contracted. Design-Builder will indemnify and defend Owner against any claims for payment and mechanic's liens as set forth in Section 7.3 hereof.

6.5.2 Design Builder shall comply with AS 36.30.200-290 as applicable to contracts between a prime contractor and a subcontractor.

6.6 Substantial Completion

6.6.1 Prior to requesting verification for certification of Substantial Completion for either the entire Work, Design-Builder shall complete the following and shall list all known exceptions in the request progress payment request, coincident with or the first following date claimed, show either 100% completion for the portion of the Work claimed as "substantially complete", or list incomplete items, value of incompletion, and reasons for being incomplete; and include supporting documentation for completion as indicated in these Contract Documents, and Design-Builder shall submit a statement showing an accounting of changes to Contract Sum. Design-Builder shall advise the Owner of any change over requirements for insurance, and security measures, and utilities, and maintenance.

Upon receipt of Design-Builder's request for Substantial Completion verification, the Owner will either proceed with verification or advise the Design-Builder of any prerequisites not fulfilled. Following initial verification, Owner will either prepare Certificate of Substantial Completion, or advise Design-Builder of Work which must be performed prior to issuance of the certificate. Owner will repeat the verification when requested and assured by the Design-Builder that the Work has been substantially completed. Results of completed verification will form the initial "punch-list" for final acceptance. Following the initial Substantial Completion verification, if the Owner finds the Work so far from completion as to make a later visit necessary, the Design-Builder shall be liable to the Owner for all expenses incurred by reason of such reverification.

6.6.2 Upon Substantial Completion of the entire Work or, if applicable, any portion of the Work, Owner shall release to Design-Builder all retained amounts relating, as applicable, to the entire Work or completed portion of the Work, less an amount equal to twice the reasonable value of all remaining or incomplete items of Work as noted in the Certificate of Substantial Completion.

6.6.3 Owner, at its option, may use a portion of the Work which has been determined to be substantially complete, provided, however, that a Certificate of Partial Substantial Completion has been issued for the portion of Work addressing the items set forth in Section 6.6.1 above, and (i) Design-Builder and Owner have obtained the consent of their sureties and insurers, and to the extent applicable, the appropriate government authorities having jurisdiction over the Project, and (ii) Owner and Design-Builder agree that Owner's use or occupancy will not interfere with Design-Builder's completion of the remaining Work.

6.7 Final Payment

6.7.1 After receipt of a Final Application for Payment from Design-Builder, Owner shall make final payment by the time required in the Agreement, provided that Design-Builder has completed all of the Work in conformance with the Contract Documents.

6.7.2 At the time of submission of its Final Application for Payment, Design-Builder shall provide the following information:

6.7.2.1 an affidavit that there are no claims, obligations or liens outstanding or unsatisfied for labor, services, material, equipment, taxes or other items performed, furnished or incurred for or in connection with the Work which will in any way affect Owner's interests;

6.7.2.2 a general release executed by Design-Builder and a release of liens from all subcontractors of all tiers, waiving, upon receipt of final payment by Design-Builder and by the subcontractors, all claims, except those claims previously made in writing to Owner or the Design-Builder and remaining unsettled at the time of final payment;

6.7.2.3 consent of Design-Builder's surety, if any, to final payment;

6.7.2.4 all operating manuals, warranties and other deliverables required by the Contract Documents; and

6.7.2.5 certificates of insurance confirming that required coverages will remain in effect consistent with the requirements of the Contract Documents.

6.7.3 Upon making final payment, Owner waives all claims against Design-Builder except claims relating to (i) Design-Builder's failure to satisfy its payment obligations, if such failure affects Owner's interests, (ii) Design-Builder's failure to complete the Work consistent with the Contract Documents, including defects appearing after Substantial Completion and (iii) the terms of any special warranties required by the Contract Documents.

Article 7

Indemnification

7.1 Patent and Copyright Infringement

7.1.1 Design-Builder represents and warrants that Design-Builder has exercised due diligence to ensure that its design and performance of the Work, and the Owner's use and occupancy of the Work, will not violate any copyright, patent, or other intellectual property right. Design-Builder shall defend any action or proceeding brought against Owner based on any claim that the Work, or any part thereof, or the operation or use of the Work or any part thereof, constitutes infringement of any United States patent or copyright or other intellectual property right, now or hereafter issued. Owner shall give prompt written notice to Design-Builder of any such action or proceeding and will reasonably provide authority, information and assistance in the defense of same. Design-Builder shall indemnify and hold harmless Owner from and against all damages and costs, including but not limited to attorneys' fees and expenses awarded against Owner or Design-Builder in any such action or proceeding. Design-Builder agrees to keep Owner informed of all developments in the defense of such actions.

7.1.2 If Owner is enjoined from the operation or use of the Work, or any part thereof, as the result of any patent or copyright suit, claim, or proceeding, Design-Builder shall at its sole expense take reasonable steps to procure the right to operate or use the Work. If Design-Builder cannot so procure such right within a reasonable time, Design-Builder shall promptly, at Design-Builder's option and at Design-Builder's expense, (i) modify the Work so as to avoid infringement of any such patent or copyright or (ii) replace said Work with Work that does not infringe or violate any such patent or copyright.

7.1.3 Sections 7.1.1 and 7.1.2 above shall not be applicable to any suit, claim or proceeding based on infringement or violation of a patent or copyright (i) relating solely to a particular process or product of a particular manufacturer specified by Owner and not offered or recommended by Design-Builder to Owner or (ii) arising from modifications to the Work by Owner or its agents after acceptance of the Work.

7.1.4 The obligations set forth in this Section 7.1 shall constitute the sole agreement between the parties relating to liability for infringement of violation of any patent or copyright.

7.2 Tax Claim Indemnification

7.2.1 Design-Builder shall comply with all procedures necessary to ensure payment of all payroll taxes by Design-Builder and its Subcontractors, Design Consultants, and sub-subcontractors of any tier.

7.3 Payment Claim Indemnification

7.3.1 Providing that Owner is not in breach of its contractual obligation to make payments to Design-Builder for the Work, Design-Builder shall indemnify, defend and hold harmless Owner from any claims or mechanic's liens brought against Owner or against the Project as a result of the failure of Design-Builder, or those for whose acts it is responsible, to pay for any services, materials, labor, equipment, taxes or other items or obligations furnished or incurred for or in connection with the Work. Within three (3) days of receiving written notice from Owner that such a claim or mechanic's lien has been filed, Design-Builder shall commence to take the steps necessary to discharge said claim or lien, including, if necessary, the furnishing of a mechanic's lien bond. If Design-Builder fails to do so, Owner will have the right to discharge the claim or lien and hold Design-Builder liable for costs and expenses incurred, including attorneys' fees.

7.4 Design-Builder's General Indemnification

7.4.1 The Design-Builder shall indemnify, hold harmless, and defend the Owner from and against any claim of, or liability for negligent acts, errors or omissions of the Design-Builder under this Agreement. The Design-Builder shall not be required to indemnify the Owner for a claim of, or liability for, the independent negligence of the Owner. If there is a claim of, or liability for, the joint negligent error or omission of the Design-Builder and the independent negligence of the Owner, the Design-Builder's indemnification and hold harmless obligation shall be apportioned on a comparative fault basis. "Design-Builder" and "Owner", as used within this article, include the employees, agents and other contractors who are directly

responsible, respectively, to each. The term “Independent Negligence” is negligence other than in the Owner’s selection, administration, monitoring, or controlling of the Design-Builder and in approving or accepting the Design-Builder’s work.

7.4.2 If an employee of Design-Builder, Design Consultants, Subcontractors, anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable has a claim against Owner, its officers, directors, employees, or agents, Design-Builder’s indemnity obligation set forth in Section 7.4.1 above shall not be limited by any limitation on the amount of damages, compensation or benefits payable by or for Design-Builder, Design Consultants, Subcontractors, or other entity under any employee benefit acts, including workers’ compensation or disability acts.

Article 8

Time

8.1 Obligation to Achieve the Contract Times

8.1.1 Design-Builder agrees that it will commence performance of the Work and achieve the Contract Time(s) in accordance with Article 5 of the Agreement.

8.2 Delays to the Work

8.2.1 If Design-Builder is delayed in the performance of the Work due to acts, omissions, conditions, events, or circumstances beyond its control and due to no fault of its own or those for whom Design-Builder is responsible, and such delay(s) are shown to extend the time necessary to achieve Substantial Completion, the Contract Time(s) for performance shall be reasonably extended by Change Order. By way of example, events that may entitle Design-Builder to an extension of the Contract Time(s) include acts or omissions of Owner or anyone under Owner’s control (including separate contractors), changes in the Work directed by the Owner, Differing Site Conditions, Hazardous Conditions, wars, floods, labor disputes, unusual delay in transportation, epidemics abroad, earthquakes, adverse weather conditions not reasonably anticipated, and other acts of God. In order to be entitled to an extension of Contract Time, the Design-Builder must demonstrate through Critical Path Method schedule analysis and other reliable evidence that the event complained of was not one for which the Design-Builder was responsible and that the event complained of to affected one or more critical elements of the Work for a reasonably certain period of time.

8.2.2 In addition to Design-Builder’s right to claim a time extension for those events set forth in Section 8.2.1 above, Design-Builder shall also be entitled to claim an appropriate adjustment of the Contract Price provided, however, that the Contract Price shall not be adjusted for those events set forth in Section 8.2.1 above that are beyond the control of both Design-Builder and Owner, including the events of war, floods, labor disputes, earthquakes, epidemics, adverse weather conditions not reasonably anticipated, and other acts of God.

Article 9

Changes to the Contract Price and Time

9.1 OWNER's Right to Change

Without invalidating the Contract and without notice to any Surety, the OWNER 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 Owner-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 the 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 Interim Work Authorization (pursuant to paragraph 9.10)

9.3 Directive

9.3.1 The Contracting Officer shall provide written clarification or interpretation of the Contract Documents.

9.3.2 The Contracting Officer 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 Contracting Officer may order the Contractor to correct Defective Work or methods which are not in conformance with the Contract Documents.

9.3.4 The Contracting Officer may direct the commencement or suspension of Work or emergency related Work (as provided in paragraph 9.5).

9.3.5 Upon the issuance of a Directive to the DESIGN-BUILDER by the Contracting Officer, the DESIGN-BUILDER shall proceed with the performance of the Work as prescribed by such Directive.

9.3.6 If the DESIGN-BUILDER believes that the changes noted in a Directive may cause an increase in the Contract Price or an extension of Contract Time, the DESIGN-BUILDER shall immediately provide written notice to the Contracting Officer depicting such increases before proceeding with the Directive, except in the case of an emergency. If the Contracting Officer finds the increase in Contract Price or the extension of Contract Time justified, a Change Order will be issued. If however, the Contracting Officer does not find that a Change Order is justified, the Contracting Officer may direct the DESIGN-BUILDER to proceed with the Work. The DESIGN-BUILDER shall cooperate with the Contracting Officer 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 9.12 “Cost of the work”.

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 DESIGN-BUILDER 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 00 92 00 Articles 8 and 9.The OWNER will issue Change Orders for the DESIGN-BUILDER to sign. A Change Order shall be considered executed when the OWNER signs it. The DESIGN-BUILDER’S signature indicates that they accept the Change Order or acknowledge it. Acknowledgement of a Change Order does not surrender the DESIGN-BUILDER’S right to claim.

9.5 Emergencies

In any emergency affecting the safety of persons and/or property, Design-Builder shall act at its discretion to prevent threatened damage injury or loss. Any change to the contract price and/or contract time(s) on account of emergency work shall be determined as provided in Article 8 and Article 9

9.6 Changes Outside the General Scope; Supplemental Agreement

Any change which is outside the general scope of the Contract, as determined by the Contracting Officer, must be authorized by a Supplemental Agreement signed by the appropriate representatives of the OWNER and the DESIGN-BUILDER.

9.7 Unauthorized Work:

The DESIGN-BUILDER 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 9.5 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 DESIGN-BUILDER's responsibility, and the amount of each applicable bond will be adjusted accordingly.

9.9 Differing Site Conditions:

9.9.1 The DESIGN-BUILDER shall promptly, and before such conditions are disturbed (except in an emergency as permitted by paragraph 9.5), notify the Contracting Officer 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 Contracting Officer shall promptly investigate the conditions, and if the Contracting Officer finds that such conditions do materially so differ and cause an increase or decrease in the DESIGN-BUILDER'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 DESIGN-BUILDER under this clause shall be made in accordance with 00 92 00 Article 10. In the event that the Contracting Officer and the DESIGN-BUILDER are unable to reach an agreement concerning an alleged differing site condition, the DESIGN-BUILDER 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 Contracting Officer shall be given the opportunity to supervise and check the keeping of such records.

9.10 Interim Work Authorization (IWA)

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 9.12 “Cost of the Work”, to establish a basis for negotiating a lump sum price for the Change Order.

9.11 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:

9.11.l 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.

9.11.2 By mutual acceptance of a lump sum price, that includes a fee for overhead and profit, which shall be based upon the estimated “cost of the work” as determined in paragraphs 9.12 and 9.13. The fee for overhead and profit shall be based on the following percentages of the various portions of the estimated “cost of the work”:

a. For estimated costs incurred under paragraphs 9.12.1 and 9.12.2, the DESIGN-BUILDER's fee shall be twenty percent;

b. For estimated costs incurred under paragraph 9.12.3, the DESIGN-BUILDER's fee shall be ten percent; and if a Change Order involves multiple tier SUBCONTRACTORS, the total combined fee for overhead and profit for the DESIGN-BUILDER, and all SUBCONTRACTORS, regardless of tier, shall not exceed 35%.

c. No fee shall be payable on the basis of estimated costs itemized under paragraphs 9.12.4, 9.12.5 and 9.13;

d. The amount of credit to be allowed by the DESIGN-BUILDER to the OWNER for any such change which results in a net decrease in cost will be the amount of the estimated net decrease plus a deduction in DESIGN-BUILDER's fee by an amount equal to twenty percent of the net decrease; and

e. When both additions and credits are involved in any one change, the adjustment in DESIGN-BUILDER’s fee shall be computed on the basis of the net change in accordance with paragraphs 9.11.2.a through 9.11.2.d, inclusive.

9.11.3 When 9.11.1 and 9.11.2 are inapplicable, on the basis of the "cost of the work" (determined as provided in paragraphs 9.12 Cost of the work and 9.13 Excluded Costs) plus a DESIGN-BUILDER's fee for overhead and profit (determined as provided in paragraph 9.14 Design-Builders Fee).

9.11.4 Before a Change Order or Supplemental Agreement is Approved, the DESIGN-BUILDER shall submit cost or pricing data regarding the changed or extra Work. The DESIGN-BUILDER 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.

9.12 Cost of the Work:

The term "cost of the work" means the sum of all costs necessarily incurred and paid by the DESIGN-BUILDER in the proper performance of the Work. Except as otherwise may be agreed to in writing by the OWNER, 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 9.13 Excluded Costs:

9.12.l Payroll costs for employees in the direct employ of the DESIGN-BUILDER in the performance of the Work under schedules of job classifications agreed upon by the OWNER and the DESIGN-BUILDER. 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 OWNER.

9.12.2 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 DESIGN-BUILDER unless the OWNER deposits funds with the DESIGN-BUILDER with which to make payments, in which case the cash discounts shall accrue to the OWNER. All trade discounts, rebates and refunds and all returns from sale of surplus materials and equipment shall accrue to the OWNER, and the DESIGN-BUILDER shall make provisions so that they may be obtained.

9.12.3 Payments made by the DESIGN-BUILDER to Subcontractors for Work performed by Subcontractors. If required by the OWNER, DESIGN-BUILDER shall obtain competitive quotes from Subcontractors or Suppliers acceptable to the DESIGN-BUILDER and shall deliver such quotes to the OWNER 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 DESIGN-BUILDER's "cost of work" as described in paragraphs 9.12 Cost of the Work through 9.13 Excluded Costs; and the Subcontractor's fee shall be established as provided for under subparagraph 9.14.2 (Design-Builders fee) clause b. All subcontracts shall be subject to the other provisions of the Contract Documents insofar as applicable.

9.12.4 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.

9.12.5 Supplemental costs including the following:

a. The proportion of necessary transportation, travel and subsistence expenses of the DESIGN-BUILDER'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 DESIGN-BUILDER.

c. Rentals of all construction equipment and machinery and the parts thereof whether rented from the DESIGN-BUILDER or others in accordance with rental agreements Approved by the OWNER 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 DESIGN-BUILDER 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 (Alaska South), 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 DESIGN-BUILDER shall receive a rental rate as agreed upon before such work is begun. If agreement cannot be reached, the OWNER 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 DESIGN-BUILDER's regular shift of 10 hours per day. Where the equipment is used more than 10 hours per day, either on the DESIGN-BUILDER'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 (Alaska South), plus the estimated hourly operating cost.

The Project Manager shall authorize equipment rented or leased specifically for work required under this section in writing. The DESIGN-BUILDER shall be paid invoice price plus 15 percent.

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 DESIGN-BUILDER 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 DESIGN-BUILDER’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 (Alaska South).

Time will be recorded to the nearest one-quarter hour for purposes of computing compensation to the DESIGN-BUILDER 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 DESIGN-BUILDER is liable, imposed by Regulatory Requirements.

e. Deposits lost for causes other than negligence of the DESIGN-BUILDER, 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 DESIGN-BUILDER in connection with the performance and furnishing of the Work provided they have resulted from causes other than the negligence of the DESIGN-BUILDER, 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 OWNER. No such losses, damages and expenses shall be included in the "cost of the work" for the purpose of determining the DESIGN-BUILDER's fee. If, however, any such loss or damage requires reconstruction and the DESIGN-BUILDER is placed in charge thereof, the DESIGN-BUILDER shall be paid for services a fee proportionate to that stated in paragraphs 9.14.2.a and 9.14.2.bDesign-Builders Fee.

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 OWNER in accordance with 00 51 00 Article 10 Bonds and Insurance.

9.13 Excluded Costs:

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

9.13.1 Payroll costs and other compensation of DESIGN-BUILDER's officers, executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agency, expeditors, timekeepers, clerks and other personnel employed by DESIGN-BUILDER whether at the site or in DESIGN-BUILDER'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 9.12.1 Cost of Work or specifically covered by paragraph 9.12.4 all of which are to be considered administrative costs covered by the DESIGN-BUILDER's fee.

9.13.2 Expenses of DESIGN-BUILDER's principal and branch offices other than DESIGN-BUILDER's office at the site.

9.13.3 Any part of DESIGN-BUILDER's capital expenses including interest on DESIGN-BUILDER's capital employed for the Work and charges against DESIGN-BUILDER for delinquent payments.

9.13.4 Cost of premiums for all bonds and for all insurance whether or not DESIGN-BUILDER is required by the Contract Documents to purchase and maintain the same (except for the cost of premiums covered by subparagraph 9.12.5.i above).

9.13.5 Costs due to the negligence of DESIGN-BUILDER, 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.

9.13.6 Other overhead or general expense costs of any kind and the costs of any item not

specifically and expressly included in paragraph 9.12.4 Cost of the work.

9.14 DESIGN-BUILDER's Fee:

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

9.14.l A mutually acceptable fixed fee; or if none can be agreed upon.

9.14.2 A fee based on the following percentages of the various portions of the "cost of the work":

a. For costs incurred under paragraphs 9.12.l and 9.12.2, the DESIGN-BUILDER's fee shall be fifteen percent;

b. For costs incurred under paragraph 9.12.3, the DESIGN-BUILDER's fee shall be five percent; and if a Change Order involves multiple tier SUBCONTRACTORS, the total combined fee for overhead and profit for the DESIGN-BUILDER, and all SUBCONTRACTORS, regardless of tier, shall not exceed 25%.

c. No fee shall be payable on the basis of costs itemized under paragraphs 9.12.4, 9.12.5 and 9.13;

d. The amount of credit to be allowed by the DESIGN-BUILDER to the OWNER 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 DESIGN-BUILDER'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 Design-Builder's fee shall be computed on the basis of the net change in accordance with paragraphs 9.14.2 Design-Builders Fee .a through 9.14.2.d, inclusive.

9.15 Cost Breakdown:

Whenever the cost of any Work is to be determined pursuant to paragraphs 9.12 and 9.13, the DESIGN-BUILDER will submit in a form acceptable to the OWNER an itemized cost breakdown together with supporting data.

9.16 Federal Disadvantaged Business Enterprise (DBE) Program

~~The DBE Program shall be in accordance with Section 00120.~~

Article 10

CLAIMS AND DISPUTES

10.1 Notification

10.1.1 The DESIGN-BUILDER shall notify the OWNER in writing as soon as the DESIGN-BUILDER 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 OWNER 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 DESIGN-BUILDER has notified the OWNER in writing in a timely manner of all facts the DESIGN-BUILDER believes form the basis for the claim.

10.1.2 If the DESIGN-BUILDER believes that he is entitled to an extension of Contract Time, then the DESIGN-BUILDER must state the contract section on which he basis his extension request, provide the OWNER with sufficient information to demonstrate that the DESIGN-BUILDER has suffered excusable

delay, and show the specific amount of time to which the DESIGN-BUILDER is entitled. The OWNER will not grant an extension of Contract Time if the DESIGN-BUILDER does not timely submit revised schedules as required by Section 00 92 00, Article 2.1.3.

10.1.3 If the matter is not resolved by agreement within 7 days, the DESIGN-BUILDER shall submit an Intent to Claim, in writing, to the OWNER within the next 14 days.

10.1.4 If the DESIGN-BUILDER 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 DESIGN-BUILDER shall provide the OWNER access to any such records and furnish the OWNER copies, if requested. Equipment costs must be based on the DESIGN-BUILDER'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 OWNER for additional time, compensation or both, the DESIGN-BUILDER 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 OWNER.

10.1.5 If the claim or dispute is not resolved by the OWNER, then the DESIGN-BUILDER shall submit a written Claim to the Contracting Officer within 90 days after the DESIGN-BUILDER 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.

10.1.6 The DESIGN-BUILDER waives any right to claim if the OWNER 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.

10.2 Presenting the Claim

10.2.1 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 DESIGN-BUILDER believes is due.

10.3 Claim Validity, Additional Information, and Owner's Action

10.3.1 The Claim, in order to be valid, must not only show that the DESIGN-BUILDER 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.

10.3.2 The OWNER can make written request to the DESIGN-BUILDER at any time for additional information relative to the Claim. The DESIGN-BUILDER shall provide the OWNER 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.

10.4 Contracting Officer's Decision

The DESIGN-BUILDER will be furnished the Contracting Officer's Decision within 90 days, unless the Contracting Officer requests additional information or gives the DESIGN-BUILDER notice that the time for issuing a decision is being extended for a specified period under AS 36.30.620. The Contracting Officer's decision is final and conclusive unless, within 14 days of receipt of the decision, the DESIGN-BUILDER delivers a Notice of Appeal to the Appeals Officer. Procedures for appeals are covered under AS 36.30.625 and AS 36.30.630.

10.5 Fraud and Misrepresentation in Making Claims

Criminal and Civil penalties authorized under AS 36.30.687 (including, but not limited to, forfeiture of all claimed amounts) may be imposed on the DESIGN-BUILDER if the DESIGN-BUILDER makes or uses a misrepresentation in support of a claim or defraud or attempt to defraud the OWNER at any stage of prosecuting a claim under this Contract."

Article 11

SUSPENSION OF WORK, DEFAULT AND TERMINATION

11.1 OWNER May Suspend Work:

11.1.1 The OWNER may, at any time, suspend the Work or any portion thereof by notice in writing to the DESIGN-BUILDER. If the Work is suspended without cause the DESIGN-BUILDER 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 DESIGN-BUILDER 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 DESIGN-BUILDER, 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 DESIGN-BUILDER.

11.1.2 In case of suspension of Work, the DESIGN-BUILDER 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.

11.2 Default of Contract:

11.2.1 The Contracting Officer may give the DESIGN-BUILDER and its surety a written Notice to Cure Default if the DESIGN-BUILDER:

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 neglects or refuses 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 the DESIGN-BUILDER declares bankruptcy, termination will be under Title 11 US Code 362 and/or 365. The DESIGN-BUILDER'S 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. is a party to fraud, deception, misrepresentation , or

m. for any cause whatsoever, fails to carry on the Work in an acceptable manner.

11.2.2 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 OWNER 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 OWNER. The OWNER will provide the DESIGN-BUILDER or its surety with a written

Notice of Default Termination that details the default and the failure to cure it.If the DESIGN-BUILDER or its Surety, within the time specified in the above notice of default, shall not proceed in accordance therewith, then the OWNER may, upon written notification from the Contracting Officer of the fact of such delay, neglect or default and the DESIGN-BUILDER'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 DESIGN-BUILDER. The OWNER may terminate the services of the DESIGN-BUILDER, exclude the DESIGN-BUILDER from the site and take possession of the Work and of all the DESIGN-BUILDER's tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by the DESIGN-BUILDER (without liability to the DESIGN-BUILDER for trespass or conversion), incorporate in the Work all materials and equipment stored at the site or for which the OWNER has paid the DESIGN-BUILDER but which are stored elsewhere, and finish the Work as the OWNER may deem expedient. The OWNER 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.

11.2.3 The Contracting Officer may, by written notice to the DESIGN-BUILDER and its Surety or its representative, transfer the employment of the Work from the DESIGN-BUILDER to the Surety, or if the DESIGN-BUILDER abandons the Work undertaken under the Contract, the Contracting Officer may, at its option with written notice to the Surety and without any written notice to the DESIGN-BUILDER, 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 OWNER 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.

11.2.4 After the notice of termination is issued, the OWNER 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.

11.2.5 Rather than taking over the work itself, the OWNER may transfer the obligation to perform the work from the DESIGN-BUILDER to its surety. The surety must submit its plan for completion of the work, including any contracts or agreements with third parties for completion, to the OWNER 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.

11.2.6 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 OWNER will make subsequent Contract payments directly to the Surety for work performed under the terms of the Contract. The DESIGN-BUILDER shall forfeit any right to claim for the same work or any part thereof. The DESIGN-BUILDER shall not be entitled to receive any further balance of the amount to be paid under the Contract.

11.2.7 Upon receipt of the notice terminating the services of the DESIGN-BUILDER, 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 DESIGN-BUILDER to make any claim for the same or any part thereof.

11.2.8 If the Contract is terminated for default, the DESIGN-BUILDER 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 OWNER 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 reprocurement costs. Following termination the DESIGN-BUILDER 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 OWNER and any amounts due to persons for whose benefit the OWNER has withheld funds, such excess shall be paid by the OWNER to the DESIGN-BUILDER. If the damages, costs, and expenses due the OWNER exceed the unpaid balance, the DESIGN-BUILDER and its Surety shall pay the difference.

11.2.9 If, after notice of termination of the DESIGN-BUILDER's right to proceed under the provisions of this clause, it is determined for any reason that the DESIGN-BUILDER 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.

11.3 Rights or Remedies:

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

11.4 Convenience Termination:

11.4.1 The performance of the Work may be terminated by the OWNER 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 DESIGN-BUILDER of a Notice of Termination, specifying termination is for the convenience of the OWNER the extent to which performance of Work is terminated, and the date upon which such termination becomes effective.

11.4.2 Immediately upon receipt of a Notice of Termination and except as otherwise directed by the Contracting Officer, the DESIGN-BUILDER 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 OWNER;

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 DESIGN-BUILDER and in which the OWNER has or may acquire any interest.

h. The DESIGN-BUILDER shall proceed immediately with the performance of the above obligations.

11.4.3 When the OWNER 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 OWNER - or the DESIGN-BUILDER may retain title to the materials and be paid an agreed upon lump sum. Materials on order shall be cancelled, and the OWNER shall pay reasonable factory cancellation charges with the option of taking delivery of the materials in lieu of payment of cancellation charges. The DESIGN-BUILDER shall be paid 10% of the cost, freight not included, of materials cancelled, and direct expenses only for DESIGN-BUILDER chartered freight transport which cannot be cancelled without charges, to the extent that the DESIGN-BUILDER 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 OWNER. 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

11.4.4 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 DESIGN-BUILDER made within the 90-day period. Upon failure of the DESIGN-BUILDER 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 DESIGN-BUILDER by reason of the termination and shall thereupon pay to the DESIGN-BUILDER the amount so determined.

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

11.4.6 In the event of the failure of the DESIGN-BUILDER 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 DESIGN-BUILDER 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 DESIGN-BUILDER by reason of the termination and shall pay to the DESIGN-BUILDER the amount determined as follows:

a. All costs and expenses reimbursable in accordance with the Contract not previously paid to the DESIGN-BUILDER 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 DESIGN-BUILDER for idled or stand-by equipment shall be made as follows: Equipment claims will be reimbursed as follows:

1. Design-Builder-owned equipment usage, based on the DESIGN-BUILDER'S ownership and operating costs for each piece of equipment as determined from the DESIGN-BUILDER'S accounting records. Under no circumstance, may the DESIGN-BUILDER base equipment claims on published rental rates.

2. Idle or stand-by time for Design-Builder-owned equipment, based on the DESIGN-BUILDER'S 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 Design-Builder-owned equipment. Equipment leased from an affiliate, division, subsidiary or other organization under common control with the DESIGN-BUILDER will be considered Design-Builder-owned equipment, unless the lessor has an established record of leasing to unaffiliated lessees at competitive rates consistent with the rates the DESIGN-BUILDER has 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.

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

a. All previous payments made to the DESIGN-BUILDER for the performance of Work under the Contract prior to termination;

b. Any claim for which the OWNER may have against the DESIGN-BUILDER;

c. The agreed price for, or the proceeds of sale of, any materials, supplies, or other things acquired by the DESIGN-BUILDER or sold pursuant to the provisions of this section and not otherwise recovered by or credited to the OWNER; and,

d. All progress payments made to the DESIGN-BUILDER under the provisions of this section.

12.4.7 Where the Work has been terminated by the OWNER said termination shall not affect or terminate any of the rights of the OWNER against the DESIGN-BUILDER or his Surety then existing or which may thereafter accrue because of such default. Any retention or payment of monies by the OWNER due to the DESIGN-BUILDER under the terms of the Contract shall not release the DESIGN-BUILDER or its Surety from liability.

12.4.8 The DESIGN-BUILDER's termination claim may not include claims that pre dated the notice for termination for convenience. Those claims shall be prosecuted by the DESIGN-BUILDER under Article 15.

12.4.9 The DESIGN-BUILDER'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 DESIGN-BUILDER, 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 OWNER at all reasonable times at the office of the DESIGN-BUILDER, all its books, records, documents, and other evidence bearing on the cost and expenses of the DESIGN-BUILDER under his Contract and relating to the Work terminated hereunder.

b. Definitions. In this Subsection 108-1.09, the term "cost" and the term "expense" mean a monetary amount in U.S. Dollars actually incurred by the DESIGN-BUILDER, actually reflected in its contemporaneously maintained accounting or other financial records and supported by original source documentation.

c. Cost Principles. The OWNER 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 12

Miscellaneous

12.1 Assignment

12.1.1 Neither Design-Builder nor Owner shall, without the written consent of the other assign, transfer or sublet any portion or part of the Work or the obligations required by the Contract Documents.

12.2 Successorship

12.2.1 Design-Builder and Owner intend that the provisions of the Contract Documents are binding upon the parties, their employees, agents, heirs, successors and assigns.

12.3 Governing Law

12.3.1 The Agreement and all Contract Documents shall be governed by the laws of the place of the Project, without giving effect to its conflict of law principles. This Agreement is subject to the claims provisions of the State Procurement Code. Any judicial appeal of an administrative decision made under or in connection with this Agreement shall be commenced and maintained in the Superior Court of the State

of Alaska at Anchorage. Proposer consents to the jurisdiction of said court to dispose of any claim which might be brought by the Owner under or in connection with this Agreement.

12.4 Severability

12.4.1 If any provision or any part of a provision of the Contract Documents shall be finally determined to be superseded, invalid, illegal, or otherwise unenforceable pursuant to any applicable Legal Requirements, such determination shall not impair or otherwise affect the validity, legality, or enforceability of the remaining provision or parts of the provision of the Contract Documents, which shall remain in full force and effect as if the unenforceable provision or part were deleted.

12.5 No Waiver

12.5.1 The failure of either Design-Builder or Owner to insist, in any one or more instances, on the performance of any of the obligations required by the other under the Contract Documents shall not be construed as a waiver or relinquishment of such obligation or right with respect to future performance.

12.6 Headings

12.6.1 The headings used in these General Conditions of Contract, or any other Contract Document, are for ease of reference only and shall not in any way be construed to limit or alter the meaning of any provision.

12.7 Notice

12.7.1 Whenever the Contract Documents require that notice be provided to the other party, notice will be deemed to have been validly given (i) if delivered in person to the individual intended to receive such notice, (ii) four (4) days after being sent by registered or certified mail, postage prepaid to the address indicated in the Agreement or (iii) if transmitted by facsimile, by the time stated in a machine generated confirmation that notice was received at the facsimile number of the intended recipient.

12.8 Amendments

12.8.1 The Contract Documents may not be changed, altered, or amended in any way except in writing signed by a duly authorized representative of each party.

Article 13

Design-Builder Generated Hazardous Materials and Waste

13.1 Definitions:

13.1.1 Hazardous Material: A substance or material which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and which has been so designated pursuant to the Hazardous Materials Transportation Act, 49 U.S.C. Appendix Section 1801 et seq. The term includes materials designated as hazardous materials under the provisions of 49 CFR 172, Sections .101 and .102 and materials which meet the defining criteria for hazard classes and divisions in 49 CFR 173. EPA designated hazardous wastes are also hazardous materials.

13.1.2 Hazardous Waste: A waste which meets criteria established in RCRA or specified by the EPA in 40 CFR 261 or which has been designated as hazardous by a RCRA authorized state program.

13.2 Code of Federal Regulations (CFR):

13.2.1 40 CFR 61 “National Emission Standards for Hazardous Air Pollutants”.

13.2.2 40 CFR 261 “Identification and Listing of Hazardous Waste”.

13.2.3 40 CFR 262 “Standards Applicable to Generators of Hazardous Waste”.

13.2.4 40 CFR 263 “Standards Applicable to Transporters of Hazardous Waste”.

13.2.5 40 CFR 264 “Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities”.

13.2.6 40 CFR 265 “Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities”.

13.2.7 40 CFR 266 “Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities”.

13.2.8 40 CFR 268 “Land Disposal Restrictions”.

13.2.9 40 CFR 270 “EPA Administered Permit Programs: The Hazardous Waste Permit Program”.

13.2.10 40 CFR 279 “Standards for the Management of Used Oil”.

13.2.11 40 CFR 300 “National Oil and Hazardous Substances Pollution Contingency Plan”.

13.2.12 40 CFR 302 “Designation, Reportable Quantities, and Notification”.

13.2.13 40 CFR 761 “Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions”.

13.2.14 49 CFR 107 “Hazardous Materials Program Procedures”.

13.2.15 49 CFR 172 “Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements”.

13.2.16 49 CFR 173 “Shippers - General Requirements for Shipments and Packagings”.

13.2.17 49 CFR 178 “Specifications for Packagings”.

13.3 **Transportation and Disposal Coordinator:** Design-Builder shall designate, by position and title, one person to act as the Transportation and Disposal Coordinator (TDC) for this contract. TDC shall serve as the single point of contact for all environmental regulatory matters and shall have overall responsibility for total environmental compliance at the site including, but not limited to, accurate identification and classification of hazardous waste and hazardous materials determination of proper shipping names identification of marking, labeling, packaging and placarding requirements completion of waste profiles, hazardous waste manifests, asbestos waste shipment records, PCB manifests, Bill of Ladings, exception and discrepancy reports and all other environmental documentation. TDC shall have, at a minimum, one year of specialized experience in the management and transportation of hazardous waste.

13.4 **Training:** Design-Builder's hazardous materials employees shall be trained, tested, and certified to safely and effectively carry out their assigned duties. Design-Builder's employees transporting hazardous materials or preparing hazardous materials for transportation shall be trained, tested, and certified in accordance with 49 CFR 172.1.3.3 Certification Design-Builder and subcontractors transporting hazardous materials shall possess a current certificate of registration issued by the Research and Special Programs Administration (RSPA), U.S. Owner of Transportation, when required by 49 CFR 107, Subpart G.1.4

13.5 **Requirements:** Work shall meet or exceed the minimum requirements established by Federal, state, and local laws and regulations which are applicable. Design-Builder shall be responsible for complying with amendments as they become effective, irregardless of the date of this Contract. In the event that compliance exceeds the scope of Work or conflicts with specific requirements of the Contract, Design-Builder shall notify the Contacting Officer immediately.

13.6 On-site And Off-site Hazardous Materials Management Plans: Prior to start of work, a plan shall be prepared detailing the manner in which hazardous materials shall be managed.

13.7 On-site And Off-site Hazardous Waste Management Plans: Prior to start of work, a plan shall be prepared detailing the manner in which hazardous wastes shall be managed.

13.8 Record Keeping: Information necessary to file state annual or EPA biennial reports for all hazardous waste transported, treated, stored, or disposed of under this contract. Design-Builder shall not forward these data directly to the regulatory agency but to the Contacting Officer at the specified time. The submittal shall contain all the information necessary for filing of the formal reports in the form and format required by the governing Federal or state regulatory agency. A cover letter shall accompany the data to include the contract number, Design-Builder name, and project location.

13.9 Spill Response: In the event of a spill or release of a hazardous substance (as designated in 40 CFR 302), or pollutant or contaminant, or oil (as governed by the Oil Pollution Act (OPA), 33 U.S.C.2701 et seq.), Design-Builder shall notify the Contacting Officer immediately. If the spill exceeds a reporting threshold, Design-Builder shall follow the pre-established procedures for immediate reporting to the Contacting Officer.

13.10 Exception Reports: In the event that a manifest copy documenting receipt of hazardous waste at the treatment, storage, and disposal facility is not received within 35 days of shipment initiation, Design-Builder shall prepare and submit an exception report to the Contacting Officer within 37 days of shipment initiation.

13.11 Qualifications: Copies of the current certificates of registration issued to Design-Builder and/or subcontractors or written statements certifying exemption from these requirements.

13.12 Off-Site Policy Compliance Certification: A letter certifying that EPA considers the facilities to be used for all off-site disposal to be acceptable in accordance with the Off-Site policy in 40 CFR 300, Section .440. This certification shall be provided for wastes from Resource Conservation and Recovery Act (RCRA), 42 U.S.C.6901 et seq., sites as well as from Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 42 U.S.C. 9601 et seq., responses.

13.13 Certificates of Disposal: Certificates documenting the ultimate disposal of hazardous wastes, polychlorinated biphenyls (PCBs), and/or asbestos within 180 days of initial shipment. Receipt of these certificates will be required for final payment

13.14 Shipping Documents and Packagings Certification: All transportation related shipping documents to the Contacting Officer, including draft hazardous waste manifests, draft land disposal restriction notifications, draft asbestos waste shipment records, draft manifests for PCBs, draft Bill of Ladings for hazardous materials, lists of corresponding proposed labels, packages, marks, and placards to be used for shipment, waste profiles, supporting waste analysis documents, for review a minimum of 14 days prior to anticipated pickup. Packaging assurances shall be furnished prior to transporting hazardous material "generator copies" of hazardous waste manifests, land disposal restriction notifications. asbestos waste shipment records, "generator copies" of manifests used for initiating shipments of PCBs, used oil invoices/shipment records. Bill of Ladings, supporting waste analysis documents shall be furnished when shipments are originated and "receipt copies" of asbestos waste shipment records at the designated disposal facility shall be furnished not later than 35 days after acceptance of the shipment.

13.15 Notices of Non-Compliance and Notices of Violation: Notices of non-compliance or notices of violation by a Federal, state, or local regulatory agency issued to Design-Builder in relation to any work performed under this contract. Design-Builder shall immediately provide copies of such notices to the Contacting Officer. Design-Builder shall also furnish all relevant documents regarding the incident and any information requested by the Contacting Officer, and shall coordinate its response to the notice with the Contacting Officer or his designated representative prior to submission to the notifying authority. Design-Builder shall also furnish a copy to_the Contacting Officer of all documents submitted to the regulatory authority, including the final reply to the notice, and all other materials, until the matter is resolved.

13.16 Materials: Design-Builder shall provide all of the materials required for the packaging, labeling, marking, placarding and transportation of hazardous wastes and hazardous materials in conformance with Department of Transportation standards. Details in this specification shall not be construed as establishing the limits of Design-Builder's responsibility.

13.17 Packagings: Design-Builder shall provide [bulk] [non-bulk] [bulk and non-bulk] containers for packaging hazardous materials/wastes consistent with the authorizations referenced in the Hazardous Materials Table in 49 CFR 172, Section .101, Column 8. Bulk and non-bulk packaging shall meet the corresponding specifications in 49 CFR 173 referenced in the Hazardous Materials Table, 49 CFR 172, Section .101. Each packaging shall conform to the general packaging requirements of Subpart B of 49 CFR 173, to the requirements of 49 CFR 178 at the specified packing group performance level, to the requirements of special provisions of column 7 of the Hazardous Materials Table in 49 CFR 172, Section .101, and shall be compatible with the material to be packaged as required by 40 CFR 262. Design-Builder shall also provide other packaging related materials such as materials used to cushion or fill voids in overacted containers, etc. Sorbent materials shall not be capable of reacting dangerously with, being decomposed by, or being ignited by the hazardous materials being packaged. Additionally, sorbents used to treat free liquids to be disposed of in landfills shall be non-biodegradable as specified in 40 CFR 264, Section .314.

13.18 Markings: Design-Builder shall provide markings for each hazardous material/waste package, freight container, and transport vehicle consistent with the requirements of 49 CFR 172, Subpart D and [40 CFR 262, Section .32 (for hazardous waste), 40 CFR 761, Section .45 (for PCBs), 40 CFR 61, Section .149(d) (for asbestos). Markings shall be capable of withstanding, without deterioration or substantial color change, a 180 day exposure to conditions reasonably expected to be encountered during container storage and transportation.

13.19 Labeling: Design-Builder shall provide primary and subsidiary labels for hazardous materials/wastes consistent with the requirements in the Hazardous Materials Table in 49 CFR 172, Section .101, Column 6. Labels shall meet design specifications required by 49 CFR 172, Subpart E including size, shape, color, printing, and symbol requirements. Labels shall be durable and weather resistant and capable of withstanding, without deterioration or substantial color change, a 180 day exposure to conditions reasonably expected to be encountered during container storage and transportation.

13.20 Placards: For each off-site shipment of hazardous material/waste, Design-Builder shall provide primary and subsidiary placards consistent with the requirements of 49 CFR 172, Subpart F. Placards shall be provided for each side and each end of bulk packaging, freight containers, transport vehicles, and rail cars requiring such placarding. Placards may be plastic, metal, or other material capable of withstanding, without deterioration, a 30 day exposure to open weather conditions and shall meet design requirements specified in 49 CFR 172, Subpart F.2.1.5

13.21 Spill Response Materials: Design-Builder shall provide spill response materials including, but not limited to, containers, adsorbent, shovels, and personal protective equipment. Spill response materials shall be available at all times in which hazardous materials/wastes are being handled or transported. Spill response materials shall be compatible with the type of material being handled.

13.22 Equipment and Tools: Design-Builder shall provide miscellaneous equipment and tools necessary to handle hazardous materials and hazardous wastes in a safe and environmentally sound manner.

13.23 Material Safety Data Sheets (MSDS): Material Safety Data Sheets (MSDS) for all Hazardous Materials and Hazardous Waste at the Work shall be on file with Owner, and Contacting Officer, and Design-Builder's Office at the Project Site.

13.24 On-site Hazardous Waste Management: Design-Builders are prohibited by 10 U.S.C.2692 from storing Design-Builder owned waste on site for any length of time. Design-Builder shall be responsible for ensuring compliance with all Federal, state, and local hazardous waste laws and

regulations and shall verify those requirements when preparing reports, waste shipment records, hazardous waste manifests, or other documents. Design-Builder shall identify hazardous wastes using criteria set forth in 40 CFR 261 or all applicable state and local laws, regulations, and ordinances. When accumulating hazardous waste on-site, Design-Builder shall comply with generator requirements in 40 CFR 262 and any applicable state or local law or regulations. On-site accumulation times shall be restricted to applicable time frames referenced in 40 CFR 262, Section .34 and any applicable state or local law or regulation. Accumulation start dates shall commence when waste is first generated (i.e. containerized or otherwise collected for discard). Design-Builder shall only use containers in good condition and compatible with the waste to be stored. Design-Builder shall be responsible for ensuring containers are closed except when adding or removing waste. Design-Builder shall be responsible for immediately marking all hazardous waste containers with the words "hazardous waste" and other information required by 40 CFR 262, Section .32 [and] [any applicable state or local law or regulation] as soon as the waste is containerized. An additional marking shall be placed on containers of "unknowns" designating the date sampled, and the suspected hazard. Design-Builder shall be responsible for inspecting containers for signs of deterioration and shall be responsible for responding to any spills or leaks. Design-Builder shall inspect all hazardous waste areas weekly and shall provide written documentation of the inspection. Inspection logs shall contain date and time of inspection, name of individual conducting the inspection, problems noted, and corrective actions taken.

13.25 Hazardous Waste Classification: Design-Builder, in consultation with the waste generator, shall identify all waste codes applicable to each hazardous waste stream based on requirements in 40 CFR 261 or any applicable state or local law or regulation. Design-Builder shall also identify all applicable treatment standards in 40 CFR 268 and state land disposal restrictions and shall make a determination as to whether or not the waste meets or exceeds the standards. Waste profiles, analyses, classification and treatment standards information shall be submitted to Contacting Officer for review and comments, if any. Review by the Contacting Officer, with or without comments, shall not relieve the Design-Builder of total, full, and complete responsibility for all Hazardous Materials and Waste. Review by the Contacting Officer, with or without comments, shall not relieve the Design-Builder of total, full, and complete responsibility for all Hazardous Waste.

13.26 Management Plans: Design-Builder shall prepare a plans detailing the manner in which hazardous materials and hazardous wastes will be managed and describing the types and volumes of hazardous materials and hazardous wastes anticipated to be managed as well as the management practices to be utilized. The plan shall identify the method to be used to ensure accurate piece counts and/or weights of shipments: shall identify waste minimization methods, shall propose facilities to be utilized for treatment, storage, and/or disposal; shall identify areas on-site where hazardous wastes are to be handled, shall identify whether transfer facilities are to be utilized, and if so, how the wastes will be tracked to ultimate disposal.

13.27 Hazardous Waste Management: Design-Builder shall use RCRA Subtitle C permitted facilities which meet the requirements of 40 CFR 264 or facilities operating under interim status which meet the requirements of 40 CFR 265. Off-site treatment, storage, and/or disposal facilities with significant RCRA violations or compliance problems (such as facilities known to be releasing hazardous constituents into ground water, surface water, soil, or air) shall not be used.

13.28 Description of TSD Facility and Transporter: Design-Builder shall provide the Contacting Officer with EPA ID numbers, names, locations, and telephone numbers of TSD facilities and transporters. This information shall be contained in the Hazardous Waste Management Plan for approval prior to waste disposal.

13.29 Status of the Facility: Facilities receiving hazardous waste must be permitted in accordance with 40 CFR 270 or operating under interim status in accordance with 40 CFR 265 requirements, or must be permitted by an authorized state program. Additionally, prior to using a TSD Facility, Design-Builder shall contact the EPA Regional Off-site Coordinator specified in 40 CFR 300, Section .440, to determine the facility's status, and document all information necessary to satisfy the requirements of the EPA Off-Site policy and furnish this information to the Contacting Officer.

13.30 Shipping Documents and Packagings:

13.30.1 Certification: Prior to shipment of any hazardous material off-site, Design-Builder's TDC shall provide written certification to the Contacting Officer that hazardous materials have been properly packaged, labeled, and marked in accordance with Department of Transportation and EPA requirements.

13.30.2 Transportation: Design-Builder shall use manifests for transporting hazardous wastes as required by 40 CFR 263 or any applicable state or local law or regulation. Transportation shall comply with all requirements in the Department of Transportation referenced regulations in the 49 CFR series. Design-Builder shall acquire manifests in accordance with the hierarchy established in 40 CFR 262, Section .21. Design-Builder shall prepare hazardous waste manifests for each shipment of hazardous waste shipped off-site. Manifests shall be completed using instructions in 40 CFR 262, Subpart B and any applicable state or local law or regulation. Manifests and waste profiles shall be submitted to Contacting Officer for review and comments, if any. Review by the Contacting Officer, with or without comments, shall not relieve the Design-Builder of total, full, and complete responsibility for all Hazardous Materials and Waste. Design-Builder shall prepare land disposal restriction notifications as required by 40 CFR 268 or any applicable state or local law or regulation for each shipment of hazardous waste. Notifications shall be submitted with the manifest to the Contacting Officer for review and comments, if any. Review by the Contacting Officer, with or without comments, shall not relieve the Design-Builder of total, full, and complete responsibility for all Hazardous Materials and Waste.

13.31 Treatment and Disposal of Hazardous Wastes: Hazardous waste shall be transported to an approved hazardous waste treatment, storage, or disposal facility within 90 days of the accumulation start date on each container. Design-Builder shall ship hazardous wastes only to facilities which are properly permitted to accept the hazardous waste or operating under interim status. Design-Builder shall ensure wastes are treated to meet land disposal treatment standards in 40 CFR 268 prior to land disposal. Design-Builder shall propose TSD facilities via submission of the Hazardous Waste Management Plan, subject to the approval of the Contacting Officer.

13.32 Hazardous Materials Management: Design-Builder, in consultation with the generator, shall evaluate, prior to shipment of any material off-site, whether the material is regulated as a hazardous waste in addition to being regulated as a hazardous material this shall be done for the purpose of determining proper shipping descriptions, marking requirements, etc., as described below.

13.33 Identification of Proper Shipping Names: Design-Builder shall use 49 CFR 172, Section .101 to identify proper shipping names for each hazardous material (including hazardous wastes) to be shipped off-site. Proper shipping names shall be submitted to the Contacting Officer in the form of draft shipping documents for review and comments, if any. Review by the Contacting Officer, with or without comments, shall not relieve the Design-Builder of total, full, and complete responsibility for all Hazardous Materials and Waste.

13.34 Packaging, Labeling, and Marking: Design-Builder shall package, label, and mark hazardous materials/wastes using the specified materials and in accordance with the referenced authorizations. Design-Builder shall mark each container of hazardous waste of 418 L (104 gallons) or less with the following: "HAZARDOUS WASTE - Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the U.S. Environmental Protection Agency. Generator's Name. Manifest Document Number".

13.35 Shipping Documents: Design-Builder shall ensure that each shipment of hazardous material sent off-site is accompanied by properly completed shipping documents.

13.35.1 PCB Waste Shipment Documents: \Design-Builder shall prepare hazardous waste manifests for each shipment of PCB waste shipped off-site. Manifests shall be completed using instructions in 40 CFR 761, Sections .207 and .208 and all other applicable requirements. Documents shall be

submitted to Contacting Officer for review and comments, if any. Review by the Contacting Officer, with or without comments, shall not relieve the Design-Builder of total, full, and complete responsibility for all Hazardous Materials and Waste.

13.35.2 Asbestos Waste Shipment Documents: Design-Builder shall prepare waste shipment records as required by 40 CFR 61 for shipments of asbestos. Waste shipment records shall be submitted to the Contacting Officer for review and comments, if any. Review by the Contacting Officer, with or without comments, shall not relieve the Design-Builder of total, full, and complete responsibility for all Hazardous Materials and Waste. Waste shipment records shall be signed by Design-Builder.

13.35.3 Other Hazardous Material Shipment Documents: The bill of lading shall satisfy the requirements of 49 CFR 172, Subpart C, [and 40 CFR 279 if shipping used oil] and any applicable state or local law or regulation, and shall be submitted to the Contacting Officer for review and comments, if any. Review by the Contacting Officer, with or without comments, shall not relieve the Design-Builder of total, full, and complete responsibility for all Hazardous Materials and Waste. For laboratory samples and treatability study samples, Design-Builder shall prepare bills of lading and other documentation as necessary to satisfy conditions of the sample exclusions in 40 CFR 261, Section .4(d) and (e) and any applicable state or local law or regulation. Bill of Ladings requiring shipper's certifications [will] [shall] be signed by the [Owner] [Design-Builder].

13.36 Obtaining EPA ID Numbers: Design-Builder shall complete EPA Form 8700-12, Notification of Hazardous Waste Activity, and submit to the Contacting Officer for review and comments, if any. Review by the Contacting Officer, with or without comments, shall not relieve the Design-Builder of total, full, and complete responsibility for all Hazardous Materials and Waste. Design-Builder shall allow a minimum of 30 days for processing the application and assigning the EPA ID number. Shipment shall be made not earlier than one week after receipt of the EPA ID number.

13.37 Waste Minimization: Design-Builder shall minimize the generation of hazardous waste to the maximum extent practicable. Design-Builder shall take all necessary precautions to avoid mixing clean and contaminated wastes. Design-Builder shall identify and evaluate recycling and reclamation options as alternatives to land disposal. Requirements of 40 CFR 266 shall apply to: hazardous wastes recycled in a manner constituting disposal, hazardous waste burned for energy recovery, lead-acid battery recycling, and hazardous wastes with economically recoverable precious metals.

13.38 Record Keeping: Design-Builder shall be responsible for maintaining adequate records to support information provided to the Contacting Officer regarding exception reports, annual reports, and biennial reports. Design-Builder shall be responsible for maintaining asbestos waste shipment records for a minimum of 3 years from the date of shipment or any longer period required by any applicable law or regulation or any other provision of this contract.

13.39 Spill Response: Design-Builder shall respond to any spill of hazardous material or hazardous waste which are in the custody or care of Design-Builder pursuant to this contract. Any direction from the Contacting Officer concerning a spill or release shall not be considered a change under the contract. Design-Builder shall comply with all applicable requirements of Federal, state, or local laws or regulations regarding any spill incident.

13.40 Emergency Contacts: Design-Builder shall be responsible for complying with the emergency contact provisions in 49 CFR 172, Section .604. Whenever Design-Builder ships hazardous materials, Design-Builder shall provide a 24 hr emergency response contact and phone number of a person knowledgeable about the hazardous materials being shipped and who has comprehensive emergency response and incident mitigation information for that material, or has immediate access to a person who possesses such knowledge and information. The phone must be monitored on a 24 hour basis at all times when the hazardous materials are in transportation, including during storage incidental to transportation. Design-Builder shall ensure that information regarding this emergency contact and phone number are placed on all hazardous material shipping documents. Design-Builder shall designate an emergency coordinator and post the following information at areas in which hazardous wastes are managed: The name of the emergency

coordinator. Phone number through which the emergency coordinator can be contacted on a 24 hour basis. The telephone number of the local fire department. The location of fire extinguishers and spill control materials."

CHAPTER 00 97 00
CONTRACT DEFINITIONS

APPLICABILITY: THESE DEFINITIONS ARE INTEGRAL TO THE AGREEMENT.

DOCUMENTS

A. Contract Documents: Those documents identified in the Agreement.

B. Conceptual Documents (Request for Proposals Documents):

1. The Contracting Requirements
2. The Program Requirements
3. The Performance Requirements.
4. The Product Specifications.
5. The Design and Construction Procedures.

C. Project Program: The Owner's requirements for size, arrangement, organization, and location of functional spaces, description of space functions, identification of fittings, equipment, and furnishings, description of the physical and environmental requirements for each space, together with a description of the image, goals, or "mission" of the project.

D. Proposal: The Proposal Form and Exhibits, which comprise the information prepared by the Prospective Proposers to show their method of complying with the Conceptual Documents.

1. The Proposal period is the time frame during which Prospective Proposers prepare their Proposals.
2. Substantiation submittals specified to occur during the Proposal period are intended to accompany the Proposal.

DESIGN AND CONSTRUCTION PHASES OR STAGES

A. Schematic Design: The process of finalizing the design criteria and preparing schematic design drawings and written descriptions to illustrate the proposed design of the work or a portion of the work to the Owner, as described in the Conditions of the Contract and the Design and Construction Procedures.

1. The end of the Schematic Design period is a Milestone.

B. Design Development: The process of determining the form, arrangement, size, and materials of the work or a portion of the work, as described in the Conditions of the Contract and the Design and Construction Procedures.

1. The end of Design Development is the time at which the Design Development documents are complete.
2. The end of Design Development for the project as a whole is a Milestone.

C. Construction Documents: The process of preparing working drawings, specifications, and other documents describing the work or a portion of the work in sufficient detail to allow accurate and complete construction, as described in the Design and Construction Procedures.

1. The end of Construction Documents for the project as a whole is a Milestone.
2. The end of Construction Documents is the time at which all portions of the Construction Documents are complete.

D. Construction:

1. The Construction period is the time from the beginning of work on the project site until final payment as defined by the Conditions of the Contract.

E. Substantial Completion: As defined in the Conditions of the Contract; prerequisites are:

1. Design-Builder's complete punchlist of items to be completed.
2. Owner's complete punchlist of items to be completed.
3. Compliance with requirements of governing authorities, for submittals, inspections, and permits.
4. Compliance with Owner's requirements for access to areas occupied by the Owner.
5. Commissioning.
6. Final cleaning.
7. Maintenance manuals.
8. Warranties.
9. Spare parts and extra materials.
10. Maintenance supplies and tools.
11. Project record documents.
12. Training of Owner's personnel.
13. Maintenance plan.
14. Occupancy certificate from authorities having jurisdiction.

F. Closeout: The process of completing all details of construction.

1. The Closeout period is the time from the Date of Substantial Completion until final payment, both as defined by the Conditions of the Contract.
2. Before and during the Closeout period, the Owner will ascertain whether the completed project complies with the Contract Documents.

G. Occupancy: The period during which the project is occupied for its intended purpose.

1. The Occupancy period begins at the Date of Substantial Completion, as defined by the Conditions of the Contract.
2. Owner is responsible for operation and maintenance of the project during Occupancy, unless specifically indicated otherwise for certain items.

H. Correction Period: Function and time frame as defined by the Conditions of the Contract.

END OF SECTION 00 97 00

SECTION 01000 - PROGRAM OF FACILITIES REQUIREMENTS

PART 1 GENERAL

1.1 INTRODUCTION

The following program and related technical specifications are intended to result in the completion of the **FedEx Hangar Mechanical and Electrical Upgrade Design-build.** All work shall be completed within the property boundaries of the FedEx Hangar including support buildings and tanks.

A. BASIC SCOPE: **The following items of work, in conjunction with the design-build bridge drawings and technical specifications, identify the minimum Basic Scope for the project:**

B. PROJECT BACKGROUND -The FedEx Maintenance Hanger and supporting Fire Suppression Building were constructed in 1990 and are a key component of the FedEx distributions center. As such, it is critical to their operations that they provide aircraft maintenance in a reliable, modern facility on a 24/7 basis. To that end AIDEA (facility owner) has agreed to upgrade priority elements within the facility. These elements include upgrades to the fire suppression, mechanical and electrical systems for the hanger.

C. SCOPE ELEMENTS: Upgrade the fire suppression, mechanical and electrical systems for the hangar and fire suppression building.

1.2 PROGRAM OF FACILITIES REQUIREMENTS

A. General Design Requirements: The basic scope of work is described in the RFP documents and includes the following items: General conditions (Division 00 and 01), Technical Divisions 21, 23, 26, and 28.

B. The Design-Builder shall provide materials that either meet or exceed the quality level depicted in the Contract Documents.

C. Storm Water Pollution Prevention Plan Requirements: The total ground-disturbing activities for this project are **not** anticipated to exceed 1-acre; therefore, authorization to conduct construction activities under the National Pollution Discharge Elimination System (NPDES) Storm Water Construction General Permit (CGP) is not anticipated to be required.

1. The DESIGN-BUILDER construction activities shall remain within the project area boundaries delineated on the approved design.
2. **NOTE: The DESIGN-BUILDER shall fully comply with ALL procedures and requirements of the USEPA/DOT&PF Clean Water Act Consent Decree and the Alaska Department of Environmental Conservation storm water permitting authority at no additional cost to OWNER.**
3. Additional storm water compliance information is available at the website below or by contacting the Owner's Representative:

http://www.dot.state.ak.us/stwddes/desenviron/resources/stormwater.shtml

B.PRODUCTS - Not Used

C.EXECUTION - Not Used

END OF SECTION 010000

SECTION 01 01 60 DESIGN SUBMITTALS

PART 1 – GENERAL

1.01 DESIGN/BUILD BRIDGE DOCUMENTS

A. The Design/Build Bridge Documents will be used for bidding purposes only. The Bridge Documents do not represent completed construction drawings and are intended only to describe the detailed scope of the project and level of quality expected in the final design to be prepared by the contractor.

B. The contractor will be provided an electronic copy of the Design/Build Bridge Documents in AutoCAD format. The Owners purpose is to provide the contractor with information and comes with the disclaimer that the Contractor takes full responsibility for their use. The contractor must complete the project design as the A/E of record.

1.02 DESIGN PACKAGE

A. The Contractor's design package shall consist of construction drawings, construction specifications, construction submittal register, design analysis, and design calculations.

B. Design submittals are required at the 65%, 95%, and Construction Document design stages.

C. An incomplete submittal, as determined by the Owner shall be grounds for a resubmittal by the Contractor at no additional cost to the Owner.

D. The Contractor shall provide the design submittals for review by the Owner in accordance to the project schedule.

E. The Owner will review and comment on the submittals.

1. The Owner will have 14 working days after receipt of the design submittal to return comments.
2. The comments will be consolidated and numbered, and provided to the Contractor in electronic (Excel or Word) form.

F. A review conference will be held approximately one week after the Contractor receives the Owner's comments to provide the designers opportunities to ask for clarification and to resolve issues raised by the review.

1. Two working days prior to the meeting, the Contractor shall provide a written list of comments that designers need additional clarification on or take issue with.

2. The meeting will be held at the Arcadis Office located at 880 H. Street, Suite 101; Anchorage Alaska, 99501. The Contractor shall have the designers available in person or by conference call to address comments and issues.
3. The Contractor shall prepare a written record of the review conference, and distribute to participants within five working days after the conference.

G. All review comments shall be annotated with their resolution clearly stated by the Contractor and provided with the next design submittal.

1.03 DESIGN SUBMITTAL REQUIREMENTS

A. Design Analysis shall include:

1. A written narrative prepared for each design discipline describing the design process. Site specific design criteria shall be listed, design assumptions and solutions shall be discussed, referenced standards listed, design methodology discussed.
2. Calculations supporting the design as presented in the drawings and specifications, and the selection of materials, members, and equipment.
3. Cut sheets of construction materials, equipment, and products.
4. Calculations, reports, and cut sheets shall be organized by discipline and bound under separate cover from the written narrative.
5. Each page of the design analysis shall be numbered in the lower right corner.

B. Design Drawings

1. All design drawings shall be prepared in AutoCAD Release 2014.
2. Drawings shall clearly show the elements of construction work necessary to complete the project.
3. Drawings shall be arranged by discipline (Civil, Architectural, Structural, Mechanical, Electrical, Fire Protection as a minimum). Other specialty drawings may be included as determined to be necessary by the Designers of Record.
4. Demolition shall be shown on drawings separate from new construction work.
5. A graphic scale shall be provided on each sheet that includes scaled drawings or details.

C. Specifications

1. Technical specifications specific to the project shall be developed by the Designers of Record for their work. Specifications shall be inclusive of all construction work elements.
2. Specifications shall be prepared in 2004 CSI format, with subsections covering general requirements, product requirements, and installation requirements.
3. Specifications shall identify construction submittals and testing that the Designers of Record determine necessary to confirm the quality of construction.

1.04 65% DESIGN SUBMITTAL

A. The 65% design package shall consist of a design analysis, drawings, specifications, and submittal register.

B. The design analysis shall address the designers' intent for accomplishing the design. In addition to the overall design considerations, the narrative shall include:

1. Description of mechanical and electrical systems.
2. Data sheets / catalog cuts on the major mechanical equipment.

C. Drawings shall be provided showing, at a minimum:

1. Demolition plan showing site elements to be removed.
2. Plumbing, heating, and ventilation plans, with enlarged plans of the mechanical room.
3. Power, lighting, and communication plans.

D. Technical specifications, edited for the project.

E. Submittal register for construction submittals shall be included, based on the submittal requirements listed in the specifications.

F. The contractor shall provide four sets of full size drawings and all documents in hard copy to the owner.

1.05 95% DESIGN SUBMITTAL

A. The 95% design package shall include final design analysis, drawings, and specifications.

B. The design analysis shall be complete, with all narratives, calculations, reports included.

C. Annotated 65% comments shall be included as a separate section in the design analysis.

D. Drawings shall be completed, ready for sealing and signature.

E. Specifications shall be completed.

F. The intent is for the review by the Owner to result in few, if any comments.

1. A substantial number of comments, or comments indicating substantial issues with constructability or non-compliance with the RFP may constitute grounds for requiring another, more complete, 95% submittal. No additional compensation shall be due the Contractor for re-submitting.

G. The contractor shall provide four sets of full size drawings and all documents in hard copy to the owner.

1.06 CONSTRUCTION DOCUMENT SUBMITTAL

A. The construction document submittal shall consist of documents issued for construction.

B. The drawings, engineering reports, and structural calculations shall be sealed and signed by the appropriate Designers or Record.

C. Annotated 95% comments shall be included as a separate section in the design analysis.

D. The Contractor shall provide four sets of all documents in hard copy to the owner.

1. Drawings shall include 8 sets of full size and 8 sets of ½ size.

E. Hard copies of drawings, calculations, inspection plans, and specifications shall be provided by the Contractor directly to the appropriate reviewing agencies for plan review and construction permits.

F. The 100% design documents shall also be provided in electronic format.

1. Drawings shall be provided in PDF format (with seal and signature) and AutoCAD Release 2014 or later (with seal removed).
2. The remaining 100% submittal documents shall be provided in PDF format.

1.07 ACCELERATED / SPLIT DESIGN

A. At the Contractor’s request, the Owner will consider an accelerated or split design process.

1. The Contractor shall present a proposed plan and schedule for review, and justification for the request.
2. No additional compensation shall be due the Contractor for acceleration or splitting the design effort.

END OF SECTION 010160

SECTION – 01027 - APPLICATIONS FOR PAYMENT

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

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

1.02 RELATED REQUIREMENTS

A. Document 00 51 00 - Construction Contract and Bid Schedule: Method of Payment and Contract Price and Amounts of Liquidated Damages.

B. Document 00 92 00 - General Conditions: Progress Payments, and Final Payment.

C. Section 01 30 00 - Submittals: Procedures.

D. Section 01 32 00 – Project Schedule.

E. Section 01 37 00 – Schedule of Values.

F. Section 01 70 00 - Contract Closeout: Closeout Procedures.

1.03 FORMAT

A. Application for Payment form in format approved by the CONTRACTING AGENCY.

1.04 PREPARATION OF APPLICATIONS

A. Type required information on Application for Payment form approved by CONTRACTING AGENCY.

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. Provide dollar value in each column for each line item for portion of Work performed and for stored products.

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. Prepare Application for Final Payment as specified in Section 01 70 00.

1.05 SUBMITTAL PROCEDURES

A. Submit two copies of each Application for Payment at times stipulated in Contract.

B. Submit under transmittal letter specified in Section 01 30 00.

1.06 SUBSTANTIATING DATA

A. When the CONTRACTING AGENCY requires substantiating information, submit data justifying line item amounts in question.

B. Substantiating data required under General Conditions shall be submitted (or updated) when the Application for Payment includes a current request for payment on an item of Work required to include Alaska "agricultural/wood" products.

C. Provide one copy of data with cover letter for each copy of Application. Show Application number and date, and line item by number and description.

1.07 SUBMITTALS WITH APPLICATION FOR PAYMENT

A. Submit the following with each Application for Payment.

1. Updated construction schedule as required by Section 01 32 00 – Project Schedule.
2. Updated Schedule of Values as required by Section 01 37 00 –Schedule of Values.
3. The contractor’s as-builts will be reviewed prior to approving each application for payment.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 02 80 - CHANGE ORDER PROCEDURES

PART 1GENERAL

1.01 REQUIREMENTS INCLUDED

A. Procedures for processing Change Orders.

1.02 RELATED REQUIREMENTS

A. Document 00 31 20 - Bid Schedule: Total amount bid for lump sum items

B. Document 00 51 00 - Contract Form: Total amount of Contract Price, as awarded

C. Document 00 92 00 - General Conditions: Governing requirements for changes in the Work, in Contract Price, and Contract Time.

D. Section 01 02 70 - Applications for Payment.

E Section 01 30 00 - Submittals

F. Section 01 32 00 – Project Schedule.

G. Section 01 37 00 - Schedule of Values.

H. Section 01 60 00 – Material and Equipment.

I. Section 01 70 00 – Contract Closeout.

1.03 SUBMITTALS

A. Submit name of the individual authorized to accept changes, and to be responsible for informing others in DESIGN-BUILDER's employ of changes in the Work.

B. Change Order Forms will be prepared by the CONTRACTING AGENCY.

1.04 DOCUMENTATION OF CHANGE IN CONTRACT PRICE AND CONTRACT TIME

A. Maintain detailed records of work done on a Cost of the Work plus a Fee 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. DESIGN-BUILDER 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. Overhead and profit.

4. Justification for any change in Contract Time.

5. Credit for deletions from Contract, similarly documented.

D. Support each claim for additional costs, and for work done on a cost of the Work plus a Fee 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.

1.05 PRELIMINARY PROCEDURES

A. CONTRACTING AGENCY 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. DESIGN-BUILDER may initiate a change by submittal of a request to CONTRTACTING AGENCY 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.

1.06 CONSTRUCTION CHANGE AUTHORIZATION

A. Shall be in accordance with Article 9 - Changes: in Document 00 92 00 - General Conditions as modified by the Special Conditions.

1.07 FIXED PRICE CHANGE ORDER

A. DESIGN-BUILDER shall submit an itemized price proposal in sufficient detail to fully explain the basis for the proposal. Attach invoices and receipts for products, equipment, subcontracts, and as requested by the CONTRACTING AGENCY. DESIGN-BUILDER and the CONTRACTING AGENCY 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 DESIGN-BUILDER may be directed to perform the work under COST OF THE WORK CHANGE ORDER.

B. The following maximum rates of cost markup (to cover both overhead and profit of the DESIGN-BUILDER) shall be used in the negotiation of a “Fixed –Price” Change Order:

1. 15% - where a cost is borne directly by prime contractor.

2. 10% - where a cost is borne by a subordinate contractor

C. These terms shall also apply to the proposal of subcontractors and allowances.

D. Will be based on proposal request and DESIGN-BUILDER's lump sum quotation or DESIGN-BUILDER's request for Change Order as approved by the CONTRACTING AGENCY.

1.08 UNIT PRICE CHANGE ORDER

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

B. For unit costs or quantities of units of Work which are not predetermined, execute Work under a Directive. Changes in Contract Price or Contract Time will be computed as specified for cost of the Work plus fee via Change Order.

1.09 COST OF THE WORK CHANGE ORDER

A. DESIGN-BUILDER shall submit documentation required in 1.04 on a daily basis for certification by the Project Manager. Project Manager will indicate by signature that the submitted documentation is acceptable.

B. After completion of the change and within 14 Calendar Days, unless extended by the Project Manager, the DESIGN-BUILDER shall submit in final form an itemized account with support data of all costs. Support data shall have been certified by the Project Manager, as required above in paragraph A.

1.10 EXECUTION OF CHANGE ORDERS

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

1.11 CORRELATION OF DESIGN-BUILDER 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 sub-schedules to adjust times for other items of Work affected by the change, and resubmit.

C. Promptly enter changes in project record documents.

PART 2 PRODUCTS

[Not Used]

PART 3 EXECUTION

[Not Used]

END OF SECTION

SECTION 01 04 10 - WORK COORDINATION

PART 1 GENERAL

1.01. SUMMARY

A. This Section describes coordination of Work within this job and with work of other contracts.

1.02. RELATED REQUIREMENTS

A. Section 00 92 00 – General Conditions

B. Section 01 00 00 – Program Requirements

C. Section 01 05 00 – Design and Construction Procedures

1.03. REQUIREMENTS

A. Coordinate work of various sections of Specifications to assure efficient and orderly sequence of installation of construction elements, with provisions for accommodating items installed by CONTRACTING AGENCY or under separate contracts

B. Verify that characteristics of elements of interrelated operating equipment are compatible; coordinate work of various sections that have interdependent responsibilities for installing connection to, and placing such equipment in service.

C. Coordinate space requirements and installation of electrical, mechanical, and other special work, which are indicated diagrammatically on the Contract Drawings. Follow routing shown for ducts, conduits, pipes etc., as closely as practicable; make runs parallel with lines of buildings and roads. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

D. Whenever the Work of a SUBCONTRACTOR is dependent upon the Work of other SUBCONTRACTOR's, CONTRACTOR's, or utility company contractors installing utilities under contract with the CONTRACTING AGENCY, then the DESIGN-BUILDER shall require the SUBCONTRACTOR to:

1 Coordinate its Work with the dependent work.

2 Provide dependent data and requirements.

3 Supply and install items to be built into dependent work of others.

4 Make provisions for dependent work of others.

5 Examine dependent drawings, specifications and submittals.

6 Examine previously placed dependent work.

7 Check and verify dependent dimensions of previously placed work.

8 Notify DESIGN-BUILDER of previously placed dependent work or dependent dimensions, which are unsatisfactory or will prevent a satisfactory installation of its Work.

9 Not proceed with its Work until the unsatisfactory dependent conditions have been corrected.

10 DESIGN-BUILDER shall require SUBCONTRACTORs to participate in coordination meetings as required by the CONTRACTING AGENCY.

1.04. COOPERATION WITH UTILITIES

A. The DESIGN-BUILDER shall coordinate with utility companies and endeavor to have all necessary adjustments to be made by others completed as soon as practicable.

1.05. USE OF PREMISES

A. Coordinate use of premises under direction of CONTRACTING AGENCY.

B. Assume full responsibility for protection and safekeeping of products under this contract.

C. Assume full responsibility for protecting the site and the User Agency's buildings, utilities, and equipment from damage due to construction operations.

D. Do not stop or otherwise impede traffic without prior written approval from the Project Manager.

1.06. USER AGENCY OCCUPANCY

A. The User Agency will continue to operations adjacent to the site during the entire construction period. Cooperate with the CONTRACTING AGENCY in scheduling operations to minimize conflict and to facilitate User Agency operations.

B. CONTRACTOR shall provide Material Safety Data Sheets for all products that may produce unpleasant odors.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION

SECTION 01 05 00 - DESIGN AND CONSTRUCTION PROCEDURES

1.01. MANAGEMENT AND COORDINATION

A. Access to and Use of Site(s): Following the Notice to Proceed with construction, the Design-Builder shall have access to the building site. The Owner will occupy and use the south half of the Annex building during the construction phase. The Design-Builder will be allowed full access to the north half and limited access to the south half of the Annex. Design-Builder will be required to coordinate access and construction schedules with the Owner.

Access to the site prior to Notice-to-Proceed for construction shall be coordinated through the Contracting Agency. No on-site staging of materials or equipment will be allowed prior to the Notice to Proceed for construction.

B. Changes in the Work:

1. See Conditions of the Contract for procedures.
2. Requests for Information or Clarification of Owner's RFP: Owner's Representative
3. Requests for Substitutions from Approved Construction Documents: Owner's Representative
4. Requests for Modifications to Approved Construction Documents: Owner's Representative

C. Progress Schedule:

1. As specified in Section 01 32 00.

D. Progress Documentation for Owner Information:

1. During Schematic Design, Design Development, and Construction Documents Periods: Graphic displays and narratives sufficiently detailed to allow Owner to identify the status of the design.
2. During Construction and Closeout: Written reports, graphic displays, and/or photographs sufficiently detailed to allow the Owner to identify the status of the construction.

1.02. QUALITY REQUIREMENTS

A. Design Criteria: During development of the design, the design and performance criteria must be refined, finalized, and documented.

1. Pre-Design Conference shall be administered by the Design-Builder to assist in establishing the design criteria. The purpose of this conference is to clarify the design and performance criteria included in the RFP. Design-builder shall coordinate with the Owner to facilitate attendance by major Owner group Stakeholders. Design-builder group attendees should include the architect/engineer of record from each design discipline as well as a representative from each construction trade involved in the project. Design-Builder shall prepare a written record of the conference for review and approval by the Owner.

B. **Design and Construction Documents**:

1. Design Development Documents shall consist of the preparation, for review and approval by the Owner, drawings and other documents to fix and describe the size and character of the entire project as to architectural, civil, structural, mechanical, and electrical systems, materials and such other essentials as may be appropriate. The Design-Builder shall incorporate into the Design Development Documents resolution to comments made in response to the Schematic Design Documents and any Owner requested scope changes.

a. Design Development Documents include detailed expansion of the Program Data and Drawings so that the Project's size, appearance, form, construction type, and engineering systems are developed by means of drawings and appropriate written material. Major material selections, equipment items, and quality of finishes shall be identified.

b. Design Development drawings and specifications shall specifically include the following items:

   i Title sheet and site plan with details sufficiently developed to reflect the Project's major civil engineering design concepts including walks and landings at entrances.

   ii Exterior elevations reflecting major construction materials and locations of exterior wall openings

   iii Floor plans for all floors that are not repetitious, reflecting all door and window locations, wall construction, dimensions, square footage, and room titles.

   iv Structural slabs and framing plans sufficiently developed to reflect the intended structural system(s).

   v Room finish schedule or narrative sufficiently developed to reflect the intended materials, finishes and ceiling heights for all major rooms and spaces.

   vi Color and Material Boards for interior and exterior finishes including actual samples of materials and colors being proposed

   vii Mechanical drawings, schedules and diagrams or a narrative sufficiently developed to reflect the intended heating, ventilation and plumbing systems, and major mechanical elements to include preliminary equipment layouts.

   viii Electrical drawings, schedules and diagrams or a narrative sufficiently developed to reflect the specific power service, lighting, telephone, fire detection and alarm, security and electronic communications systems and identification of required equipment areas.

   ix Narrative and graphics sufficiently developed to reflect compliance with applicable code provisions for fire and life safety to include square footage, type of construction and occupancy, locations of fire-rated walls, partitions, ceilings/floor, and ceiling/roof assemblies, paths of egress, occupant loads, and other pertinent considerations.

   x Narrative outline of specifications, which reflect initial materials and systems selections for each section of the specifications, which shall follow the Construction Specifications Institute (CSI) MasterFormat, 50 Division format.

c. The Design-Builder shall submit to the Owner a statement of design and construction costs (or credits) associated with the Owner's comments and requested scope changes, if any.

d. The Design-Builder shall obtain and coordinate all preliminary reviews or approvals as required by government or private entities, which have regulatory authority over a proposed project. In addition, the Design-Builder shall obtain and coordinate all preliminary reviews or approvals with local, regional, state, and/or federal agencies having jurisdiction regarding applicable laws, statutes, regulations, and codes or privately owned utility companies or other entities that may impose conditions for a project and from such agencies as may be specifically designated by the Owner.

2. Construction Documents shall consist of drawings and specifications setting forth in detail the requirements for construction of the entire project, for approval by the Owner. The Design-Builder shall incorporate into the Design Development Documents resolution to comments made

in response to the Design Development Documents and any Owner requested scope changes.

a. The Design-Builder shall prepare a complete set of signed and sealed Construction Documents for the project in accordance with the latest edition of the Construction Specifications Institute Manual of Practice, Volume Two, Formats for Specifications and Manuals, and Manual of Practice, MasterFormat, Master List of Section Titles and Numbers, as may be revised and updated. (The term "Construction Documents" as used in this Agreement means the bid documents less the bidding requirements and contract forms.) Additionally, the Design-Builder is required to supply the construction documents on electronic media, i.e.; Adobe Acrobat © PDF files for drawings and specifications. Drawings and specifications shall specifically include the following carefully coordinated items:

   i Civil working drawings to represent graphically on and off-site improvements such as utilities, roadways, culverts, drainage, grading, excavation, compaction, shoring, underpinning, retaining walls, parking lots, waste systems, and fire extinguisher/water supply systems.

   ii Architectural working drawings, plans, elevations, sections and details, plus notes and schedules, illustrating the design, location, size, and dimensions of project components.

   iii Structural working drawings, which present graphically the complete structural concept of the project and includes plans, sections details, schedules, notes and other information.

   iv Detailed engineering working drawings for heating, ventilating, plumbing work, and engineering analysis. Mechanical working drawings should include plans, sections, details, schedules, diagrams, and notes.

   v Detailed engineering drawings for electrical work and engineering analysis. Electrical systems may include major power distribution, interior and exterior lighting, low voltage systems, direct current applications and emergency and special effects lighting. Electrical working diagrams should include plans, sections, details, schedules, diagrams, and notes.

   vi Project Manuals including detailed Civil, Architectural, Structural, Mechanical, and Electrical specifications describing related work, standards references, product descriptions, acceptable substitutions, and installation requirements as outlined in the Construction Specifications Institute Manual of Practice, Volume Two, Formats for Specifications and Manuals.

   vii The Design-Builder shall submit to the Owner copies of all engineering calculations that establish the size, shape, dimensions, and capacity of the work involved and energy calculations in a format acceptable to the Owner.

b. The Design-Builder shall obtain and coordinate all preliminary reviews or approvals as required by government or private entities, which have regulatory authority over a proposed project. In addition, the Design-Builder shall obtain and coordinate all preliminary reviews or approvals with local, regional, state, and/or federal agencies having jurisdiction regarding applicable laws, statutes, regulations, and codes or privately owned utility companies or other entities that may impose conditions for a project and from such agencies as may be specifically designated by the Owner.

c. The Design-Builder shall submit to the Owner a statement of design and construction costs (or credits) associated with the Owner's comments and requested scope changes, if any, provided upon approval of the Construction Documents.

C. Construction Phase Services

1. Construction Phase Services shall consist of providing assistance to the Owner in its oversight of the construction, commencing with the Notice to Proceed with construction and terminating following final acceptance of the Project and Owner approval of the Design-Builder's final invoice for all services throughout the construction phase.

2. The Design-Builder shall respond to Owner initiated requests through the Owner's Representative for clarifications of the Construction Documents including any inadequacies in the documents. The Design-Builder shall prepare appropriate instructions or modifications to the Construction Documents for field use. Design-Builder shall advise the Owner on those matters, which may affect the utilization of the project, or extra cost or additional time associated with Owner's change directives.

3. Project Meetings: As required in Section 01 20 00

4. The Design-Builder and its Design Consultants shall review, approve, or disapprove shop drawings, test results, samples, color selections, and other submissions of the contractor for conformance with the design concept of the Project and for compliance with the information given in the Construction Documents. The Design-Builder shall coordinate directly with the Subcontractors to obtain all submittals required by the Construction Documents and shall promptly notify the Owner concerning any submittals, or lack of submittals, which may delay construction progress. The Design-Builder and Design Consultants' approval of submittals must be in writing to the Subcontractors and copied to the Owner.

5. The Design-Builder's Design Consultant (Architect-of-Record) shall certify in each Application for Payment that the Consultant has personally inspected the Work, and that the Work represented by the Application has been constructed in accordance with the intent of the Design Consultant's Construction Documents.

6. Record Documents maintained and updated on site. The Design-Builder 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 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 Owner for reference and copying. Upon completion of the Work, the annotated record documents, samples and Shop Drawings will be delivered to the Owner. Record documents shall accurately record variations in the Work, which vary from requirements shown or indicated in the Contract Documents.

7. Upon notice of Substantial Completion, the Design-Builder and Design Consultants shall participate in a detailed final construction inspection with the Owner's Representative of all architectural, civil, structural, mechanical and electrical aspects of the Project. The Design-Builder and its Design Consultants shall assist the Owner's Representative in the preparation of a list identifying any deficiencies or items to be accomplished and may be required to participate in final re-inspection of the Project with the Owner's Representative to ascertain that the corrections have been made.

D. Substantiation Submittal Procedures:

1. Time Frames: As specified in Section 00 51 00; paragraph 5.2. If there is a conflict between the degree of detail or completion specified and the progress of the design or construction, obtain a clarification before submitting.

2. Recipient: Owner's Representative.

3. Number of Copies: 3 hardcopies, plus copy on electronic media for Owner's use and records;

Owner will return not more than one hardcopy.

4. For time periods that constitute Milestones, all substantiation submittals required during that period must be complete and accepted before the Milestone can be considered achieved.
5. Submit complete sets of documents containing all required items at the end of the following periods:
    a. Design Development period
    b. Construction Documents period: Refer to Section 01 05 00, Quality Requirements, Paragraph B.2.c. for requirements.
6. Resubmissions: Clearly identified as such, with all changes made since the original submittal clearly marked.

E. Owner's Review of Substantiation Submittals: Unless otherwise indicated, Owner will make formal acceptance of substantiation submittals.
    1. If a submittal is not acceptable, Owner will notify Design-Builder promptly.
    2. Allow minimum of 15 working days for review of major "end of period" submittals.

F. Substantiation Submittal Schedule: Prepare and maintain a complete schedule of substantiation submittal items, showing:
    1. Contents, for each item:
        a. Anticipated and actual item, with chapter and paragraph number and drawing identification, if any.
        b. Anticipated submittal date, or time period(s) during which submittal is required.
        c. Actual submittal date.
        d. Action taken or other status.
        e. Identification of future re-submission requirement, if any.
    2. If desired, schedule may be incorporated into overall progress schedule, provided substantiation submittal data can be reported separately from other progress information.
    3. Submission: To Owner, within 30 days after notice to proceed.
    4. Updates: To Owner, monthly in hard copy.

G. Field Testing and Inspection: Perform all testing, observations, and inspections necessary to assure quality (see Quality Assurance below).
    1. Exception: Tests and inspections indicated to be performed by Owner's special inspectors or other independent agency. Coordinate required services ahead of time with the Owner.
    2. Qualifications of Testing/Inspection Agencies:
        a. Qualified and equipped to perform applicable tests/inspection.
        b. Regularly engaged in testing and inspection activities on a commercial basis.
        c. Independent of Design-Builder and his Subcontractors' organizations.
        d. Authorized to operate in the state in which the project is located.
        e. Acceptable to Owner. Design-Builder shall provide firm independent of identified Owner’s special inspector.

f. Substantiation Submittal: Submittal of qualifications, based on ASTM E 329 and ASTM E 548.

3. Reports: Written report of each test/inspection; including complete details of conditions, methods, and results, signed by responsible individual.

H. Reference Standards: Where products or workmanship is specified by reference to a document not included in the Contract Documents, comply with the requirements of the document, except where more stringent requirements are specified.

1. Date of Issue: As indicated in each instance except where a specific date is established by code.

1.03. QUALITY ASSURANCE

A. General:

1. The Design-Builder shall provide a mechanism for monitoring the performance and products of its own forces, the Design Consultants, Subcontractors, and sub-subcontractors of all tiers, during all phases of the Work, for compliance with the Contract Documents and applicable regulatory requirements, and coordination and cooperation with the Owner.

B. Testing, Observations, and Inspections:

1. Except as indicated herein below, the Design-Builder shall provide all testing, observations, inspections, and reports.

C. IBC §1704 Special Inspections:

1. The Owner will provide, with his own forces, all “Special Inspections” required by IBC §1704.

2. The Design-Builder will be furnished a copy of all reports required by IBC §1704.

3. Inspection and testing by the Owner shall not relieve the Design-Builder of its responsibilities for testing, observations, and inspections necessary for quality assurance. The Design Builder shall correct all non-compliant work at no expense to the Owner.

4. The Design-Builder shall, to the best of its ability, and without compromising quality incorporate into the Project’s design materials and building systems that minimize “Special Inspections”, or that do not require “Special Inspections”, or are permitted exceptions to the “Special Inspections”.

5. The Design-Builder shall coordinate and schedule, including consideration for conserving resources, all “Special Inspections” described in IBC §1704 directly with the Owner’s “Special Inspectors”.

1.04. CLOSEOUT SUBMITTALS

A. Maintenance Manuals: Assemble system design information, operation and maintenance data, and copies of warranties into hard copy binders and compact disk (CD in Adobe Acrobat © pdf file format), organized by functional system (e.g. plumbing, HVAC, etc.) or material type (e.g., flooring, wall finishes, etc.) as appropriate using specification numbers where applicable.

1. Binders: 3-ring, D-ring, with hard cover, project title on spine, Table of Contents in each volume, and stiff dividers with labeled tabs; contents divided into logical binders not more than 3 inches thick.

2. Directory: Names, addresses, telephone numbers, of all design and construction entities,

including subcontractors and suppliers, with names of products supplied.

3. Software-Operated Systems and Equipment: Detailed program documentation, a general review of the programming approach, description of use on this project, and description of possible user-modifications.

4. Drawings: Updated As-builts, bound into manuals, folded to size of binder. Include electronic CADD file on the compact disk. Electronic Files shall be AutoCAD 2003 or later and files shall not have X-refs.

5. Product Listing: Manufacturer's brand name for each major product actually installed, in alphabetical order by generic product name, cross-referenced to specification numbers and Table of Contents of manuals.

6. Warranties: Photocopies of originals.

B. Project Record Documents: During construction, maintain on-site one set of all documents forming the contract, including drawings, recording all changes made by addenda, by formal modifications, and in performing the work, for Owner's future reference.

1. Storage: Separately from documents used for construction, in location where they can be kept clean and safe from fire and damage.

2. Changes to be Recorded Include:

a. Actual measured locations and ends of existing and abandoned below grade utilities.

b. Actual measured locations (horizontal and vertical) of foundations and concealed utilities and appurtenances, referenced to visible permanent appurtenances.

c. Field changes of dimension and detail and details not on original documents.

d. Actual products used, in specification, with brand name or model number.

3. Upon Final Completion, all changes recorded during construction shall be annotated on the electronic CADD files of the drawings and a complete electronic copy of all files submitted to the Owner’s Representative.

C. Spare Parts and Extra Materials: As specified for specific products; delivered to location on project site designated by Owner; with receipt from Owner.

D. Maintenance Supplies and Tools: As specified for specific products; delivered to location on project site designated by Owner; with receipt from Owner.

1.05. DEMONSTRATION AND TRAINING

A. Training: Perform training of Owner's personnel in operation and maintenance of equipment, consisting of:

1. Training is required for all software-operated systems, HVAC systems and equipment, plumbing equipment, electrical systems and equipment, and other electrically-operated equipment.

2. Instruction in operation, control, adjustment, shut-down, servicing, troubleshooting, and maintenance, for each equipment item for which training is specified.

3. Instruction in care, cleaning, maintenance, and repair of materials, for:

a. Each item for which training is specified.

b. Roofing, waterproofing, other weather-exposed or moisture protection products.

c. Finishes, including flooring.

d. Fixtures and fittings.

e. Items as specified in other Chapters.

4. Training Location: If not otherwise specified, conduct training on site, with DVD made for future use.

5. Minimum Qualifications of Trainers: Trainers must submit proof of manufacturer training, or recommendation, of the items and equipment they are training on. Knowledge of the overall project equipment performance when tied to a larger system (e.g., as a pump in a heating zone, in a heating system) is required and shall be demonstrated during training.

6. Maintenance Manuals: Ready for use in training.

1.06. OPERATION AND MAINTENANCE

A. Operation and Maintenance: Design-Builder is responsible for the following:

1. Preparation of maintenance plan for Owner's use, including description of maintenance activities, tools, and supplies required.

B. Maintenance Data: Design-Builder shall prepare Maintenance Instructions containing information required to operate, prolong service life, or replace parts of the Work.

1. Architectural: Maintenance includes all work necessary to maintain a Product in a "like new" state, including, but not limited to, cleaning, repair, and replacement of all or portions of the Product. Minimum requirements shall include maintenance (cleaning/repair/replacement) instructions for all exterior exposed finish materials, and all Products with a useful "life time" of twenty five (25) years or less, and all Products requiring periodic maintenance at any time throughout a Product's useful "life time", and all Products with movable parts.

2. Mechanical: The Design-Builder shall prepare separate mechanical, HVAC, operating and maintenance instructions containing information to operate, prolong service life, or replace parts of the work. Operating and maintenance data shall specifically include:

a. Pipe and duct identification schedules.

b. Equipment nameplate directory with a list of all equipment indicating Owner’s formatted designation, location of equipment, manufacturers' name, model number, serial number, electrical characteristics, primary control switch location and normal position of switch.

c. Valve directory indicating valve number, size, location, function, service, type and normal position.

d. Factory and Field start-up testing reports.

e. Air and hydronic test and balance report.

f. Mechanical HVAC Equipment Literature: For all equipment, fixtures, devices, valves and specialties, provide the following:

i Manufacturer's data sheets and cut sheets.

ii Model and serial numbers.

iii Capacity curves, charts and calculations.

iv Electrical characteristics.

v Replacement parts list.

vi As-built equipment piping diagrams.

vii As-built equipment wiring diagrams.

viii Manufacturers' instructions for operation and maintenance.

ix Completely mark out on all literature sheets all non-applicable items.

x Where piping and wiring diagrams are not available from the manufacturer, they shall be produced by the Contractor.

xi Literature shall be grouped together by system, i.e., plumbing, heat generation, etc. For each system section, the Design-Builder shall produce and include a basic system written narrative description. Each narrative shall be comprised of the following:

1) Brief system description, including sequence of operation.

2) Basic system function discussion, including any interaction with other systems or components.

3) Primary system preventive maintenance procedures.

4) How to isolate all major components.

5) How to drain, fill and vent liquid systems.

6) How to drain, clean and refill all tanks, pumps and tube bundles.

7) How to clean coils and change air filters for air systems.

8) Emergency shut-down procedures.

g. Master Maintenance Schedule: List each item of mechanical and/or HVAC equipment requiring inspection and maintenance, showing component maintenance required and the intervals when such inspection and maintenance shall be performed (daily, weekly, monthly, semi-annually, etc.). For each item, reference the page within the maintenance manual where detailed manufacturers' maintenance instructions can be found.

3. Electrical: A one line diagram showing the service and feeder system with raceway, and conductor sizes. A blue-line print folded to 8-1/2" x 11" size indicating the location of end points of all conduits roughed in below grade for future extension. The conduit locations shall be dimensioned from a clearly identified reference point above grade. Each conduit shall be identified to indicate purpose, size and depth below finish grade.

4. Parts List: A complete parts list for each Product.

5. List of Subcontractors: Description of Work completed by Subcontractor.

6. Subcontractor Data: Name, Address, Telephone Number. Person responsible for Work done by Subcontractor.

7. List of Suppliers: Description of Equipment, Material, System, etc. supplied by Supplier.

8. Supplier Data: Name, Address, Telephone Number. Person responsible for Equipment, Material, System, etc. supplied by Supplier.

9. List of Manufacturers: Description of Equipment, Material, System, etc. supplied by Manufacturer.

10. Manufacturer Data: Name, Address, Telephone Number. Person responsible for Equipment, Material, System, etc. manufactured by Manufacturer.
11. Maintenance Data: Must be provided for the approval of the Owner at least thirty (30) days prior to Substantial Completion. If the approved maintenance instructions are not on hand at the time of Substantial Completion and/or occupancy, the Design-Builder, at his own expense, shall make all repairs, replacement, and installation of any components that may be destroyed or damaged due to the absence of specified instructions, and shall hold the Owner harmless.

END OF SECTION 01 05 00

SECTION 01 12 60 - CONTRACTOR'S CERTIFICATION OF SUBCONTRACTS

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Procedures to prepare, submit and accept subcontracts.

1.02 RELATED REQUIREMENTS

A. Document 00 02 20 – Design Build Evaluation Criteria, #2 Design Build Team (Prime and Subcontractors)

B. Document 00 30 00 – Design Build Proposal Form

C. Document 00 92 00 - General Conditions: Article 2.7.3, Subcontractors.

D. Section 01 30 00 - Submittals: Submittal Procedures.

1.03 PREPARATION OF CERTIFICATION

A. Certification Forms: Use only forms provided by DEPARTMENT.

B. DESIGN-BUILDER to prepare certification form in accordance with the instructions on the reverse side of form. 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.

D. DESIGN-BUILDER to prepare certification form for **all** Subcontractors.

1.04 SUBMITTAL OF CERTIFICATION

A. DESIGN-BUILDER shall submit the initial and all subsequent certification form(s) in accordance with the submittal requirements identified under paragraph 1.02.D, previous.

1.05 CONSIDERATION OF CERTIFICATION

A. Following receipt of submittal and within a reasonable period of time DEPARTMENT 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 DESIGN BUILDER under a transmittal letter denoting the deficiencies found. DESIGN BUILDER shall correct and resubmit per paragraph 1.04, previous.

C. SUBCONTRACTORS WHICH HAVE NOT BEEN APPROVED BY THE CONTRACTING AGENCY SHALL NOT BE ALLOWED ON SITE.

D. The CONTRACTING AGENCY will not process payments for work performed by a non-certified subcontractor.

1.06 ACKNOWLEDGEMENT OF CERTIFICATION

A. Submittals which have been examined by the CONTRACTING AGENCY and are determined to be complete and properly executed shall be acknowledged as such by the Department's project Manager on the approval line of the certification form.

1.07 CHANGES TO APPROVED SUBCONTRACTORS LIST

A. Deletion or Replacement of Subcontractors listed on approved document 00 30 00 Design Build Proposal Form or in the Offerors proposal, shall be in accordance with article 920-2.7.3.

1.08 ADDITION OF SUBCONTRACTORS NOT REQUIRED TO BE LISTED ON APPROVED SUBCONTRACTORS LIST

A. Addition of Subcontractors not required to be listed on approved document 00 30 00 Design Build Proposal Form or in the Offerors proposal shall require a DESIGN-BUILDERS certification of subcontractors

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

ALASKA INDUSTRIAL DEVELOPMENT EXPORT AUTHORITY	SUBCONTRACTOR CERTIFICATION	

Note: The referenced paragraphs in General Provisions sections do not apply to Small Procurement Contracts, however this form is still applicable and must be completed in full.

PROJECT: _____PROJ. #._____

PRIME DESIGN-BUILDER/CONTRACTOR:_____

Pursuant 00 92 00 2.7.3, we hereby stipulate the following concerning the award of Work to the last Subcontractor on the following list:

1. First Tier Sub-Contractor_____

   Second Tier _____

   Third Tier _____

   Fourth Tier _____

2. Date of Subcontract: _____

3. Amount of Subcontract: $ _____

4. Scope of Work: _____

   _____

5. Are the following documents kept on file by both the Contractor and the Subcontractor (circle appropriate answer)?

Contract Minimum Wage Schedule	**Y**	**N**
Civil Rights Representative Form (25A302)	**Y**	**N**

6. Does the Subcontract contain provisions for prompt payment, release of retainage, and interest on late payment and retainage conforming to AS 36.90.210?
   Y N

7. Does the Subcontract specifically bind the Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of the Department and does it contain waiver provisions as required by 00 92 00 6.7.2 and termination provisions as required by 00 92 00 Article 11?
   Y N

8. a. Does the Subcontractor have adequate insurance coverages as specified in 00 92 00 Article 5?
   Y N

   If not, does the Contractor stipulate that the insurance limits of the Subcontractor are acceptable to the Contractor and that he has notified his insurance carrier of the reduced insurance limits?
   Y N

   b. Does the evidence of insurance certify that the policies described thereon comply with all aspects of the insurance requirements for this project?
   Y N

   c. Does the evidence of insurance list the Department as an "Additional Insured" or “Certificate Holder”?
   Y N

d. Does the evidence of insurance commit to providing 30 day written notice of cancellation or reduction of any coverage? **Y** **N**

e. Insurance Expiration dates:

Comprehensive or Commercial General Liability: _____

Automobile: _____Workers' Compensation: _____

(Other) _____

9. Copies of the following professional certifications, licenses, and registrations are attached (circle all that apply):

Business License (mandatory)
Contractor License (mandatory)
Land Surveyor's License
Electrical Administrator's License (mandatory for electrical subs)
Mechanical Administrator's License (mandatory for mechanical subs)
Engineer/Architect License
Other: _____

10. Exceptions to any of the above are explained as follows: _____

_____

CERTIFICATION (to be completed by prime contractor): I certify all the above to be true and correct.

Signature: _____

Printed Name: _____

Company: _____

Date: _____

DEPARTMENT'S APPROVAL/DISAPPROVAL

The subject subcontract is **APPROVED**. Nothing in this approval should be construed as relieving the Prime Contractor of the responsibility for complete performance of the work or as a waiver of any right of the Department to reject defective work.

Signature: _____ Date: _____
Project Manager

The subject subcontract is **NOT APPROVED** for the following reasons:

_____

_____

Signature: _____ Date: _____

Project Manager

SECTION 01 20 00 – CONSTRUCTION PROJECT MEETINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Site Mobilization Meeting

B. Progress Meetings

1.2 RELATED REQUIREMENTS

A. Section 00 51 00 – Standard Form of Agreement between Owner and Design-Builder

B. Section 00 92 00 - General Conditions:

C. Section 01 00 00 – Program of Facility Requirements

D. Section 01 05 00 – Design and Construction Procedures

E. Section 01 32 00 – Project Schedule

1.3 SUBMITTALS

A. Submit Site Mobilization Meeting Minutes.

B. Submit Progress Meeting Minutes

1.4 SITE MOBILIZATION MEETING

A. OWNER may administer site mobilization conference before any physical construction begins at the site.

B. Attendance: Job superintendent, Subcontractors (if available), the OWNER and Consultants as appropriate to agenda topics for each meeting. If Subcontractors are not available at the beginning of the project, then the CONTRACTING AGENCY will administer other site mobilization meetings as the Subcontractors arrive at the site.

C. Prepare a detailed written work plan in preparation for this meeting.

D. Agenda (including, but not limited to the following, as applicable):

1. DESIGN-BUILDIER'S responsibilities and use of premises
2. Coordination with Owner's use of site during construction
3. Coordination with related work at the site
4. Review security, safety, and housekeeping procedures
5. Schedules and submittals
6. Manufacturer's instructions and Material Safety Data Sheets (MSDS)
7. Material storage
8. Procedures for testing and inspection
9. Procedures for maintaining record documents
10. Wage reporting requirements and labor compliance interviews
11. Badge requirements and security clearance on Fort Richardson
12. Unusual conditions, potential construction difficulties or specialty items
13. Special Inspection schedules
14. QA/QC

E. The DESIGN-BUILDER will take notes and distribute meeting minutes to the OWNER.

1.5 PROGRESS MEETINGS

A. Schedule and administer weekly Project meetings throughout progress of the Work (unless this requirement is waived by the Project Manager).

B. Make physical arrangements for meetings, prepare agenda with copies for participants, preside at meetings, record minutes, and distribute copies within two days to OWNER, participants, and those affected by decisions made at meetings.

C. Attendance: Job superintendent, major Subcontractors and Suppliers, OWNER and Consultants as appropriate to agenda topics for each meeting.

D. Minimum Required Agenda:

1. Review of Work progress
2. Status of progress schedule and adjustments thereto
3. Work anticipated in the next two weeks (two week look ahead schedule)
4. Delivery schedules
5. Submittals
6. Maintenance of quality standards
7. Pending changes
8. Other items affecting progress of Work

E. The DESIGN-BUILDIER will take notes and submit meeting minutes to the Project Manager.

1.6 OTHER MEETINGS

A. When required in Individual Specification Section, or directed by the OWNER to convene a meeting prior to commencing Work of the Section.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION 01 20 00

ALASKA INDUSTRIAL DEVELOPMENT EXPORT AUTHORITY	DESIGN-BUILDER DELEGATION OF AUTHORITY	

DESIGN-BUILDIER: _____

PROJECT NAME:

PROJECT #:

The contract documents contain several requirements that the Design-Builder identify employees with various authorities and/or responsibilities. This form is provided for your convenience in meeting the requirements common to most contracts. Other requirements may exist.

Please complete the applicable portions of this form and return it to the Project Manager. A letter will be furnished to you that define the authorities and responsibilities of Department, Using Agency and Consultant personnel.

Authority to sign Applications for Payment

_____ _____
Printed Name Sample Signature

_____ _____
Printed Name Sample Signature

Authority to Sign Change Orders & Change Notices

_____ _____
Printed Name Sample Signature

_____ _____
Printed Name Sample Signature

Safety Representative

_____
Printed Name

Project Superintendent

_____ _____

Printed Name Telephone Number

_____

Local Address

Shop Drawing Submittals

_____ _____

Printed Name Sample Initials

Sample Stamp:

I certify that the above personnel have been delegated the authorities and responsibilities referenced in the contract documents:

_____

Signature of Owner, Partner or Corporate Officer

_____

Name, printed or typed

SECTION 01 30 00 - SUBMITTALS

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Procedures.

B. Construction Progress Schedules.

C. Schedule of Values.

D. Shop Drawings, Product Data, and Samples.

E. Field Samples.

1.02 RELATED REQUIREMENTS

A. Section 00 92 00 - General Conditions

B. Section 01 05 00 – Design and Construction Procedures.

C. Section 01 02 70 - Applications for Payment.

D. Section 01 32 00 – Project Schedule.

E. Section 01 37 00 – Schedule of Values.

F. Section 01 60 00 - Material and Equipment

G. Section 01 70 00 - Contract Closeout: Closeout Procedures.

1.03 PROCEDURES

A. Deliver submittals to the CONTRACTING AGENCY as directed.

B. Prior to the purchase or ordering of any materials or equipment, submit for approval complete data describing all items intended for use in the Work. Include the item's manufacturer, identifying number or nomenclature, and other information as necessary to describe the item. Also include the manufacturers published data describing each items size, capacity, performance, and power requirements. Provide certification stating that the Contractor has reviewed the material and that all items conform with the Contract requirements. Submittals made without such certification will be returned unreviewed. This certification shall be in the form of a stamp on each material item submitted and signed or initialed. The name of the certifier shall be typed or legibly printed in or near the stamp.

C. Transmit each item under CONTRACTING AGENCY accepted transmittal letter. Identify Project, DESIGN-BUILDER, Subcontractor, major Supplier, identify pertinent Drawing sheet and detail number, and Specification section number, as appropriate. Identify deviations from Contract Documents by submitting a CONTRACTING AGENCY supplied Substitution Request Form. Provide a minimum of 8 1/2" x 5 1/2" blank space on the front page for DESIGN-BUILDER, and Consultant review stamps. Provide submittals bound in loose leaf, hard cover, three ring binders complete with tabs and indexes by Specification Section. At the CONTRACTING AGENCY's option, partial submittals, which encompass less than a single section will be returned unreviewed or held unreviewed until the submittal is complete.

D. When substitute equipment is proposed, clearly and unambiguously mark submitted material describing the substitute to identify the differences between the qualities and characteristics of the offered substitute and the specified material. Failure to provide this identification of differences when substitutes are submitted for consideration will result in rejection of the proposed material.

E. When equipment substitutions are approved and that equipment alters the design or space requirements indicated on the plans, the Contractor shall pay for all items of cost for the revised design and construction including costs of other trades involved and any engineering required to incorporate the approved substituted equipment into the Project. Owner shall not pay for the required additional costs.

F. Material and equipment installed, purchased, furnished, or provided for the Project which has not been submitted and reviewed by the CONTRACTING AGENCY may be ordered removed and acceptable material and equipment installed in its place at no additional cost to the Owner.

G. Submit initial progress schedules and Schedule of Values in five copies. Form and content shall be reviewed by the CONTRACTING AGENCY. After review by the CONTRACTING AGENCY revise and resubmit as required. Submit subsequent updated schedules (10) days prior to each Application for Payment.

H. Comply with progress schedule for submittals related to Work progress. Coordinate submittal of related items.

I. After CONTRACTING AGENCY review of submittal, revise and resubmit as required, identifying changes made since previous submittal. Provide total number of submittals as required for the first submission. If 6 are required and 4 were returned for revisions, submit 6 again. The CONTRACTING AGENCY and Consultants 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 CONTRACTING AGENCY and/or Consultants. Provide COMPLETE copies for each review.

J. If drawings, product submittals, samples, mock-ups, or other required submittals are incomplete or not properly submitted, the CONTRACTING AGENCY will not review the submittal and will immediately return submittal to DESIGN-BUILDER. The CONTRACTING AGENCY will review a submittal no more than two times (incomplete or improper submittals count as one). DESIGN-BUILDER shall pay all review costs associated with more than two reviews, unless a resubmittal is required due to new comments addressing previously submitted information.

1.04 CONSTRUCTION PROGRESS SCHEDULES

A. Submit in accordance with Section 01 32 00 Project Schedule.

1.05 SCHEDULE OF VALUES

A. Submit in accordance with Section 01 37 00 Schedule of Values.

1.06 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

A. SHOP DRAWINGS:

1. Present in a clear and thorough manner. Label each Shop Drawing with CONTRACTING AGENCY's Project name and Project number; identify each element of the Shop Drawings by reference to sheet number and detail, schedule, or room number of Contract Documents.

2. Identify field dimensions; show relation to adjacent or critical features or Work or products.

3. Minimum Sheet Size: 8-1/2"x11". Larger sheets may be submitted in multiples of 8-1/2"x11".

B. PRODUCT DATA

1. 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, and capacities; wiring and piping diagrams and controls; component parts; finishes; dimensions; and required clearances.

2. 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.

C. SAMPLES

1. Submit full range of manufacturer's standard finishes except when more restrictive requirements are specified, indicating colors, textures, and patterns, for CONTRACTING AGENCY selection.

2. Submit samples to illustrate functional characteristics of products, including parts and attachments.

3. Approved samples, which may be used in the Work, are indicated in the Specification section.

4. Label each sample with identification required for transmittal letter.

5. Provide field samples of finishes at Project, at location acceptable to CONTRACTING AGENCY, as required by individual Specification section. Install each sample complete and finished. Acceptable finishes in place may be retained in completed Work.

D. MANUFACTURER'S INSTRUCTIONS

1. 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.

2. Manufacturer's instructions for storage, preparation, assembly, installation, start-up, adjusting, balancing, and finishing under provisions of Section 01 40 00.

E. DESIGN-BUILDER REVIEW

1. 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.

2. Coordinate submittals with requirements of Work and of Contract Documents.

3. Sign or initial each sheet of Shop Drawings and product data, and each sample label to certify compliance with requirements of Contract Documents. Notify the CONTRACTING AGENCY in writing at time of submittal, of any deviations from requirements of Contract Documents.

4. Do not fabricate products or begin Work that requires submittals until return of submittal with DEPARTMENT acceptance.

F. SUBMITTAL REQUIREMENTS

1. 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 01 00 1.08A" 2nd submittal 01 01 00 1.08A - A".

2. Transmit submittals in accordance with the required submittal schedule and in such sequence to avoid delay in the Work.

3. Provide 8 1/2" x 5 1/2" blank space on each submittal for DESIGN-BUILDER and Consultant stamps.

4. Apply DESIGN-BUILDER'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.

5. Coordinate submittals into logical groupings to facilitate interrelation of the several items:

   a. Finishes which involve the CONTRACTING AGENCY selection of colors, textures, or patterns.

   b. Associated items that require correlation for efficient function or for installation.

6. Submit number of opaque reproductions of shop drawings DESIGN-BUILDER requires, plus six that will be retained by the CONTRACTING AGENCY.

7. Submit number of copies of product data and manufacturer's instructions DESIGN-BUILDER requires, plus six copies, which will be retained by the CONTRACTING AGENCY.

8. Submit number of samples specified in individual Specifications sections.

9. Submit under CONTRACTING AGENCY accepted transmittal form letter. Identify Project by title and CONTRACTING AGENCY Project number; identify Contract by CONTRACTING AGENCY contract number. Identify Work and product by Specification section and Article number.

10. Each submittal shall have as its face document a completed CONTRACTING AGENCY furnished Submittal Summary form.

11. Each submittal shall include the manufacturer's name and address, and supplier's name, address and telephone number.

G. RESUBMITTALS

1. After CONTRACTING AGENCY review of submittal, revise and resubmit as required, identifying changes made since previous submittal. Provide total number of submittals as required for the first submission, if 6 copies are required and 4 were returned for revisions, submit 6 again. The CONTRACTING AGENCY and Consultants 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 CONTRACTING AGENCY and/or Consultants. Provide COMPLETE copies for each review.

H. DEPARTMENT REVIEW

1. CONTRACTING AGENCY or authorized agent will review Shop Drawings, product data, and samples and return submittals within (14) working days.

2. CONTRACTING AGENCY or authorized agent will examine shop drawings for general arrangement, overall dimensions and suitability, and will return to the DESIGN-BUILDER marked as follows;

   - "No Exceptions Taken" - denotes that the submittal generally meets the requirements of the Contract Documents. "No Exceptions Taken" does not indicate a review of the DESIGN-BUILDER's design except for general compliance with the requirements of the Contract Documents.
   - "Make 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 DESIGN-BUILDER.

- "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 DESIGN-BUILDER.

3. Review by the CONTRACTING AGENCY of shop and erection 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 DESIGN-BUILDER of the responsibility for errors, dimensions, and detail design.

4. CONTRACTING AGENCY will require submittal of all required color and finish samples in order to approve any on color or finish.

I. DISTRIBUTION

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

J. SCHEDULE OF SUBMITTALS

1. Submittal Register Form to be completed by DESIGN-BUILDER and approved by CONTRACTING AGENCY prior to submittal of any items.

2. Submit shop drawings, product data and samples as required for each specification section.

3. Format.

a. Submittal schedule form as provided by CONTRACTING AGENCY.

1.07 FIELD SAMPLES

A. Provide field samples of finishes at Project as required by individual Specifications section. Install sample complete and finished. Acceptable samples in place may be retained in completed Work.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01 32 00 – PROJECT SCHEDULE

PART 1 GENERAL

1.1 SUMMARY

1.1.1 This section includes administrative and procedural requirements for documenting the progress of design and construction during performance of the work, including the following:

1.1.2 Preliminary Construction Schedule.
1.1.3 Design-Builders Construction Schedule; CPM
1.1.4 Submittals (shop drawings) Schedule
1.1.5 Contracting Officer Required Progress Reports

1.2 REFERENCES

1.2.1 00 51 00 Standard form of agreement between Design-Builder and Owner
1.2.2 00 92 00 General Conditions
1.2.3 01 05 00 Design and Construction Procedures.

1.3 QUALIFICATIONS

1.3.1 The Design-Builder shall designate an authorized representative who shall be responsible for the preparation of all required project schedule reports.

PART 2 PRODUCTS

2.1 SOFTWARE

2.1.1 Use Microsoft Project 2000 version 9.0 or later.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Pursuant to the contract clause Section 00 92 00, 2.1.3, a project schedule as described below shall be prepared. The scheduling of design and construction shall be the responsibility of the Design-Builder. Design-Builder management personnel shall actively participate in its development. Designer's subcontractors and suppliers working on the project shall also contribute in developing and maintaining an accurate project schedule. The approved project schedule shall be used to measure the progress of the work to aid in evaluating time extensions, and to provide the basis of all progress payments.

3.2 BASIS FOR PAYMENT

The schedule shall be the basis for measuring the Design-Builder progress. Lack of an approved schedule or scheduling personnel will result in the inability of the Contracting Officer to evaluate the Design-Builder's progress for purpose of payment. Failure of the Design-Builder to provide all information as specified below shall result in the disapproval of the entire Project Schedule submission and the inability of the Contracting Officer to evaluate Design-Builder progress for payment purposes. In the case where Project Schedule revisions have been directed by the Contracting Officer and those revisions have not been included in the Project Schedule, the Contracting Officer may hold retainage up to the maximum allowed by the contract each payment period until revisions to the Project Schedule have been made.

3.3 SUBMITTALS SCHEDULE

3.3.1 Submittals schedule (shop drawing and design milestones): Submit five copies of submittals schedule (shop drawing and design milestones) for contracting officers architect, contracting officer and Owner representatives plus number required for the Design-Builder and sub contractors. Provide the following information.

3.3.1.1 Schedule date for the first submittal.

3.3.1.2 Specification Section number and title or design milestone

3.3.1.3 Submittal Category

3.3.1.4 Line items for each submittal shall match the progress schedule and the schedule of values.

3.3.1.5 Design-Builder's architect/engineer to create the Submittals Schedule for contracting officer review and approval. Upon approval all material and shop drawing submittals indicated to be provided by Design-Builder.

3.3.1.6 Description of the work covered.

3.3.1.7 Scheduled date for contracting officers representative's final release or approval.

3.4 CONTRACT PROGRESS REPORT

3.4.1 Submit contract progress report on form approved by the contracting officer. The periods on the schedule should be 1st-15th and the 16th-end of the month. Minimum sheet size shall be 8-1/2" X 11".

3.4.1.1 Identification of listings: By major specification section numbers and design submittal phases exactly as listed on the schedule of values.

3.5 PROJECT SCHEDULE

Failure of the Design-Builder to meet the requirements of this specification shall result in the disapproval of the schedule. Manual methods used to produce any required information shall require approval by the contracting officer

3.5.1 Use of the Critical Path Method

3.5.1.1 The critical path method (CPM)of network calculation shall be used to generate the project schedule.

3.5.1.2 Submit Construction Schedule in CPM Format. The periods on the schedule should be for each week of construction minimally. Minimum sheet size shall be 11" X 17".

3.5.1.2.1 Preferred schedule method: the critical path method construction schedule using the arrow diagramming method.

3.5.2 Level of Detail Required

The project schedule shall include an appropriate level of detail. Failure to develop or update the project schedule or provide data to the contracting officer at the appropriate level of detail specified by the contracting officer shall result in the disapproval of the schedule. The contracting officer will use, but is not limited to the following conditions to determine the appropriate level of detail to be used in the project schedule:

3.5.2.1 Activity durations

Design-Builder submissions shall follow the direction of the contracting officer regarding reasonable activity duration/ Reasonable durations are those that allow the progress of activities to be accurately determined between payment periods.

3.5.2.2 Design and permit activities

Design and permitting activities including necessary conferences and follow-up actions and design package submission dates shall be integrated into the schedule.

3.5.2.3 Procurement Activities

Tasks related to the procurement of long lead materials or equipment shall be included as separate activities in the project schedule. Long lead materials and equipment are those materials that have a procurement cycle of over 90 days. Examples of procurement process activities include, but are not limited to: submittals, approvals procurement, fabrication, and delivery.

3.5.2.4 Critical Activities

The following activities shall be listed as separate line activities on the Design-Builder's project schedule:

3.5.2.4.1 Submission and approval of design packages for review including preliminary design development and construction document milestones.

3.5.2.4.2 Submission of mechanical/electrical layout drawings.

3.5.2.4.3 Submission and approval of O&M manuals.

3.5.2.4.4 Submission and approval of as-built drawings.

3.5.2.4.5 Submission and approval of installed equipment lists.

3.5.2.4.6 Submission and approval of testing and balancing of HVAC.

3.5.2.4.7 HVAC Commissioning dates.

3.5.2.4.8 Controls testing

3.5.2.4.9 Performance verification testing

3.5.2.4.10 Other systems testing if required

3.5.2.4.11 Substantial Completion Inspection

3.5.2.4.12 Correction of punch list from substantial completion inspection

3.5.2.4.13 Final inspection

3.5.2.4.14 Indicate important stages of construction for each major portion of the work.

3.5.2.4.15 All items of work indicated on the schedule of values shall be included on the Project Schedule either as a discreet activity or as a group of discreet activities. Each of which shall not be scheduled to require more than two weeks duration

3.5.2.5 Owner Activities

Owner and other agency activities that could impact progress shall be shown. These activities include but are not limited to: approvals, design reviews, environmental permit approvals by state regulators, inspections, utility tie in, Owner furnished (OFE), Owner Furnished Owner installed equipment (OFOI), and Notice to Proceed (NTP) for phasing requirements.

3.5.2.6 Responsibility

All activities shall be identified in the project schedule by the party responsible to perform the work. Responsibility shall include but is not limited to the subcontracting firm, Design-Builder workforce, Owner, or government agency performing a given task. Activities shall not belong to more than one responsible party. The responsible party shall be identified by the Responsibility Code.

3.5.2.7 Work Areas

All activities shall be identified in the project schedule by the work area in which they activity occurs. Activities shall not be allowed to cover more than one work area. The work area of each activity shall be identified by the Work Area Code.

3.5.2.8 Modification or Claim Number

Any activity that is added or changed by contract modification or used to justify claimed time shall be identified by a mod or claim code that changed the activity. Activities shall not belong to more than one claim or modification item. The modification or claim number of each activity shall be identified by the mod or claim number. Whenever possible, changes shall be added to the schedule by adding new activities. Existing activities shall not normally be changed to reflect modifications.

3.5.2.9 Bid Item

All activities shall be identified in the project schedule by the Bid Item to which the activity belongs. An activity shall not contain work in more than one bid item. The bid item for each appropriate activity shall be identified by the Bid Item Code.

3.5.2.10 Phase of Work

All activities shall be identified in the project schedule according to the phases of work in which the activity occurs. Activities shall not contain work in more than one phase of work. The project phase of each activity shall be the unique Phase of Work code.

3.5.2.11 Category of Work

All activities shall be identified in the project schedule according to the category of work which best describes the activity. Category of work refers but is not limited to the procurement chain of activities including such items as designs, design package submissions, design reviews, review conferences, permits, submittals, approvals, procurement, fabrication, delivery, installation, start-up, and testing.

3.5.3 Scheduled Project Completion

The schedule interval shall extend from the NTP to the contract completion date.

3.5.3.1 Project Start Date

The schedule shall start no earlier than the date on which the NTP was acknowledged. The Design-Builder shall include as the first activity in the schedule an activity called “Start Project”. The “Start Project” activity shall be equal to the date that the NTP was acknowledged and have zero day duration.

3.5.3.2 Constraint of last activity

Completion of the last activity in the schedule shall be constrained by the contract completion date. Calculation on project updates shall be such that **if the early finish of the last activity falls after the contract completion date, then the float calculation shall reflect a negative float on the critical path**. The Design-Builder shall include as the last activity in the project schedule an activity called “End project” The end project activity shall be equal to the completion date for the project and have zero day duration.

3.5.3.3 Early Project Completion

In the event the project schedule shows completion of the project prior to the contract completion date, the Design-Builder shall identify those activities those activities that have been accelerated and/or those activities that are scheduled in parallel to support the Design-Builders “early” completion,

The Design-Builder shall specifically address each of the activities noted in the narrative report at every project schedule update period to the assist the Contracting Officer in evaluating the Design-Builder’s ability to actually complete prior to the contract period.

3.5.4 Interim Completion Dates

Contractually specified interim completion dates shall also be constrained to show negative float if the early finish date of the last activity of that phase falls after the interim completion date.

3.5.4.1 Start Phase

The Design-Builder shall include as the first activity for a project phase an activity called “Start Phase X” where “X” refers to the “X” phase of work. The “Start Phase X” activity shall be equal to the date on which the NTP was acknowledged and a zero day duration.

3.5.4.2 End Phase

The Design-Builder shall include as the last activity for a project phase an activity called “End Phase X” where “X” refers to the “X” phase of work. The “End Phase X” activity shall be equal to the interim completion date for that phase and a zero day duration.

3.5.5 Default Progress Data Disallowed

Actual start and finish dates shall not be automatically updated by default mechanisms that may be included in CPM scheduling software systems. Actual start and finish dates on the CPM Schedule shall match those dates provided by the Contracting Officer as Notice to Proceed and Substantial Completion dates. Updating of the percent complete and the remaining duration of any activity shall be independent functions. Program features which calculate one of these parameters from the other shall be disabled.

3.6 PROJECT SCHEDULE SUBMISSIONS

The Design-Builder shall provide the submissions as described below. The reports required for each submission are contained in paragraph SUBMISSION REQUIREMENTS.

3.6.1 Preliminary Project Schedule Submission

The Preliminary Project Schedule defining the Design-Builder’s planned operations for the first 90 calendar days shall be submitted for approval within fifteen [15] calendar days after the NTP is acknowledged. The approved preliminary schedule shall be used for payment purposes not to exceed 90 calendar days after NTP.

3.6.2 Initial Project Schedule Submission

The initial project schedule shall be submitted for approval within forty [40] calendar days after NTP. The schedule shall provide a reasonable sequence of activities which represent work through the entire project and shall be at a reasonable level of detail. The design-build schedule shall include detailed design and permitting activities including but not limited to: identification of individual design packages, design submission, review and conferences, permit submissions, any required Owner actions, long lead item acquisition prior to design completion. The initial design-build schedule shall also cover the entire construction effort with as much detail as is known at the time but as a minimum shall include all construction start and completion milestones, known constraints, and detailed early construction activities. The remaining construction shall be included but may be scheduled using a higher level work breakdown structure (WBS).

3.6.3 Periodic Schedule Updates

3.6.3.1 Based on the result of progress meetings specified in “1320-3.8 Periodic Progress meetings” the Design-Builder shall submit periodic schedule updates no less than monthly. These submissions shall enable the Contracting Officer to assess the Design-Builder’s progress.

3.6.3.2 **If the Design-Builder fails or refuses to furnish** the information and project schedule data, which in the judgment of the Contracting Officer or authorized representative is necessary for verifying Design-Builders progress, **the Design-Builder shall be deemed not to have provided an estimate upon which progress payment may be made**. The Design-Builder shall update the schedule to include detailed, lower WBS level construction activities as the design progresses, but not later than the submission of the final unreviewed design submission for each separate design package. The Contracting Officer may require submission of detailed schedule

activities for any distinct construction that is started prior to submission of a final design submission, if such activity is authorized.

3.7 SUBMISSION REQUIREMENTS

3.7.1 The following items shall be submitted by the Design-Builder for the preliminary submission, initial submission, and every periodic project schedule update throughout the life of the project.

3.7.2 Approved changes Verification- Only project schedule changes that have been previously approved by the Contracting Officer shall be included in the schedule submission.

3.7.3 Schedule Reports

The format for each activity for the schedule reports listed below shall contain: Activity Numbers, Activity Description, Original Duration, Remaining Duration, Early Start Date, Early Finish Date, Late Start Date, Late Finish Date, and Total Float. Actual Start and Finish dates shall be printed for those activities in progress or completed.

3.7.3.1 Activity Report

A list of all activities sorted according to number.

3.7.3.2 Logic Report

A list of preceding and succeeding activities for every activity in ascending order by activity number. Preceding and succeeding activities shall include all information listed above in paragraph schedule reports.

A blank line shall be left between each activity grouping.

3.7.3.3 Total Float Report

A list of all incomplete activities sorted in ascending order of total float. Activities which have the same amount of total float shall be listed in ascending order of early start dates. Completed Activities shall not be shown on this report.

3.7.4 Network Diagram

The network diagram shall be required on the initial schedule submission and on the monthly schedule update submissions. The network diagram shall depict and display the order and interdependence of activities and the sequence in which the work is to be accomplished. The Contracting Officer will use, but is not limited to, the following conditions to review compliance with this paragraph:

3.7.4.1 Continuous Flow

Diagrams shall show a continuous flow from left to right with no arrows from right to left. The activity number, description duration and estimated earned value shall be shown on the diagram.

3.7.4.2 Project Milestone Dates

Dates shall be shown on the diagram for start of project, any contract required interim completion dates, and contract completion dates.

3.7.4.3 Critical Path

The critical path shall clearly be shown.

3.7.4.4 Banding

Activities shall be grouped to assist in the understanding of the activity sequence. Typically this flow will group activities by category of work, work area, and/or responsibility.

3.8 PERIODIC PROGRESS MEETINGS

Progress meetings to discuss payment shall include meetings (onsite during construction unless waived by Owners project manager) at regular intervals no less than monthly. During these meetings the Design-Builder shall describe, on an activity by activity basis, all proposed revisions and adjustments to the project

schedule required to reflect the current status of the project. The Contracting Officer will approve activity progress, proposed revisions, and adjustments as appropriate.

3.8.1 Meeting Attendance

The Design-Builder's Project Manager and Scheduler shall attend the regular progress meetings, Designers of Record as appropriate and all major sub-contractors active on the Project site.

3.8.2 Update Submission Following Progress Meeting

A complete update of the project schedule containing all approved progress, revisions, and adjustments, based on the regular progress meeting, shall be submitted not later than 4 working days after the end of month progress meeting or progress meeting preceding pay application request.

3.8.3 Progress Meeting Contents

Update information including Actual Start Dates, Actual Finish Dates, Remaining Durations, and Cost to Date shall be subject to the approval of the Contracting Officer. As a minimum the Design-Builder shall address the following items on an activity by activity basis during each progress meeting.

3.8.3.1 Start and Finish Dates

The Actual Start and Actual Finish dates for each activity currently in progress or completed.

3.8.3.2 Time Completion

The estimated Remaining Duration for each activity in-progress. Time based progress calculations shall be based on Remaining Duration for each activity.

3.8.3.3 Logic Changes

All logic changes pertaining to NTP on change orders, change orders to be incorporated into the schedule, Design-Builder proposed changes in work sequence, corrections to schedule logic for out of sequence progress, lag durations, and other changes that have been made pursuant to contract provisions shall be specifically identified and discussed.

3.8.3.4 Other Changes

Other changes required due to delays in completion of any activity or group of activities include: 1) delays beyond the Design-Builder's control, such as strikes and unusual weather. 2) Delays encountered due to submittals, Owner responsible activities; deliveries or work stoppages which make re-planning the work necessary. 3) Changes required to correct a schedule which does not represent the actual or planned prosecution and progress of the work.

3.9 REQUESTS FOR TIME EXTENSIONS

In the event the Design-Builder requests an extension of the contract completion date, or any interim milestone date, the Design-Builder shall furnish the following for a determination as to whether or not the Design-Builder is entitled to an extension of time under the provisions of the contract. Justification, project schedule data, and supporting evidence as the Contracting Officer may deem necessary. Submission of proof of delay, based on revised activity logic, duration and costs (updated to the specific date the delay occurred) is obligatory to any approvals.

3.9.1 Justification of the Delay

The project schedule shall clearly display that the Design-Builder has used, in full, all the float time available for the work involved with this request. The Contracting Officer's determination as to the number of allowable days of contract extension shall be based on the project schedule updates in effect for the time period in question, and other factual information.

Actual delays that are found to be caused by the Design-Builder's own actions, which result in the extension of the schedule, will not be cause for a time extension to the contract completion date.

3.9.2 Submission Requirements

The Design-Builder shall submit a justification for each request for a change in the contract completion date of under two weeks based upon the most recent schedule update at the time of the NTP or constructive direction issued for the change. Such a request shall be in accordance with the requirement of other appropriate Contract Clauses and shall include as a minimum:

3.9.2.1 A list of all affected activities with their associated project schedule activity number.

3.9.2.2 A brief explanation of the causes of the change.

3.9.2.3 An analysis of the overall impact of the changes proposed

3.9.2.4 A sub-network of the affected area.

Activities impacted in each justification for change shall be identified by a unique activity code contained in the required data file.

3.9.3 Additional Submission Requirements

For any requested time extension of over two weeks, the Contracting Officer may request an interim update with revised activities for a specific change request. The Design-Builder shall provide this information within 4 days of the Contracting Officer's request.

END OF SECTION 01 32 00

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SECTION 01 37 00 - SCHEDULE OF VALUES

PART 1 GENERAL

1.01 RELATED REQUIREMENTS

A. Documents 00 92 00 - General Conditions

B. Section 01 00 50 – Design and Construction Procedures

C. Section 01 02 70 - Applications for Payment: Procedures for Applications for Payment.

D. Section 01 30 00 - Submittals

E. Section 01 32 00– Project Schedule

1.02 FORMAT

A. Form and content must be acceptable to DEPARTMENT.

B. Form shall have a signature block for submission by DESIGN-BUILDER and a signature block for approval by CONTRACTING AGENCY. CONTRACTING AGENCY signature will indicate approval of items 1-3 below.

C. Content shall include the following column headings.

1. CPM Activity Number
2. CPM Activity Description
3. CPM Activity Dollar Value
4. Current Percent Complete
5. Current Dollar Complete
6. Previous Percent Complete
7. Previous Dollar Complete
8. Percent Complete this Period
9. Dollar Complete this Period

1.03 CONTENT

A. List installed value of each activity shown on the Contract CPM schedule.

B. Component listings shall each include a directly proportional amount of DESIGN-BUILDER's overhead and profit.

C. For items on which payments will be requested for stored products, list sub-values for cost of stored products with taxes paid.

D. Specific line item Values as indicated below shall be minimum acceptable amounts and must be included on all approved Schedules of Values and Applications for Payment.

1. Mobilization and Demobilization: Value of Preconstruction activities, costs and submittals shall be no greater than three and one-half percent (3 1/2%) of the total Contract Price. Value of Demobilization shall be limited to one and one-half percent (1 1/2%) of the total Contract Price.

2. Section 01 70 00 - Contract Closeout Procedures.

    a) **Value of all required Substantial Completion Submittals and Closeout Submittals shall be not less than $25,000.00 (twenty-five thousand dollars).**

    b) No progress payments will be made for Closeout Submittals until **all** submittals have been submitted to and accepted by the CONTRACTING AGENCY. In most cases, this means that the payment for this item will be on the CONTRACTOR'S Final Application for payment.

E. The sum of values listed shall equal total Contract Price. Each Base bid item and each awarded additive alternate item shall be shown as major components of the total contract price.

F. Any attempt to increase the cost of early activities, "front loading," will be rejected by the CONTRACTING AGENCY and Project Manager resulting in a complete reallocation of monies until such "front loading" is corrected. Repeated attempts at "front loading" may result in suspension or termination of the Work or refusal to process progress payments, until such time as the Schedule of Values is acceptable to the CONTRACTING AGENCY.

1.04 SUBMITTAL

A. Submit proposed Schedule of Values with Anticipated and Finalized CPM Schedules.

B. Subsequent Schedule of Values with updated completion percentages shall be presented for review sufficiently in advance of Application for Payment to allow detailed review by CONTRACTING AGENCY and resolution of differences.

1.05 SUBSTANTIATING DATA

A. When CONTRACTING AGENCY requires substantiating information, submit data justifying line item amounts in question.

B. Provide one 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 40 00 - QUALITY CONTROL

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Quality Control Program and Plan.

B. Quality Assurance.

C. Workmanship.

D. Mockups and Field Samples.

E. Manufacturer's Instructions, Certification, Field Services, and Field Reports.

F. Tolerances.

G. Repair and Protection.

1.2 RELATED SECTIONS

A. Document 00 51 00 – Standard Form Agreement between Owner and Design-Builder Lump Sum.

B. Document 00 92 00 – General Conditions of Contract between Owner and Design-Builder.

C. Section 01 05 00 – Design and Construction Procedures.

D. Section 01 20 00 – Project Meetings.

E. Section 01 30 00 - Submittals: Submittal Procedures.

F. Section 01 70 00 - Contract Closeout. Closeout Procedures and Project Record Documents.

G. Individual Specification Sections: Quality Control Requirements.

1.3 REFERENCES

A. Use reference editions as of the date stated in the Contract Documents and Design Documents or if not stated, the latest standard specification, manual, code or regulatory requirements in effect at the time of advertisement for the Project, except where a date is established by code.

B. For products of workmanship specified by association, trade, or other consensus standard, comply with industry standards, except when requirements that are more rigid are specified or are required by applicable codes.

C. Obtain copies of standards where required by the Individual Specification Sections.

1.4 SUBMITTALS

A. Submit under transmittal letter specified in Section 01 30 00 Submittals.

B. Submit DESIGN-BUILDER'S Quality Control Plan mutual understanding meeting minutes

C. Submit the DESIGN-BUILDER'S Design and Construction Quality Control Plan.

D. Submit proposed revisions to the DESIGN-BUILDER'S Quality Control Plan.

E. Submit the DESIGN-BUILDER'S proposed Daily Construction Quality Control Report form; as specified in Section 01 32 00, 3.11.

F. Submit the DESIGN-BUILDER's Daily Construction Quality Control Reports; as specified in Section 01 32 00, 3.11.

1.5 PAYMENT

A. There will be no separate payment for providing and maintaining an effective Quality Control Program. Include all costs associated QC Program in the applicable unit prices or lump-sum prices.

1.6 DESIGN-BUILDER'S QUALITY CONTROL PROGRAM

A. DESIGN-BUILDER shall provide and maintain an effective Quality Control (QC) Program which will assure that all services required by the DESIGN-BUILD Contact are performed and provided in a manner that meets professional architectural and engineering services and construction industry quality standards.

B. DESIGN-BUILDER shall maintain quality control over Suppliers, Manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.

C. The QC Program is the sole responsibility of the DESIGN-BUILDER. As a minimum, the QC Program shall:

1. Achieve compliance with the Contract Documents and include procedures that ensure that all Work is performed in accordance with the following:

   a) Contract Documents.

   b) Drawings and Specifications, most current accepted revision.

   c) Contract Change Order related documents.

   d) Approved Submittals, most current revision.

   e) Requests for Information (RFI) responses.

   f) Manufacturer's Instructions.

2. Establish quality control for all Work performed under this Contract, including assigned subcontract (all tiers) Work.

3. Insure conformance to applicable technical specifications and drawings with respect to the materials, codes, workmanship, storage, installation, construction, finishes, functional performance, and identification.

4. Include specific surveillance, test and inspection requirements specified in the Individual Specification Sections.

5. Include testing and inspecting services required to verify compliance with requirements specified or indicated. These services do not relieve DESIGN-BUILDER of responsibility for compliance with the Contract Document requirements.

   a) In Progress Inspection: Perform in-progress inspections as Work progresses that shall include, but not limited to:

      i. Examine the quality of workmanship with respect to Contract Drawings, Technical Specifications, Approved Submittals, etc.
      ii. Inspect defective or damaged materials before using in the Work.

   b) Non-Conformance Procedure: Include procedures for documenting, tracking, and resolving Work items that do not comply with Contract Documents, Design products, Individual Specification Sections, Approved Submittals, Manufacturer's Instructions, etc. The OWNER reserves the right to reject materials for which final Quality Control tests indicate non-conformance with the Contract Documents.

6. Provide test results that will serve as the OWNER'S basis upon which to accept or reject materials incorporated into the Work.

D. The DESIGN-BUILDER shall submit a completed Daily Quality Control Construction Report in accordance with Section 01 32 00; paragraph 3.11 Daily Quality Control Construction Reports.

1. Report form and content must be accepted by OWNER.

1.7 DESIGN-BUILDER'S ORGANIZATION

A. Implement the QC Program by establishing a DESIGN-BUILDER Quality Control Organization. As a minimum, the organization shall consist of the following:

1. Project Manager.
2. Design Quality Control Manager.
    a) Professional Architect or Engineer, registered in the State of Alaska.
    b) Have a minimum of five (5) years experience in a supervisory Design Quality Control Management position.
    c) Their responsibility is to ensure compliance with the Contract Documents and manage the Design QC Program.
    d) The Quality Control Manager may serve as Designer of Record (DOR), if qualified and have adequate time to perform the duties.
3. Designer of Record (DOR) personnel: Architectural, Civil, Structural, Mechanical, Electrical, Environmental, etc.
4. Construction Superintendent.
5. Construction Quality Control Manager.
    a) Have a minimum of five (5) years experience in a supervisory Construction Quality Control position.
    b) Their responsibility is to ensure compliance with the Contract Documents and manage the Construction QC Program.
    c) The Quality Control Manager may serve as Superintendent, if qualified and have adequate time to perform the duties.
6. Other QC personnel:
    a) Independent Testing and Inspection Laboratories: Provide and pay for an Authority approved independent laboratory or laboratories to perform all Quality Control tests and/or inspections as may be indicated by the nature of the construction or as specifically required under the terms of the Contract.
    b) Electrical and Mechanical Testing: Provide and pay for an independent testing firm (or firms) to perform electrical and mechanical testing. The testing firm shall be a corporately and financially independent testing organization that can function as an unbiased testing authority, professionally independent of the manufacturers, suppliers, and installers of equipment or systems evaluated by the testing firm. Follow Technical Product Specifications Quality Control requirements and testing responsibilities.

1.8 DESIGN-BUILDER'S QUALITY CONTROL PLAN

A. The DESIGN-BUILDER'S Quality Control Program is detailed in the QC Plan. General Quality Control requirements entail ensuring that all aspects of the Work conform to the Contract Documents to include specific Quality Control requirements for individual construction, fabrication and procurement activities that are included in the Individual Specification Sections.

B. Quality Control Plan (Plan) Requirements.
1. Submit a Quality Control Plan no less than twenty-one (21) calendar days after the Notice to Proceed.
2. OWNER acceptance of the Quality Control Plan is required prior to Design and Construction activities.
3. Content of the Quality Control Plan: The plan shall include, as a minimum, the following to cover all design and construction operations, both on-site and off-site, including any work by subcontractors (any tier), fabricators, suppliers, purchasing agents, Designers of Record (DOR), architect/engineers (A/E) and consultants:

a) A description of the quality control organization and a chart showing lines of authority.

b) The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a DESIGN-BUILDER quality control function. Include those responsible for performing and documenting the inspections required by the International Codes and the special inspection program developed by the Designer of Record.

c) A copy of the letter to each of the DESIGN-BUILDER'S Design and Construct Quality Control Managers, signed by an authorized official of the firm, which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the QC Manager, including authority to stop work which is not in compliance with the Contract Documents. The Design and Construction QC Managers shall issue letters of direction to all other various QC representatives within their functional areas, outlining duties, authorities and responsibilities; furnish copies of these letters in the QC Plan.

d) Procedures for scheduling, reviewing, certifying and managing submittals, including those of subcontractors (any tier), fabricators, suppliers, purchasing agents, Designers of Record (DOR), architect/engineers (A/E) and consultants.

e) A list of inspection activities for each individual specification section.

f) A list of all inspections required by the International Codes and the special inspection program required by the code and this Contract.

g) Control, verification and acceptance procedures for each specific test to include the test name, specification section and paragraph requiring test, feature of work to be tested, test frequency and person/firm responsible for each test. Use only approved Laboratory facilities.

h) Identify the testing methods, frequency, and number to be taken of each type of material requiring Quality Control testing. To facilitate the development of a testing plan, the DOR will provide a tabular schedule of minimum testing requirements, to be derived from the requirements contained in the Contract Documents. The DESIGN-BUILDER shall be responsible for performing the tests summarized in the schedule, in conjunction with any other tests that may be required in the Contract Documents.

i) Procedures for tracking, control, verification and acceptance tests including documentation.

j) Reporting procedures, including proposed reporting formats. Use the OWNER approved forms where indicated in the Contract Documents.

k) A list of the definable features of Work. A definable feature of Work is a task, which is separate and distinct from other tasks, has separate control requirements and may be identified by different trades or disciplines, or it may be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a definable feature of work, there are frequently more than one definable feature under a particular section. This list will be agreed upon during the QC Plan Mutual Understanding Meeting.

C. Additional Requirements of the Design Quality Control (DQC) Plan. The following additional requirements apply to the Design Quality Control Plan:

1. DESIGN-BUILDER shall submit to the OWNER for acceptance a Design Quality Control Plan that describes:

   a. The design quality control organization staffing plan and a chart showing lines of authority.

b. Management of design quality control.

c. Tracking and documenting design evolution and changes during design.

d. Responding to internal and external requests for information, shop drawings, submittal reviews, progress meetings, site visits, contract completion, closeout, as-built, and completion documentation.

e. Designer of Record involvement in the design quality control process.

2. DESIGN-BUILDER shall maintain an effective quality control program that assures that all services required by the Contract are performed and provided in a manner that meets professional architectural and engineering quality standards. Provide documentation of design quality control activities.

3. A DESIGN Quality Control Manager shall coordinate and implement the plan. This individual shall have verifiable architectural or engineering design experience and is a registered professional architect or engineer. The individual assigned to the position will be designated in writing and the name of an alternate if required.

4. A competent, independent reviewer indentified in the plan shall review all documents. The same element that produced the design products shall not perform the independent technical review.

5. Document independent technical reviews and provide comments, responses and record resolution of the comments.

D. QC Plan Submittal and Acceptance:

1. QC Plan Mutual Understanding Meeting. Meet with the DESIGN-BUILDER Project Manager, Design and Construction Quality Control Manager and OWNER' Representative to discuss the draft QC Plan before formally submitting it for acceptance.

2. This meeting allows the DESIGN-BUILDER and the OWNER to jointly develop a mutual understanding of the details of the QC Plan, including the forms to be used for recording the quality control operations, inspections, administration of the plan, and the interrelationship of DESIGN-BUILDER, DOR and the OWNER.

E. Notification of Changes. After OWNER acceptance of the DESIGN-BUILDER'S QC Plan, notify OWNER in writing of any proposed change. Submit the changes to representatives of the DESIGN-BUILDER Quality Control Organization and OWNER. Proposed changes are subject to OWNER acceptance.

1.9 JOB CONDITIONS

A. Where specifications require Work to be tested or approved, it shall be tested in the presence of the DOR after timely notice of readiness for inspection and testing, and the Work after testing shall be concealed only upon approval of DOR. Provide 48-hour notice of when on site tests will occur. The OWNER shall be notified and have the right to witness all tests.

B. Test results are for the DESIGN-BUILDER and DOR'S use to evaluate the material acceptability with respect to specified testing requirements. Regardless of test results, DESIGN-BUILDER is solely responsible for quality of workmanship and materials and for compliance with the Contract Documents.

C. DESIGN-BUILDER shall maintain quality control over suppliers, manufacturers, products, services, site conditions, and workmanship to produce Work of specified quality. Verify applicability and follow all manufacturers' recommendations and instructions for assembly, installation and testing of materials and equipment. In cases where DESIGN-BUILDER believes that such recommendations or instructions are not applicable, DESIGN-BUILDER shall submit a request for information and/or interpretation to the DOR and state the reasons for DESIGN-BUILDER'S determination. DESIGN-BUILDER shall then follow DOR'S written direction on whether to follow manufacturer's recommendations and/or instructions. Refer to specification section 01 30 00, paragraph 1.12 REQUEST FOR INFORMATION (RFI) SUBMITTALS.

1.10 QUALITY ASSURANCE

A. General:

1. The DESIGN-BUILDER shall provide a mechanism for monitoring and maintaining the performance and products of its own forces: the Design Consultants, Subcontractors of all tiers, Suppliers, Manufacturers Products, services, site conditions and workmanship during all phases of the Work, for compliance with the Contract Documents and applicable regulatory requirements, and coordination and cooperation with the OWNER and Using Agency.

B. Testing, Observations, and Inspections:

1. The Designer of Record (DOR) shall develop a program for any inspections required by the applicable building Codes, Regulations and Authority having jurisdiction and the DESIGN-BUILDER shall perform these inspections, using qualified inspectors.

2. Where the applicable Code issued by the International Code Council calls for an inspection by the Building Official, the DESIGN-BUILDER shall include the inspections in the Quality Control Plan and shall perform the inspections.

3. Except as indicated herein below, the DESIGN-BUILDER shall provide all testing, observations, inspections, and reports.

C. International Building Code (IBC) § 1704 Special Inspections:

1. The OWNER will provide all “Special Inspections” required by IBC § 1704.

2. The DESIGN-BUILDER will be furnished a copy of all reports required by IBC § 1704.

3. Inspection and testing by the OWNER shall not relieve the DESIGN-BUILDER of its responsibilities for testing, observations, and inspections necessary for quality assurance. The DESIGN-BUILDER shall correct all non-compliant work at no expense to the OWNER.

4. The DESIGN-BUILDER shall, to the best of its ability, and without compromising quality, incorporate into the Project’s design materials and building systems that minimize “Special Inspections”, or that do not require “Special Inspections”, or are permitted exceptions to the “Special Inspections”.

5. The DESIGN-BUILDER shall coordinate and schedule, including consideration for conserving resources, all “Special Inspections” described in IBC § 1704 directly with the OWNERS’s “Special Inspectors”.

1.11 WORKMANSHIP

A. Comply with specified or industry standards as minimum Work quality, except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

B. Perform Work by persons qualified to produce workmanship of specified quality.

C. Secure products in place with positive anchorage devices designed and sized in compliance to withstand stresses, vibration, and racking in compliance with State of Alaska adopted and amended code.

1.12 MOCKUPS AND FIELD SAMPLES

A. Erect complete, full-scale mockup of assembly at the Project site and perform specified tests when required by Individual Specifications Sections. Remove mockup at completion after accepted by the DOR and OWNER.

B. Provide field samples of finishes at the Project site as required by Individual Specifications Section. Install sample complete and finished. Acceptable samples in place may be retained in completed Work.

1.13 CERTIFICATIONS

A. Provide manufacturer's certifications indicating that material of Products meet or exceed specified requirements when required by Individual Specifications Sections.

B. Provide Certificates on 8-1/2”x11”. Provide a bound volume for submittal containing numerous pages.

C. Provide supporting reference data, affidavits, and certifications as appropriate.

D. Product or material certifications may be recent or previous test results, but must be acceptable to the DOR.

1.14 MANUFACTURER’S INSTRUCTIONS

A. Provide manufacturer's printed instructions before for storing, preparing, assembling, installing, start-up, adjusting, balancing, and finishing when required by Individual Specifications Sections.

B. Provide instructions on 8-1/2”x11”. Provide a bound volume for submittal containing numerous pages.

C. Comply with instructions in full detail, including each step in sequence. If the instructions conflict with Contract Documents, then submit a request for information and/or clarification (RFI) from the DOR before proceeding. Refer to specification section 01300, paragraph 1.12 REQUEST FOR INFORMATION (RFI) SUBMITTALS.

1.15 MANUFACTURER’S FIELD SERVICES

A. When required by manufacturer or when specified in Individual Specification Sections, the manufacturer shall provide quality control personnel to observe:

1. Field conditions.
2. Conditions of surfaces and installation.
3. Quality of workmanship.
4. Start-up of equipment.
5. Test, adjust and balance of equipment as applicable.
6. Make appropriate recommendations.

1.16 MANUFACTURER’S FIELD REPORTS

A. When required by manufacturer or when specified in Individual Specification Sections, provide a written report to DOR listing the manufacturer representative’s observations, recommendations, and test results to verify that Product or system meets the manufacturer’s standards or instructions. Provide copy of report to OWNER.

B. Provide reports on 8-1/2”x11”. Provide a bound volume for submittal containing numerous pages.

1.17 TOLERANCES

A. Monitor tolerance control of installed Products to produce acceptable Work. Do not allow tolerances to accumulate.

B. Comply with manufacturer’s tolerances. Submit a request for information and/or clarification (RFI) clarification from the DOR before proceeding when manufacturer’s tolerance conflicts with Contract Documents. Refer to specification section 01300, paragraph 1.12 REQUEST FOR INFORMATION (RFI) SUBMITTALS.

C. Adjust Products to appropriate dimension; position before securing Products in place.

1.18 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Specification Sections. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.

B. Protect construction exposed by or for quality control and/or assurance service activities.

C. Repair and protection are DESIGN-BUILDER responsibility, regardless of the assignment of responsibility for quality control and/or assurance services.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION 01400

SECTION 01 50 00 - CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Electricity, Lighting.

B. Heat, Ventilation.

C. Telephone Service.

D. Water.

E. Sanitary Facilities.

F. Dust Control (Interior and Exterior).

G. Construction Enclosures.

H. Barriers.

I. Barricades, Warnings, and Markings.

J. Protection of Installed Work.

K. Security.

L. Water Control.

M. Cleaning During Construction.

N. Removal.

O. Waste Storage Equipment.

P. Cleaning of the Project Area.

Q. Disposal.

R. Tool Control

1.02 RELATED REQUIREMENTS

A. Chapter 01 04 10 - Work Coordination: Use of Premises.

B. Section 01 04 10 – Work Coordination: Cooperation with Utilities.

C. Section 01 54 00 - Security.

D. Section 01 70 00 - Contract Closeout: Final cleaning.

1.03 LOCATION AND PROTECTION OF EXISTING UTILITIES AND CABLES

The CONTRACTOR shall work with the local utilities to locate and protect the User Agency's utility lines according to Section 01 00 00- Program of Facilities Requirements.

1.04 ELECTRICITY, LIGHTING

A. Building Interior:

1. Permanent convenience receptacles may be used during construction.
   a) Provide barriers and warning labels on energized equipment.
   b) Replace plates damaged during construction.
   c) Replace wiring devices damaged during construction.
2. The DEPARTMENT will pay for electricity. Take precautions to conserve energy. Wasteful use of the User Agency's power will be back charged to the CONTRACTOR.

B. Building Exterior:

1. The CONTRACTOR can provide their own or use the interior permanent convenience receptacles during construction. If interior receptacles used:

a) Provide barriers and warning labels on energized equipment.
b) Replace plates damaged during construction.
c) Replace wiring devices damaged during construction.
d) Remove cords at night and lock doors and windows.
e) Remove or repair any marks or damages after use.

2. Meet National Electrical Code requirements.
3. Provide weatherproof distribution equipment, wiring, and outlets to provide branch circuits as required to operate the CONTRACTOR'S tools and equipment throughout the facility.

1.05 HEAT, VENTILATION

A. If existing building heat and ventilation is inadequate for construction operations, provide as required.

B. Fully exhaust to the outside welding fumes generated from operations related to performance of the Work.

C. Provide ventilation of enclosed areas to cure materials, to disperse humidity, and to prevent accumulations of dust, fumes, vapors, or gases.

1.06 TELEPHONE SERVICE

A. Provide telephone service if required for construction operations.

1.07 WATER

A. Provide service required for construction operations. Extend branch piping with outlets located so that water is available by use of hoses.

B. Hoses or temporary piping will not be permitted in public areas where a hazard to the public may be created.

C. The User Agency will pay for water used.

1.08 SANITARY FACILITIES

A. Provide required facilities and enclosures adequate for temporary sanitary facilities for their employees, and Subcontractor and DEPARTMENT employees in accordance with all state and local regulations.

1. Existing latrines and toilets may not be used.
2. Provide self-contained facilities that are protected from contamination.
3. Maintain all such temporary sanitary facilities in a clean sanitary condition as approved by the Resident Engineer.

4. Remove toilet facilities after completing the work leaving the premises without nuisance.

1.09 DUST CONTROL

A. Execute Work by methods that minimize raising of dust or airborne debris from construction or demolition operations

B. Provide positive means to prevent air-borne dust from dispersing into the atmosphere or entering other occupied portions of the building.

1.10 BARRIERS

A. Provide as required to prevent public entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations.

1.11 SECURITY

A. Provide security program and facilities to protect Work, existing facilities, and Using Agency's operations from unauthorized entry, vandalism, and theft.

1.12 WATER CONTROL

A. Protect the interior of facilities from water and/or moisture infiltration

1.13 CLEANING DURING CONSTRUCTION

A. In accordance with Part 2 and Part 3 of this specification.

1.14 REMOVAL

A. Remove temporary materials, equipment, services, and construction prior to Substantial Completion inspection.

B. Clean and repair damage caused by installation or use of temporary facilities.

PART 2 PRODUCTS

2.01 WASTE STORAGE EQUIPMENT

A. Provide covered containers for deposit of materials, waste materials, debris, and rubbish. When located where exposed to winds, containers/materials shall be adequately secured to prevent release of waste materials.

PART 3 EXECUTION

3.01 CLEANING OF THE PROJECT AREA

A. Maintain all other areas under CONTRACTOR's control free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Immediately clean interior areas after completion of the work to provide suitable conditions for building occupants and tenants. All Tenant occupied areas and areas used by the general public require cleanup at the end of each shift.

3.02 DISPOSAL

A. Promptly remove waste materials, debris, and rubbish from the construction site periodically and dispose of off the site property in accordance with all Federal, State and local regulations.

END OF SECTION

SECTION 01 54 00 SECURITY

PART 1 GENERAL

1.01 RELATED REQUIREMENTS

A. Section 01 01 00 - Summary of Work.

B. Section 01 50 00 - Construction Facilities.

PART 2 PRODUCTS **Not Used.**

PART 3 EXECUTION

3.01 INTRODUCTION
The following information will guide you through the security requirements and procedures at Ted Stevens Anchorage International Airport (ANC). ANC has assigned oversight for compliance with all procedures and requirements to Airport Operations. Departments within Airport Operations have specific responsibilities which are defined in greater detail below.

Note: critical contact phone numbers
Airport Operations: 266-2600
Airport Badge Office 266-2409
Airport Dispatch 266-2415

Due to the ever-changing nature of security requirements please contact the Airport Security Manager at 266-2522 for any clarification you may need.

3.02 SECURITY PROGRAM
The Transportation Security Administration (TSA) requires ANC to control access and prevent unauthorized persons from entering Air Operations Areas (AOA). In compliance with this requirement, the airport operator has established procedures to authorize or deny access to the AOA and to identify and control persons while in these areas.

3.03 INSPECTIONS AND FINES

A. The Contractor shall be liable for any fines levied against the State, by the TSA, resulting from actions of the Contractor, or those whom the Contractor is responsible for, that cause a failure in the maintaining of security in the area of construction, to include any points of entry into the Air Operations Area (AOA) utilized for the construction project. Failure to maintain security will also include failure to abide by the Airport badge identification program or other requirements pertaining to the security of the AOA.

B. Contractor personnel are subject to random checks for compliance with the badging and permit regulations. These checks may be conducted by Airport Police, Airport Operations and the TSA.

C. In order to maintain accountability for all Airport identification badges issued, the Contractor is responsible for physically collecting and returning to the Airport Badge Office all outstanding badges no longer used for the construction project. Proof of return is State Receipt issued by the Airport Badge Office.

D. A non-refundable fine of $300.00 will be levied against the Contractor for each badge not returned within five (5) days of badge expiration or completion of the project, whichever is sooner.

E. Temporary ramp permits must be turned back into the Airport Badge Office within five (5) days of completion of work or expiration of the ramp permit(s), whichever is sooner. There is a non-refundable fine of $50.00 for each permit not returned.

F. Final payment to the Contractor will be withheld pending the return of all badges and vehicle permits to the Airport Badge Office and the settlement of all charges due ANC Accounting.

3.04 AOA ENTRY CONTROL

A. The Contractor is responsible for preventing unauthorized access to the AOA by way of the construction site. This includes maintaining ANC perimeter gates and doors in either a locked condition or attended by appropriately badged persons who ensure that only authorized personnel or vehicles are admitted through them into the AOA. Any opening of the AOA security fence requires prior coordination with Airport Operations. Contact Airport Operations at 266-2600.

B. Those persons designated to control access points into the AOA shall be instructed by Airport Operations in the proper procedures of identification requirements for persons and vehicles. These procedures are specific to each contract and may change during different phases of the contract.

C. The Contractor will provide these persons with the capability to communicate directly with Airport Operations and Airport Dispatch.

D. The Contractor will be responsible for maintaining, as a minimum, a six (6) foot clear zone on both sides of any perimeter fence line affected by the Contractor or any authorized representative.

3.05 AIRPORT IDENTIFICATION BADGES

A. The Airport Identification Badge, developed and adopted by ANC, is the only identification system recognized as authority to enter the Security Identification Display Area (SIDA) and

Sterile Areas of the airport. Only persons identified by this system are permitted access. All Airport Identification Badges must be worn on the outermost garment above the waist.

B. Any person found in the SIDA or Sterile Area, not in compliance with this program, will be removed from the area and action will be taken against violators as appropriate under Alaska State Statute or Alaska Administrative Code.

C. Control Authority

1. ANC has delegated authority for approving issuance, system control, implementation, and accountability of this program to the Airport Badge Office.

2. An individually - assigned Airport Identification Badge will be used by each Contractor employee granted access to the airport SIDA, Sterile Area or other airport restricted areas for construction projects. It does not grant access to aircraft and is valid only for the area in which their construction is actually taking place and the approved routes to and from that area.

3.06 BADGE ISSUE PROCEDURES

A. All fingerprint, security threat assessment (STA) and badge requests must be authorized through the Project Manager. Detailed instructions and applicable paperwork will be given to the Project Manager and the Contractor prior to requests being submitted to the Badge Office.

B. Badge Office general information
1. Office Location: 6040 DeHaviland Avenue, next to the Airport Police and Fire Building and across the street from the Post Office on Postmark Drive.
2. Office hours: Monday through Friday from 7:00 a.m. to 4:00 p.m. Closed holidays.
3. Contact phone number: 907-266-2409
4. Security and Ramp Driver's Training: Monday through Friday at 8:00 a.m. for walk-ins and groups of 3 or fewer individuals. Larger groups may be scheduled through the Badge Office for Tuesday or Thursday at 1:00 p.m. It is advised that you check in for training 30 minutes prior to the scheduled class time as class size is limited.
5. The fingerprinting fee is $40.00, STA fee is $20.00 and the badge fee is $40.00. Payment is required at time of service for each. All fees shall be paid by the Contractor as an incidental cost. These fees are subject to change with a 30 day notice.

C. Badging is a two-step process.

1. The first step is that each person requiring an Airport Identification Badge must submit to a FBI fingerprint based Criminal History Records Check (CHRC) and a STA. If the CHRC shows no TSA disqualifying criminal offense within the preceding ten years from the date of fingerprint submission and the TSA clears the individual for the STA, the Project

Manager is notified via email and the person may proceed to step two. Allow one to two weeks for this process to take place.

2. Step two is the Security and Ramp Driver Training and badge issuance. This training is available at the Airport Badge Office, see the times above. The actual training takes approximately 30 minutes for badge requests without a Ramp Driver's License and 60 minutes for those individuals requesting a Ramp Driver's License and, or Escort Authorization. Individuals requesting a Ramp Driver's License will be required to pass a written test. Upon successful completion of step two, an Airport Identification Badge may be issued.

D. In lieu of an Airport Identification Badge, for those employees working in the same area together, there needs to be only one employee with an Airport Identification Badge, with Escort Authorization, while the other employees in the area may be issued a visitor badge. Note: there must be an Airport I.D. Badged employee monitoring them at all times. This person must have Escort Authority indicated on their badge. A person using a visitor badge is not required to view the training video, but is expected to follow all regulations while on the restricted areas of the airport. Contractors utilizing escorts and visitor badges must receive prior approval from Airport Operations or the Airport Security Manager.

E. Any falsifications can result in revocation of the badges for the individual in question, and any fines incurred from the violations will be passed to the responsible party.

F. Per TSA regulations badges must be issued within 30 days of receiving notification the individual is cleared for badging.

G. Upon issuing an Airport Identification Badge, each badged employee will be issued a set of airport rules and regulations they shall be held responsible for while working in restricted areas of the airport.

H. An Alaska Public Safety Information Network records check may be made on the employee, to include checking current driver's license status for ramp license requests.

I. The Contractor shall be responsible for the maintenance of records necessary to ensure the retrieval of badges from employees and subContractor(s).

1. Whenever a badged person's employment authorized by the Contractor is terminated, the Contractor is responsible for immediately recovering the ID badge and returning it to Airport Badge and Vehicle Permit Office within five (5) days of an employee's termination date or the completion of the project, whichever is sooner.

2. When someone terminates employment, the Contractor shall immediately notify the Airport Badge Office so the badge can be deactivated. If termination is outside of the

normal Badge Office hours, the Contractor shall immediately notify Airport Dispatch at 266-2415 of the termination.

J. Should an employee lose his or her I.D. Badge, they should immediately notify their employer, who shall then immediately notify the Airport Badge Office. If lost after normal business hours, then it should be reported to Airport Dispatch. The Badge Office will confirm the employee's employment status prior to reactivation of a badge reported lost, then found by the owner. If requested, a replacement badge will not be issued until a replacement request letter is received and the $200.00 lost badge fee is paid. This is a separate fee from the non-refundable fine of $300.00 applied to non-returned badges. If a replacement badge is issued for a lost badge, *and* the $200.00 fee paid, the Contractor will not be charged the non-refundable fine of $300.00.

K. The Airport Operator requires each Contractor and badge holder to agree to abide by the provisions of this identification program. The Contractor shall designate one or more persons to act as the authorized point of contact for coordination in matters of badge program administration and security.

3.07 VEHICLE ACCESS ON AOA

A. As stated previously, the TSA requires the Airport Operator to control access into and prevent unauthorized vehicles from entering the AOA. In compliance with this requirement, the Airport Operator has established procedures to authorize or deny access to the AOA and to identify and control vehicles while within the AOA.

B. Proper individual identification, ramp driver's licenses, and vehicle permits must be obtained through Airport Badge Office before attempting to enter the AOA.

3.08 VEHICLE IDENTIFICATION STANDARDS

All Contractor vehicles requiring access to the AOA shall display a company logo and temporary ramp permit as issued and instructed by Airport Badge Office. All permit requests must come through and be authorized by the Project Manager.

3.09 AUTHORIZED VEHICLES

Contractor vehicles are authorized onto the AOA only when within it's area of authorization, to include access routes to and from the constructions site and required vehicle permits are properly displayed, and all occupants have the required airport identification properly displayed.

END OF SECTION 015400

SECTION 01 56 90
CONSTRUCTION CLEANING

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Cleaning and disposal of waste materials, debris, and rubbish during construction.

1.02 RELATED REQUIREMENTS

A. Document 00 92 00 - General Conditions: Article 2, DESIGN-BUILDER'S Responsibilities - Materials and Equipment, and Maintenance during Construction.

B. Individual Specifications Sections: Specific cleaning for Product or work.

PART 2 PRODUCTS

2.01 EQUIPMENT

A. Provide covered containers for deposit of waste materials, debris, and rubbish.

PART 3 EXECUTION

3.01 CLEANING

A. Maintain areas under DESIGN-BUILDER'S control free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to closing the space.

C. Broom clean interior areas prior to start of surface finishing, and continue cleaning on an as-needed basis.

D. Control cleaning operations so that dust and other particulates will not adhere to wet or newly-coated surfaces.

3.02 DISPOSAL

A. Dispose of waste materials, debris, and rubbish at designated disposal area.

END OF SECTION

SECTION 01600 - MATERIAL AND EQUIPMENT

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

A. Products.

B. Transportation and Handling.

C. Storage and Protection.

1.02 SUBMITTALS

A. Submit under transmittal letter specified in Section 01 30 00 Submittals.

B. Submit a List of Products.

C. Submit on Substitution Request Forms (BLDG-Form 10). Use this for substitutions for any manufacturer not specifically named that meets the product description specifications.

D. Submit proposed Substitute Means and Methods.

1.03 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.

1.04 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.

1.05 STORAGE AND PROTECTION

A. Handle and store materials for construction, products of demolition, and other items to avoid damage to existing building or other related vehicles and equipment. All materials stored or staged on the roof shall be properly covered and anchored to prevent materials from being blown off the roof. Do not overload the structure.

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 onto the site.

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 chemicals used in accordance with applicable local, state, and federal regulations. DESIGN-BUILDER shall provide for adequate venting if needed.

PART 2 - PRODUCTS

[Not Used]

PART 3 - EXECUTION

[Not Used]

END OF SECTION

SECTION 01 70 00 - CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Closeout Procedures.

B. Final Cleaning.

C. Project Record Documents.

D. Operation and Maintenance Data.

E. Warranties.

F. Spare Parts and Maintenance Materials.

G. Maintenance Service.

1.02 RELATED REQUIREMENTS

A. Section 00 92 00 - General Conditions

B. Section 01 00 00 – Program of Facilities Requirements

C. Section 01 04 10 – Work Coordination: Use of Premises

D. Section 01 05 00 – Design & Construction Procedures

E. Section 01 50 00 - Construction Facilities and Temporary Controls

1.03 CLOSEOUT PROCEDURES

A. Substantial Completion and Final Completion:

1. Substantial Completion:

a. Submit the following prior to requesting a Substantial Completion Inspection:

1) Evidence of Compliance with Requirements of Governing Authorities:

a) Certificate of Occupancy.

b) Required Certificates of Inspection.

2) Project Record Documents in accordance with sub section 01 70 00-1.05

3) Operation and Maintenance Data in accordance with sub section 01 70 00-1.06

4) Spare Parts and Maintenance Materials in accordance with sub section 01 70 00-1.08

b. Substantial Completion shall be considered by the CONTRACTING AGENCY when:

1) Written notice is provided 7 days in advance of inspection date.

2) List of items to be completed or corrected is submitted.

3) Operation and Maintenance Manuals are submitted and approved by the CONTRACTING AGENCY.

4) Equipment and systems have been tested, adjusted, balanced and are fully operational.

5) Automated and manual controls are fully operational.

6) Operation of system has been demonstrated to CONTRACTING AGENCY Personnel.

7) Certificate of Occupancy is submitted.

8) Certificates of Inspection for required inspections have been submitted.

9) Project Record Documents for the Work or the portion of the Work being accepted are submitted and approved.

10) Spare parts and maintenance materials are turned over to CONTRACTING AGENCY.

11) All keys are turned over to the CONTRACTING AGENCY.

c. Should the CONTRACTING AGENCY inspection find Work is not substantially complete, the Department will promptly notify CONTRACTOR in writing, listing observed deficiencies.

d. The CONTRACTOR shall remedy deficiencies and send a second written notice of Substantial Completion.

e. When the CONTRACTING AGENCY finds Work is substantially complete the CONTRACTING AGENCY will prepare a certificate of Substantial Completion in accordance with provisions of General Conditions

B. FINAL COMPLETION:

1. When CONTRACTOR considers Work is complete, submit written certification that:

a. Contract Documents have been reviewed.

b. Work has been inspected for compliance with Contract Documents.

c. Work has been completed in accordance with Contract Documents, and deficiencies listed with certificate of Substantial Completion have been corrected.

d. Work is complete and ready for final inspection.

2. Should the CONTRACTING AGENCY inspection find Work incomplete, CONTRACTING AGENCY will promptly notify CONTRACTOR in writing listing observed deficiencies.

3. CONTRACTOR shall remedy deficiencies and send a second certification of Final Completion.

4. When CONTRACTING AGENCY finds Work is complete, CONTRACTING AGENCY will consider closeout submittals.

C. REINSPECTION FEES

1. Should status of completion of Work require more than one re-inspection by the CONTRACTING AGENCY due to failure of Work to comply with CONTRACTOR's responsibility, the CONTRACTING AGENCY will deduct the cost of re-inspection from final payment to CONTRACTOR as provided in the Contract Documents.

2. Re-inspection fees shall not exceed $5,000 for any one re-inspection.

D. CLOSEOUT SUBMITTALS

1. Warranties and Bonds: Under provisions of Section 01 70 00.

2. Evidence of Payment: In accordance with Conditions of the Contract.

3. Consent of Surety to Final Payment.

4. Certificates of Insurance for Products and Completed Operations: In accordance with Supplementary Conditions.

5. Certificate of Release.

E. APPLICATION FOR FINAL PAYMENT

1. Submit application for final payment in accordance with provisions of the General Conditions of the Contract.

F. CONTRACTING AGENCY will issue a summary Change Order reflecting final adjustments to Contract Price not previously made by Change Order.

1.04 FINAL CLEANING

A. Execute final cleaning prior to Substantial Completion inspection.

B. Clean interior and exterior surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces. Clean equipment and fixtures to a sanitary condition, clean or replace filters of mechanical equipment. Clean roofs, gutters, downspouts, and drainage systems.

C. Clean site; sweep paved areas, rake clean other surfaces.

D. Use materials which will not create hazards to health or property, and which will not damage surfaces. Follow manufacturers recommendations.

E. Maintain cleaning until the CONTRACTING AGENCY issues certificate of substantial Completion.

F. Remove waste, debris, and surplus materials from the site. Clean grounds; remove stains, spills, and foreign substances from paved areas and sweep clean. Rake clean other exterior surfaces.

1.05 PROJECT RECORD DOCUMENTS

A. Maintain on site, one set of the following Record Documents; record actual revisions to the Work:

1. Drawings.
2. Specifications.
3. Addenda.
4. Change Orders and other modifications to the Contract.
5. Reviewed shop drawings, product data, and samples.
6. Manufacturers instructions for assembly, installation, and adjusting.

B. Ensure entries are complete and accurate, enabling future reference by CONTRACTING AGENCY.

C. Store Record Documents separate from documents used for construction.

D. Record information concurrent with construction progress.

E. SPECIFICATIONS: Legibly mark and record at each product section description of actual products installed, including the following:

1. Manufacturer’s name and product model and number.
2. Product substitutions or alternates utilized.
3. Changes made by Addenda and Modifications.

F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction graphically to scale including:

1. Measured depths of foundations in relation to finish first floor datum.
2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
4. Field changes of dimension and detail.
5. Details not on original Contract drawings.

1.06 OPERATION AND MAINTENANCE INSTRUCTIONS

A. Submit data bound in 8-1/2 by 11 inch (A4) text pages, 3-D side ring binders with durable plastic covers.

B. Prepare binder covers with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", title of project, and subject matter of binder when multiple binders are requested.

C. Internally subdivide the binder contents with permanent page dividers, logically organized as described below; with the tab titling clearly printed under reinforced laminated plastic tabs.

D. Contents: Prepare a Table of Contents for each volume, with each product or system description identified, typed on 24 pound white paper, in 3 parts as follows:

1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect/Engineer, CONTRACTOR, subcontractors, and major equipment suppliers.
2. Part 2: Operations and maintenance instructions, arranged by system and subdivided by Specification Section. For each category, identify names, addresses, and telephone numbers of subcontractors and 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.
    f. Maintenance instructions for special finishes, including recommended cleaning methods and materials, and precautions, including identifying detrimental agents.
3. Part 3: Project Documents and Certificates, including the following:
    a. Shop drawings and product data.
    b. Certificates.
    c. Originals of warranties and bonds.

E. Submit one draft copy of completed volumes five working days prior to Substantial Completion inspection. This copy will be reviewed and returned, with DEPARTMENT comments. Revise content of all document sets as required prior to final submission.

F. Submit three sets of revised final volumes within ten days after Substantial Completion Inspection.

1.07 WARRANTIES

A. 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 OWNER, 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.

B. Delivery of said guarantees and/or warrantees shall not relieve the CONTRACTOR from any obligations assumed under any other provision of the Contract.

C. If, within any guarantee period, repairs or changes are required in connection with the guaranteed Work, which in the opinion of the OWNER 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 OWNER, and without expense to the OWNER, 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.

D. If the CONTRACTOR, after notice, fails to comply with the terms of the guarantee, the OWNER 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.

1.08 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.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01 72 00 - PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Maintenance of Record Documents and Samples.

B. Submittal of Record Documents and Samples.

1.02 RELATED REQUIREMENTS

A. Section 01 05 00 – Design & Construction Procedures: Construction Phase Services.

C. Section 01 30 00 - Submittals: Shop Drawings, product data, and samples.

E. Section 01 70 00 - Contract Closeout: Closeout procedures.

F. Section 01 70 00 – Contract Closeout: Project Record Documents.

G. Individual Specifications Sections: Manufacturer's certificates and certificates of inspection.

1.03 MAINTENANCE OF DOCUMENTS AND SAMPLES

A. In addition to requirements in General Conditions, maintain at the site for DEPARTMENT one 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. 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.

C. 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.

D. Maintain record documents in a clean, dry and legible condition. Do not use record documents for construction purposes.

E. Keep record documents and samples available for inspection by CONTRACTING AGENCY.

F. Upon request by the CONTRACTING AGENCY submit complete collection of record documents to the CONTRACTING AGENCY for review and duplication as desired.

1.04 RECORDING

A. Record information on a set of blue line opaque Drawings, and in a copy of a Project manual.

B. Provide felt tip marking pens, maintaining separate colors for each major system, for recording information.

C. Record information concurrently with construction progress. Do not conceal any Work until required information is recorded.

D. 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.

2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.

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.

E. 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.

F. Other Documents: Maintain manufacturer’s certifications, inspection certifications, and field test records, required by individual Specifications sections.

1.05 SUBMITTALS

A. At Contract closeout, deliver record documents and samples under provisions of Section 01700.

B. Transmit with cover letter in duplicate, listing:

1. Date.

2. CONTRACTING AGENCY '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.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 21 05 00 COMMON WORK RESULTS FOR FIRE SUPPRESSION

A. This project requires the sprinkler system components to be installed in accordance with FM Global standards where they have requirements in excess of NFPA 13. Use of FM Global standards on this project does not permit any installation that does not fully comply with NFPA 13. In the perception of a conflict between the documents, consult the Engineer for interpretation.
B. Minimum qualifications of the contractor/subcontractor shall be a Company specializing in foam fire protection systems, possessing a minimum of three years' experience with systems similar in nature to the existing FedEx foam fire protection system.
C. Equipment and components: Bear the "FM" approval marking.
D. When the equipment to be installed is an addition or renovation to an existing system, enough of the existing system shall be shown on the shop drawings to indicate placement within the system, equipment performance, and set points.
E. Obtain written review and/or approval of the entire fire protection system design and arrangement from the following authorities:
    1. Architect/Engineer.
    2. Municipality of Anchorage Fire Marshal.
    3. Owner's Insurance Underwriters.
F. Piping shall match existing: Black steel piping, ASTM A135 schedule 10 or ASTM A795 schedule 40, FM Approved for fire sprinkler service. Roll-grooved, flanged, or welded for connection. Contractor shall field verify piping materials prior to ordering materials.
G. System test:
    1. Hydrostatically test the system in accordance with FM Global standards.

END OF SECTION 210500

SECTION 23 00 00 – COMMON WORK RESULTS FOR MECHANICAL

A. SCOPE OF WORK:
1. The basic work of this project includes the Package 2 and Package 3 task items noted on the RFP plan sheets. These items shall be individually priced as alternatives for the owners review and selection for construction.
2. RFP Concept Specifications and Plans: These RFP Concept documents form the basis for the contractor to provide design and construction of a complete and operational mechanical system. The documents establish the level of quality desired by the owner and minimum basic systems required for the facility. These documents shall not be construed as a complete design. The Engineer of record shall be responsible for the final design and shall approach the project using appropriate standards of care and good engineering practice.
3. The RFP Concept documents are not intended to prevent the proposing design-build teams from implementing innovative solutions to accommodate the same intent conveyed by the documents. Other systems that provide the same interior environment will be considered if they are the same or higher quality than the systems described in this section.
4. The contractor's fire protection sub-contractor shall design, install and certify that the fire protection system(s) installed or modified under this project are 100% complete, designed and constructed in accordance with NFPA 16, the City of Anchorage Fire Marshal's office, and in accordance with FM Global.
5. The design and selection of equipment and fixtures including all, process, controls, heating and ventilating equipment, shall be provided by the design build contractor in compliance with this performance specification and all locally adopted codes.
6. All IBC structural and seismic restraint requirements shall be included for all mechanical equipment installed under this project. Structural analysis and design may be provided by the design team's structural engineer or by a structural engineer hired directly by the contractor.

B. DESIGN SUBMITTAL REQUIREMENTS
1. The contractor shall provide the following information at the time of the specific milestone design submittal(s):
2. The 65% Design Submittal shall include preliminary design drawings, preliminary technical specifications, and a mechanical design narrative supporting the proposed mechanical systems to be utilized and reasoning for selection. Provide detailed description and reasons for any deviation from the specified systems, equipment, manufactures, and materials.
3. The 95% submittal shall include fully developed mechanical drawings, mechanical technical specifications, mechanical and plumbing calculations, and equipment catalog cuts for major items of equipment. Calculations shall be provided for selection of HVAC equipment, plumbing design (water, waste, storm drain), and gas piping design.
4. Final 100% Construction Documents shall be stamped and signed by a professional mechanical engineer registered to practice mechanical engineering in the State of Alaska.
5. Mechanical plans shall be at a minimum scale of 1/8 inch equal to one foot for building plans and 1/4 inch equal to one foot for mechanical room plans. Provide section views

for major equipment such as rooftop HVAC units. Provide piping schematic drawings for equipment such as water heaters. Show outline of footings for coordination of below grade piping systems.

6. Technical specifications shall be developed by the design-build engineer. This RFP shall not be used as the project specifications.
7. Controls: Submit qualifications of the design and installation firm. Submit control system shop drawings, Sequence of Operation, and catalog cuts of proposed equipment.

C. The contractor shall provide all design, permitting, materials and labor necessary for a complete and operable system. The drawings are diagrammatic and are to be an outline of the design and construction scope to be performed by the contractor. Contractor shall coordinate piping, ductwork, and equipment locations with existing conditions and other disciplines design to avoid conflict. Project design and construction shall comply with local, codes, ordinances, regulations, manufacturer's instructions and standards.

D. Unless otherwise indicated on the electrical drawings or the electrical schedules, provide all mechanical equipment motors, motor starters, thermal overload switches, control relays, thermostats, motor valves, damper motors, electric switches, electrical components, wiring and any other miscellaneous division 26 controls. Disconnect switches are included in the electrical work, unless specifically called out on mechanical plans.

E. Referenced codes - latest adopted edition

1. NFPA 16 Standard for the Installation of Foam-Water Sprinkler and Foam-Water Spray Systems.
2. NFPA 25 Standard for the Inspection, Testing and Maintenance of Water-based Fire Protection Systems.
3. NFPA 70 National electrical code (NEC)
4. IMC International Mechanical Code
5. UPC Uniform Plumbing Code
6. IFC International Fire Code
7. IBC International Building Code
8.

F. Product Submittals.

1. Submit by specification section complete in booklet form. A typewritten index shall be included with dividers and identifying tabs between sections and references to sections of specifications. One copy will be retained by the engineer for reference and checking.
2. Catalog sheets shall be complete and the item or model to be used shall be clearly marked, and identified as to which item in the specifications or on the drawings is being submitted and with drawing fixture number where applicable.

G. Seismic restraint: All equipment installed under this project shall be braced for a seismic event in accordance with the 2009 edition of the international building code and ASCE 7 Chapter 13. Contractor to provide seismic restraint calculations, and shop drawings, including structural engineers stamp and signature to municipality of anchorage plan review department, for

structural review. Seismic calculations and shop drawings shall be submitted on a deferred submittal basis. Seismic category D, component Importance Factor 1.0.

H. Dimensions: The RFP drawing documents are based on a non-destructive walk though of the facility and records drawings. The RFP drawings are not guaranteed for accuracy. The contractor shall field verify all dimensions, including elevations as part of the design scope.

I. Manufacturer's directions: All manufactured articles shall be applied, installed and handled as recommended by the manufacturer, unless specifically called out otherwise in the engineered plans. Advise the engineer of record of any such conflicts before installation. Provide miscellaneous appurtenances, accessories, supports and control connections required for complete and operating systems. Maintain manufacturers recommended service clearances.

J. Permits, Fees, Etc.: The contractor shall arrange for a permit from the local authority. The contractor shall pay for any inspection fees or other fees and charges required by ordinance, law, codes and these specifications.

K. Testing: The contractor shall, at his own expenses, perform the various tests as specified and required by the architect and as required by applicable code, the state, and local authorities.

L. Cooperation and cleaning up: The contractor for the work under each section of the specifications shall coordinate his work with the work described in all other sections of the specifications to the end that, as a whole, the job shall be a finished one of its kind, and shall carry on his work in such a manner that none of the work under any section of these specifications shall be handicapped, hindered or delayed at any time.

M. Materials: All equipment shall be regularly cataloged items of the manufacturer and shall be supplied as a complete unit in accordance with the manufacturer's standard specifications along with any optional items required for proper installation unless otherwise noted by the Engineer of record. Maintain manufacturer's identification, model number, etc. On all equipment at all times.

N. Operating instructions: Before the facility is turned over to the owner, instruct the owner or owner's personnel in the operation, care and maintenance of all systems and equipment under the jurisdiction of the mechanical division. These instructions shall also be included in a written summary in the operating maintenance manuals.

O. Operating and maintenance manuals: Submit operating and maintenance manuals to the owner covering all equipment installed by the contractor. The operation and maintenance manuals shall be bound in a loose leaf binder with reinforced holes in the sheets so as to prevent lost pages. The manual shall contain, but not limited to, the following types of information:

1. Catalog cuts of all equipment, fixtures, etc. Installed (marked to identify the specific items used).
2. Manufacturer's maintenance and overhaul instruction booklets including exploded views.
3. Identification numbers of all parts and nearest source for obtaining parts and services.

4. Reduced scale drawings of the control system and a verbal description of how these controls operate.
5. A copy of the final test and balance report.
6. A periodic maintenance form that includes all of the equipment shall be provided with the maintenance manual. The form shall list each piece of equipment and how often maintenance is required (daily, weekly, monthly, annually). Opposite each task shall be squares for check-offs for a full year (initials) to verify that the tasks are being done.

P. Project record drawings
1. In addition to other requirements of Division 1, mark up a clean set of drawings as the work progresses to show the dimensioned location and routing of all mechanical work which will become permanently concealed. Show routing of work in concealed blind spaces within the building.
2. Show the location of all valves and their appropriate tag identification.

Q. Warranty: The Contractor shall guarantee all work executed under this contract to be free from defects in materials and workmanship for a period of one year from beneficial occupancy. Any faulty materials or workmanship shall be repaired or replaced to the satisfaction of the Owner during the guarantee period.

R. Identification:

1. Label all equipment with heat resistant laminated plastic labels having engraved lettering 1/2" high. If items are not specifically listed on the schedules, consult the engineer concerning designation to use.
2. Identify piping to indicate contents and flow direction of each pipe exposed to view by a labeled sleeve in letters readable from floor at least once in each room and at intervals of not more than 20' apart.
3. Paint piping to indicate contents of flow of each pipe to match existing coloring scheme. Contractor to field verify and match colors.

S. System adjusting:
1. Each part of each system shall be adjusted and readjusted as necessary to ensure proper functioning of all controls, proper air distribution, and elimination of drafts, noise and vibration. The entire system is to be left in first class operating condition.
2. Balance air and water systems for volume quantities shown and as required to ensure even temperature and the elimination of drafts. Balancing shall be done by a qualified firm acceptable to the owner. Provide balancing log to the owner before final inspection
3. Balance air and water systems to within 10% and in accordance with nebb standards.

T. Hangers or wall supports for 1/2"-1" copper pipe: Copper horn type "Amtrol Van Hangers," sized for pipe supported.

U. Hangers for pipe sizes 1/2 to 1-1/2 inch: malleable iron, adjustable swivel, split ring for steel pipe, copper swivel for copper pipe.

V. Hangers for hot pipe sizes 2 to 4 inches and cold pipe sizes 2 inches and larger: carbon steel, adjustable, clevis.

W. Hangers for Hot Pipe Sizes 6 Inches and Over: Adjustable steel yoke, cast iron roll, double hanger.

X. Multiple or Trapeze Hangers: Steel channels or strut with hanger rods. Cast iron roll and stand for hot pipe sizes 6 inches and over.

Y. Wall support for pipe sizes to 3 inches: strut triangular bracket with pipe clamp and cushion insulator.

Z. Wall Support for Pipe Sizes 4 Inches and Over: Welded steel bracket and wrought steel clamp; adjustable steel yoke and cast iron roll for hot pipe sizes 6 inches and over.

AA. Vertical support: steel riser clamp.

BB. Copper pipe support: carbon steel ring, adjustable, copper plated with felt isolation pad or all copper ring or swivel.

CC. Steel hanger rods: threaded both ends, or continuous threaded.

DD. Anchor (ExpANSIon) Bolts: Shall be carbon steel to ASTM A 307; nut shall conform to ASTM A194; shall be drilled-in type. Design values for shear and tension shall be not more than 80 percent of the allowable load.

EE. Flashing:
1. Metal flashing: 26 gauge minimum galvanized steel.
2. Flexible flashing: 47 mil thick sheet butyl; compatible with roofing.
3. Caps: steel, 22 gauge minimum; 16 gauge at fire resistant elements.

FF. Sleeves:
1. Sleeves for pipes through non-fire rated floors: form with 22 gauge galvanized steel for up to 3" diameter.
2. Sleeves for pipes through non-fire rated beams, walls, footings, and potentially wet floors: form with steel pipe or 22 gauge galvanized steel for up to 3" diameter.
3. Sleeves for pipes through fire rated and fire resistive floors and walls, and fireproofing: prefabricated fire rated sleeves including seals, UL listed caulking.

GG. Fire stopping insulation: glass fiber type, non- combustible.

HH. Caulk: Fire stop sealant in compliance with ASTM E814 and UL 1479.

II. Hangers: Closed spring hanger with acoustic isolator.

JJ. Fan isolation: Provide seismic restraint spring type isolators for fans used in heating and ventilation units, unless factory supplied alternate isolation is supplied.

KK. Earthquake restraints: Secure fans to structure to prevent movement during seismic disturbance in accordance with IBC.

LL. Installation:
1. All work shall comply with the latest adopted applicable codes and ordinances including, but not limited to, the IMC, UPC, IBC, NFPA and IFC standards; all local and state amendments to all codes and standards.
2. Support all piping as per UPC and NFPA.
3. Provide flexible flashing and metal counter-flashing where piping and ductwork penetrate weather or waterproofed walls, floors, and roofs.
4. Extend sleeves through floors one inch above finished floor level. Caulk sleeves full depth and provide floor plate.
5. Where piping penetrates floor, ceiling, or wall, install sleeve, close off space between pipe or duct and adjacent work with fire stopping insulation and caulk seal. Use fire rated caulking where fire rated walls are penetrated. Provide close fitting metal collar or escutcheon covers at both sides of penetration.

MM. All vibrating equipment and the interconnecting pipe and ductwork shall be isolated to eliminate the transmission of objectionable noise and vibration from the structure.

END OF SECTION 230000

SECTION 23 07 00 – HVAC INSULATION

A. Products insulation - piping
   1. Type A: Glass fiber insulation; ASTM c547; 'k' value of 0.24 rigid, molded, non-combustible at 75°f, rated to 850°f, vapor retarder jacket of Kraft paper bonded to aluminum foil; Manville "micro-lok" or equal.
   2. Field applied jacket: Vapor barrier jackets: Kraft reinforced foil vapor barrier with self-sealing adhesive joints.
   3. PVC jackets: one piece, premolded type, Manville Zeston 2000, fitting covers and jacketing material.

B. Products insulation – ductwork
   1. Type C: ductwork insulation - 1" thick flexible insulation; average thermal conductivity k equals 0.24 at 75 deg. F mean temperature at 1.5 PCF density. ASTM. Factory applied vapor barrier flame retardant foil-scrim-kraft (FSK) or all service jacket and tape with permeability rating equals 0.02 perms. ASTM 96.

C. Insulation accessories:
   1. Adhesives: waterproof and fire-retardant type.
   2. Indoor jacket: 6 oz./sq. Yd. Canvas or presized glass cloth, minimum 7.8 oz./sq.
   3. Lagging adhesive: fire resistive to NFPA 255.
   4. Joint tape: glass fiber cloth, open mesh.
   5. Tie wire: annealed steel, 16 gauge.

D. Execution
   1. Install materials after piping and ductwork has been tested and approved.
   2. Clean surfaces for adhesives.
   3. Prepare surfaces in accordance with manufacturer's recommendations.

E. Installation piping insulation
   1. Install materials in accordance with manufacturer's recommendations, building codes and industry standards.
   2. Continue insulation vapor barrier through penetrations except where prohibited by code.
   3. Locate insulation and cover seams in least visible locations.
   4. Neatly finish insulation at supports, protrusions, and interruptions.
   5. For insulated pipes conveying fluids above ambient temperature, secure jackets with self-sealing lap or outward clinched, expanded staples. Bevel and seal ends of insulation at equipment, flanges, and unions.
   6. Provide insert between support shield and piping on piping 1-1/2" inches (38 mm) diameter or larger. Fabricate of Manville thermo-12 or other heavy density insulating material suitable for temperature. Insulation inserts shall not be less than the following lengths;
      i. 1-1/2" to 2-1/2" pipe size 10" long
      ii. 3" and above pipe size 12" long
   7. For piping in exposed areas paint to match existing piping coloring scheme.

F. Schedule piping

	PIPING	TYPE	MIN. INSULATION PIPE SIZE (INCH)	THICKNESS (INCH)
1.	Heating water supply and return	A	ALL SIZES	1"
2.	Piping exposed to freezing	A	ALL SIZES	2"

G. Installation ductwork insulation: Install materials in accordance with manufacturer's recommendations, building codes and industry standards.

H. Insulation (Type C) application:

1. Secure insulation with vapor barrier with wires and seal jacket joints with vapor barrier adhesive or tape to match jacket.
2. Secure insulation without vapor barrier with staples, tape, or wires.
3. Install without sag on underside of ductwork. Use adhesive or welded mechanical fasteners to prevent sagging. Secure insulation with mechanical fasteners on 15 inch centers maximum, on bottom and side of ductwork with dimension exceeding 20 inches. Seal vapor barrier penetrations by mechanical fasteners with vapor barrier adhesive. Stop and point insulation around access doors and damper operators to allow operation without disturbing wrapping.
4. Maximum 25% compression
5. Where canvas jacketing is indicated, apply mastic in sufficient thickness to completely cover the texture of the canvas material.

I. Schedule - ductwork

		MIN. INSULATION		
1.	DUCT	TYPE	THICKNESS (INCH)	FINISH
2.	Combustion air duct	C	2" rigid	Canvas
3.	Exhaust relief openings within 10 t of exterior openings	C	1" rigid	Canvas
A.	Outside air intake ducts	C	2" rigid	Canvas

END OF SECTION 230700

SECTION 23 09 23 – DIRECT DIGITAL CONTROL SYSTEM FOR HVAC

A. Products: Johnson Controls, Metasys no substitutions.
B. Scope of work: All new automated equipment shall receive equipment controls to be integrated into the existing Johnson Controls Metasys backbone.
C. The direct digital control system provided shall be designed, furnished, installed, tested, certified and placed into service by a Control Contractor who is regularly engaged in the installation of direct digital control systems in Alaska. The Control Contractor shall maintain an office in Alaska with parts and maintenance personnel to ensure prompt response (24 hour maximum) to an emergency call during the one year correction period. The Control Contractor, if other than the manufacturer, shall hold a manufacturer's franchise or license to design and install control systems for that manufacturer.
D. Provide all necessary hardware and software to meet the system's functional specifications.
E. Design, provide, and install all equipment cabinets, panels, data communication network cables needed, and all associated hardware. Prepare individual hardware layouts, interconnection drawings, and software configuration and project design data.
F. Design, provide, and install all equipment cabinets, panels, data communication network cables needed, and all associated hardware.
G. Prior to programming, ordering of equipment, or installation of any portion of the system submit the following in a single tabbed and indexed PDF package for review by the Project Manager. The shop drawings shall include an electronic bookmark for every major system initial sheet. Shop drawings without bookmarks will be rejected without review for correction. System architecture diagram showing power supply to each component; interconnection of direct digital controllers, building management station, and peripherals; and indication of proposed location of direct digital controllers.
H. Sequence of operations. Print sequence of operations on the schematic control diagrams so that the relevant sequence is on the same diagram with the control schematic it describes. Written sequence of operations to be submitted to the Owner in language that explains the sequences of operation.
I. Provide supervisory specialists and technicians at the job site to assist in system startup, and commissioning.
J. Provide as-built documentation, operator's terminal software, diagrams, and all other associated project operational documentation (such as technical manuals) on approved media, the sum total of which accurately represents the final system.
K. Operation and Maintenance Manuals must be submitted for review, reviewed by the Owners representative, corrected in accordance with review comments, and accepted by the Owner representative before a request for final or substantial completion inspection will be considered.
L. The Contractor will completely check out, calibrate and test all connected hardware and software to insure that the system performs in accordance with the approved specifications and sequences of operation.
M. Provide complete demonstration of system operation to the Owners representative at the project substantial completion inspection. The Contactor will demonstrate to the Owner's satisfaction that all equipment and systems operate in accordance with the sequence of operation.

END OF SECTION 230923

SECTION 23 15 00 – COMPRESSED AIR SYSTEMS

A. Compressed air piping, above grade: The pipe shall be of rigid and manufactured in Aluminum alloy 6063-T5 as defined in ASTM B241 and EN573.3. The extruded pipe shall conform to EN755.2, EN755.8 and EN573.3 standards. The exterior will be blue powder coat lacquer; RAL 5012 in accordance with EN755.8. Quick-to-connect type, Kaeser SmartPipe, Parker Transair or approved equal.
B. Compressed air fittings, above grade:
    1. 16.5mm - 40mm connectors shall be of push-to-connect type. The connectors shall utilize a gripping ring technology with a half-turn release nut mechanism. They shall incorporate a lateral dismantling feature for the rigid pipe and the fittings.
        i. The connectors shall be manufactured in engineering grade plastic (PA 6.6 + 30% fiber glass reinforced) with gripping teeth manufactured in stainless steel Z10 CN 17-7E2 and with NBRHD70 nitrile seals.
        ii. The quick connect fittings must have the visual torque indicator to guarantee proper installation of the fittings.
        iii. Male stud couplings and wall brackets shall be brass nickel plated black.
    2. 50mm - 63 mm connectors shall use a double clamp ring technology with a threaded release nut mechanism. They shall provide a lateral dismantling feature for the rigid pipe.
        i. The connectors shall be manufactured in black cataphoresis aluminum AS9U3 with a clamp ring manufactured in aluminum AS9U3 and with NBRHD70 nitrile seals. Male stud couplings and wall brackets shall be brass nickel plated black.
C. Ball Valves: MSS SP 110, Class 150, bronze, two piece body, type 316 stainless steel ball, full port, Teflon seats, blow-out proof stem, threaded ends, lever handle.
D. Compressed air outlets: Provide design for quick disconnect outlets per plans. Outlets shall be sized for minimum pressure loss, coordinate with owner for fitting type to match existing equipment.
E. Pressure regulators: Pressure Regulators: Aluminum alloy or plastic body, diaphragm operated, direct acting, spring loaded, manual pressure setting adjustment, and rated for 250 psig inlet pressure.
F. Filtration: Furnish 1 micron particulate pre-filter, and coalescing filters with activated carbon capable of removing water and oil aerosols. Filters shall be ISO 8573.1 Class 2 sized at 2X of compressor rated flow.
G. Oiled Air Compressors: Air Compressor: Duplex compressor unit consisting of air-cooled compressor, horizontal air receiver, after cooler, and operating controls.
H. Auto Drains: Furnish receiver tank with electrically initiated auto-drain.
I. Compressor Accepted Manufacturers: Quincy, Atlas Copco, Champion, Gardner Denver, Saylor Beal.
J. Reciprocating Compressors: Reciprocating compressor with positive displacement oil pump lubrication system, suction inlet screen, discharge service valves, on cast iron or welded steel base for motor and compressor with provision for V-belt adjustment.
    1. Compressor package shall be rated for 100% duty cycle.
    2. Automatic Capacity Reduction Equipment: Microprocessor controlled suction valve unloading device with lifting mechanism operated by gas discharge pressure. Furnish unloaded compressor start.

3. Motor: Constant speed with electronic overheating protection in each phase with full voltage starting.
4. Control Panel: Factory mounted and wired, NEMA Type 4 enclosure, steel construction, with power and control wiring, factory wired for single point power connection.
5. Starter: Furnish with manual reset current overload protection, starter relay, control power transformer, terminal strip for connection to interface equipment.
6. Safety Controls: Manually reset low oil pressure cutout.
7. Panel Face: Compressor run light, start-stop switch, elapsed time meter.
8. Quincy model QR-25 or approved equal.

K. Compressed Air Dryer Accepted Manufacturers: Atlas Copco series AD, Gardner Denver series DHP, FS Elliot series BP, Zeks series ZBA, Deltech series ZP, Kaeser series KBD, Domnick Hunter series DBA.

L. Compressed Air Dryer -
1. ISO 8573.1 Class 2 Desiccant Dryer with externally heated blower regeneration. Continuous pressure dew point performance -40°F dew point. Air purge regeneration not allowed.
2. Control Panel: Factory mounted and wired, NEMA Type 4 enclosure, steel construction, with power and control wiring, factory wired for single point power connection. Moisture/demand driven variable speed mode for energy management.

M. Execution
1. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.
2. Remove scale and dirt on inside and outside before assembly.
3. Prepare piping connections to equipment with flanges or unions.
4. Keep open ends of pipe free from scale and dirt. Protect open ends with temporary plugs or caps.

N. Installation
1. Install drip connections with valves at low points of piping system.
2. Install take-off to outlets from top of main, with shut off valve after take off. Slope take-off piping to outlets.
3. Install compressed air couplings, female quick connectors where outlets are indicated.
4. Install tees instead of elbows at changes in direction of piping. Fit open end of each tee with plug.
5. Cut piping accurately and install without springing or forcing.
6. Install pipe sleeves where pipes pass through walls, floors, roofs, and partitions.
7. Install firestopping at fire rated construction penetrations and openings.
8. Install pipe identification in accordance with Section 22 05 53.
9. Except where indicated, install ball valves with stem vertical and accessible for operation and maintenance.
10. Install strainers on inlet side of pressure regulators.

O. INSTALLATION – EQUIPMENT
1. Install air compressor and air dryer on concrete housekeeping pad.
2. Install air compressor unit on vibration isolators. Level and bolt in place.
3. Install line size shut-off valve and check valve on compressor discharge.
4. Install condensate drain piping to floor drain.

P. FIELD QUALITY CONTROL

1. Compressed Air Piping Leak Test: Prior to initial operation, clean and test compressed air piping in accordance with ASME B31.1.
2. Test system with dry compressed air or dry nitrogen with test pressure in piping system at 50 psi.

Q. CLEANING
1. Blow systems clear of free moisture and foreign matter.

END OF SECTION 231500

SECTION 23 21 13 – HVAC PIPING

A. Materials heating piping
   1. Pipe size 3" and under - Copper tubing: ASTM B88, Type l, hard drawn.
      i. Fittings: ANSI/ASME B16.18 cast bronze of ANSI/ASME B16.22 wrought copper.
      ii. Joints: ASTM B32, solder, grade 95TA or ANSI/AWS A5.8, BCuP silver braze.

   2. Pipe size over 3" - Steel pipe: ASTM A53, schedule 40, black.
      i. Fittings: ANSI/ASTM B16.3, malleable iron or ASTM A234, steel welding type fittings.
      ii. Joints: ANSI/AWS D1.1, welded.

B. Natural gas piping, above grade: Steel pipe: ASTM A53, schedule 40 black. Fittings: ANSI/ASME B16.3, malleable iron, or ASTM A234, steel welding type. Joints: screwed for pipe two inches and under and if low pressure, or if medium pressure and outside building; ANSI/AWS D1.1, welded, for pipe over two inches.

C. Globe valves: Will not be permitted. Use ball or gate valves.

D. Gate valves
   1. Will not be permitted for pipe size 4" and under. Use ball valves.
   2. Size over 4" - MSS SP 70, Class 125, cast iron body, bronze trim, bolted bonnet, rising stem, hand-wheel, outside screw and yoke, solid wedge disc with bronze seat rings, flanged ends. Furnish chain-wheel operators for valves 6 inches and larger mounted over 8 feet above floor.

E. Ball valves
   1. Up to 2 inches: bronze two piece body, full port, forged brass, chrome plated ball, teflon seats and stuffing box ring, lever handle, solder ends.
   2. Over 2 inches: cast steel, two piece body, full port chrome plated steel ball, teflon seat and stuffing box seals, lever handle flanged. Seat material to be compatible with liquid handled.

F. Gas cocks
   1. Up to 2 inches: bronze body, bronze tapered plug. Non-lubricated, teflon packing, threaded ends.
   2. Over 2 inches: cast iron body and plug, non- lubricated, teflon packing, flanged ends.

G. Air vents
   1. Float type: brass or semi-steel body, copper float, stainless steel valve and valve seat; suitable for system operating temperature and pressure; with isolating valve.
   2. High Capacity Automatic Air Vent: Cast iron body, stainless steel and brass trim, EPDM diaphragm, rated for 250°F, 2 PSIG through 150 PSIG, ¾ inch system connection, 3/8 inch NPT connection to atmosphere with drain piping. Provide with isolation valve and strainer upstream of vent. Armstrong AAE-750 or equal.

H. Balance valves: Angle or straight pattern, inside screw globe valve for 125 psig working pressure, with bronze body and integral union for screwed connections, renewable composition disc, plastic wheel handle for shut-off service, and lockshield key cap and set screw memory bonnet for balancing service.

I. Air separators: In-line Air Separators: Cast iron for sizes 1-½ inch and smaller, or steel for sizes 2 inch and larger; tested and stamped in accordance with Section 8D of ANSI/ASME Code; for 125 psig operating pressure.

J. Pump suction fittings: Fitting: Angle pattern, cast-iron body, threaded for 2 inch and smaller, flanged for 2-½ inch and larger, rated for 175 psig working pressure, with inlet vanes, cylinder strainer with 3/16 inch diameter openings, disposable fine mesh strainer to fit over cylinder strainer, and permanent magnet located in flow stream and removable for cleaning.

K. Strainers
   1. Size 2 inch and Under: Screwed brass or iron body for 175 psig working pressure, Y pattern with 1/32 inch stainless steel perforated screen
   2. Size 2-½ inch to 4 inch: Flanged iron body for 175 psig working pressure, Y pattern with 3/64 inch stainless steel perforated screen

L. Diaphragm-type compression tanks: Construction: Welded steel, tested and stamped in accordance with Section 8D of ANSI/ASME Code; supplied with National Board Form U-1, rated for working pressure of 125 psig, with flexible EPDM diaphragm sealed into tank, and steel legs or saddles.

M. Relief valves: Bronze body, Teflon seat, stainless steel stem and springs, automatic, direct pressure actuated, capacities ASME certified and labeled.

N. HVAC piping installation:

   1. Provide auto air vents at system high points.
   2. Provide high capacity air vents at air separators.
   3. Provide air separator on suction side of system circulation pump and connect to expansion tank.
   4. Provide valved drain and hose connection on strainer blow down connections.
   5. Provide pump suction fitting on suction side of base mounted centrifugal pumps. Remove temporary strainers after cleaning systems.
   6. Provide check valve, balance valve and isolation valve on discharge side of base mounted centrifugal pumps.
   7. Provide relief valves on pressure tanks, low pressure side of reducing valves, and heat exchangers.
   8. Pipe relief valve outlet to nearest floor drain.
   9. Install piping to conserve building space and not interfere with use of space.
   10. Group piping whenever practical at common elevations.
   11. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.
   12. Provide clearance for installation of insulation and access to valves and fittings.

13. Provide access where valves and fittings are not exposed. Coordinate size and location of access doors.

The assembled loop system shall be pressure tested with water at 100 psi (for 30 minutes with no observed leaks.

END OF SECTION 232113

SECTION 23 31 00 – HVAC DUCTWORK

A. Materials ductwork
    1. General: non-combustible or conforming to requirements for class 1 air duct materials, or UL 181.
    2. Steel ducts: ASTM A527 galvanized steel sheet, lock-forming quality, having zinc coating of 1.25 oz. Per sq. Ft. For each side in conformance with ASTM A90.

B. Low pressure ductwork
    1. Fabricate and support in accordance with SMACNA low pressure duct construction standards and ASHRAE handbooks, except as indicated. Provide duct material, gauges, reinforcing, and sealing for operating pressures indicated.
    2. Construct t's, bends, and elbows with radius of not less than 1-1/2 times width of duct on centerline. Where not possible and where rectangular elbows are used, provide air foil turning vanes.
    3. Increase duct sizes gradually, not exceeding 15° divergence wherever possible. Divergence upstream of equipment shall not exceed 30°; convergence downstream shall not exceed 45°.
    4. Provide easements where low pressure ductwork conflicts with piping and structure. Where easements exceed 10 percent duct area, split into two ducts maintaining original duct area.
    5. Use crimp joints with or without bead for joining round duct sizes 12 inch and smaller with crimp in direction of air flow.
    6. Use double nuts and lock washers on threaded rod supports.

C. Dampers: Provide outside and return air dampers of galvanized steel with ultra low leakage vinyl bulb edging and end seals in galvanized frame, with galvanized steel axles in self-lubricating nylon bearings, in opposed blade arrangement with damper blades positioned across short air opening dimension.

D. Installation ductwork
    1. Locate ducts with sufficient space around equipment to allow normal operating and maintenance activities.
    2. Install and seal ducts in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible.
    3. Install duct hangers and supports in accordance with SMACNA

E. Installation fans
    1. Install per manufacturer’s instructions.
    2. Do not operate fans for any purpose until ductwork is clean, bearings lubricated, and fans have been test run under observation.

Provide safety screen where inlet or outlet is exposed.

END OF SECTION 233100

SECTION 26 05 00

A. Scope of Work: Furnish and install all material and equipment for extension to the existing electrical system as indicated on the drawings and in these specifications.
B. Standards, Codes and Regulations: Comply with the latest adopted edition of the National Electrical Code, International Building Code, and International Fire Code including all State and local amendments to these codes. Comply with the latest published version of the NECA Standard of Installation.
C. Drawings: The drawings are diagrammatic, not necessarily showing all offsets or exact locations of fixtures, equipment, etc. unless specifically dimensioned. Review the drawings and specifications for equipment furnished by other crafts but installed in accordance with this section. Bring questionable or obscure items, apparent conflicts between plans and specifications, governing codes or utilities regulations to the attention of the Architect. Codes, ordinances, regulations, manufacturer's instructions or standards take precedence when they are more stringent or conflict with the drawings and specifications.
D. Record Drawings: Mark up a clean set of drawings as the work progresses to show the dimensioned location and routing of all electrical work which will become permanently concealed. Show routing of work in permanently concealed blind spaces within the building. Show complete routing and sizing of any significant revisions to the systems shown.
E. Workmanship: Installation of all work shall be made so that its several component parts shall function as a workable system complete with all accessories necessary for its operation. All material and equipment shall be installed in accordance with the manufacturer's recommendations, instructions and/or installation drawings and in accordance with NECA standards. Materials and equipment shall be new and shall conform with applicable industry standards, NEMA standards and Underwriters Laboratories Standards where applicable.
F. Submittals: Provide material and equipment submittals containing a complete listing of material and equipment shown on the drawings. Include catalog numbers, wiring diagrams, rough-in dimensions and performance data for all material and equipment. Submittals shall be in electronic .pdf format, separate from work furnished under other divisions. Index and clearly identify all material and equipment by item, name or designation used on the drawings. Submittal review is for general design and arrangement only and does not relieve the Contractor from any requirements of the Contract Documents. The Submittals are not checked for quantity, dimension, or for proper operation. Where deviations of a substitute product or system performance have not been specifically noted in the submittal by the Contractor, provisions of a complete and satisfactory working installation is the sole responsibility of the Contractor.
G. Operation and Maintenance Manuals: Provide operation and maintenance manuals for training of the Owner's personnel. Describe the procedures necessary to operate the system including start-up, operation, emergency operation and shutdown. Provide instructions and a schedule of preventive maintenance in tabular from for all routine cleaning, inspection and lubrication with recommended lubricants. Provide instructions for minor repair or adjustments required for preventive maintenance routines. Provide manufacturer's descriptive literature including approved shop drawings covering devices used in any Contractor-provided equipment or systems with illustration, exploded views, etc.
H. Warranty: The Contractor shall guarantee all work executed under this contract to be free from defects in materials and workmanship for a period of one year from beneficial occupancy. Any faulty materials or workmanship shall be repaired or replaced to the satisfaction of the Owner during the guarantee period.

I. Permits: Secure and pay for all fees, permits, etc. required by local and State agencies.
J. Reference Symbols: The electrical "Legend" on the drawings is a standardized version, and all symbols shown may not be used. Use the "Legend" as a reference for the symbols used on the drawings.
K. Penetration Of Fire Barriers: All electrical penetrations through fire rated barriers shall be sealed in accordance with NEC Article 300.21 and the following:
    1. All holes or voids created to extend electrical systems through fire rated floors, walls or ceiling shall be sealed with an asbestos-free intumescent fire stopping material capable of expanding 8 to 10 times when exposed to temperatures 250 degrees F or higher.
    2. Materials shall be suitable for the fire stopping of penetrations made by steel, glass, plastic and shall be capable of maintaining an effective barrier against flame, smoke and gases in compliance with the requirements of ASTM E814, UL 1479 and the UL Fire Resistance Directory requirements for Through-Penetration Firestop Devices (XHCR).
    3. The rating of the fire stops shall be the same as the time-rated floor, wall or ceiling assembly.
    4. Install fire stopping materials in accordance with the manufacturer's instructions.
    5. Unless protected from possible loading or traffic, install fire stopping materials in floors having void openings of four (4) inches or more to support the same floor load requirements as the surrounding floor."

END OF SECTION 260500

SECTION 26 05 05 – SELECTIVE DEMOLITION FOR ELECTRICAL

A. Demolition drawings are based on casual field observation and existing record drawing. Report discrepancies to Owner before disturbing the existing installation. Disconnect electrical systems in walls, floors, and ceilings scheduled for removal. Provide temporary wiring and connections to maintain all existing electrical systems (telephone, fire alarm, lighting, electrical service, etc.) in service during construction. Disable systems only to make switchovers and connections.
B. Obtain permission from Owner at least 24 hours before partially or completely disabling system. Minimize outage duration and make temporary connections to maintain service in areas adjacent to work area. When work must be performed on energized equipment or circuits, use personnel experienced in such operations.
C. Remove, relocate and extend existing installations to accommodate new construction. Remove abandoned wiring to source of supply. Remove exposed abandoned conduit, including abandoned conduit above accessible ceiling finishes. Where abandoned conduit enters existing surfaces to remain, cut conduit flush with walls and floors, and patch surfaces. Disconnect abandoned outlets and remove devices. Remove abandoned outlets if conduit servicing them is abandoned and removed. Provide blank cover for abandoned outlets which are not removed.
D. Disconnect and remove abandoned panelboards and distribution equipment. Disconnect and remove electrical devices and equipment serving utilization equipment that has been removed. Disconnect and remove abandoned luminaires. Remove brackets, stems, hangers and other accessories. Repair adjacent construction and finishes damaged during demolition and extension work. Maintain access to existing electrical installations which remain active.

END OF SECTION 260505

SECTION 26 05 19 – WIRE AND CABLE

A. Submittals: None required for this section.
B. Materials:
   1. All conductors shall be copper with Type XHHW, THWN, THW or THHN insulation. Minimum branch circuit conductor size shall be 12 AWG. Minimum control circuit conductor size shall be #18 AWG.
   2. Control circuits shall be copper, stranded conductor, 600V insulation, THHN/THWN, minimum size 18 AWG.
C. Installation:
   1. Color code wires by line or phase. Color code the 120/208V conductors black, red, blue, and white. For 277/480V, color code conductors brown, orange, yellow and gray.
   2. Do not share neutral conductors. Provide a dedicated neutral conductor for each branch circuit that requires a neutral.
   3. Use properly sized insulated spring wire connectors with plastic caps for all conductors #8 AWG and smaller. Terminate #6 AWG and larger conductors with crimp or compression type connectors installed with tool recommended by connection manufacturer and insulate with properly sized 600 Volt rated heat shrink tubing.
   4. Installation Schedule: Building wire in raceways at all locations unless otherwise noted. Provide XHHW-2 for feeders and in exterior locations.

END OF SECTION 260519

SECTION 26 05 33 – RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

A. Submittals: None required for this section.
B. Materials
   1. Rigid Steel Conduit: ANSI C80.1. Fittings and conduit bodies: ANSI/NEMA FB 1; threaded type with insulated throat bushings, material to match conduit.
   2. Intermediate Metal Conduit (IMC): Galvanized steel. Fittings and conduit bodies: ANSI/NEMA FB 1; use fittings and conduit bodies specified above for rigid steel conduit.
   3. Electrical Metallic Tubing Conduit (EMT): ANSI C80.3. galvanized tubing. Fittings and conduit bodies: ANSI/NEMA FB 1; steel or malleable iron, compression type or set screw fittings with insulated throat bushings. Die-cast fittings are not acceptable. Maximum size shall be 2". Provide factory elbows on sizes 1-1/2" and larger.
   4. Flexible Metal Conduit: FS WW-C-566; steel, full wall thickness. Reduced wall flexible metal conduit is not acceptable. Fittings and conduit bodies: ANSI/NEMA FB 1; steel or malleable iron with insulated throat bushings. Die cast fittings are not acceptable.
   5. Liquidtight Flexible Conduit: Flexible metal conduit with PVC jacket. Fittings and conduit bodies: ANSI/NEMA FB 1; steel or malleable iron with insulated throat bushings. Die cast fittings are not acceptable.
   6. Provide galvanized or cadmium plated, one piece pressed steel outlet boxes 4 inch square or octagonal, 1 1/2 inches deep minimum size for use in interior areas.
   7. For telecommunications systems, outlet boxes shall be 4 inches square, 2-1/4 inches deep minimum.
   8. Provide cast aluminum or feralloy type boxes with gasketed cover, threaded hubs and NEMA 3R rating for use in exterior or wet locations.
C. Installation:
   1. Install conduit for all systems unless otherwise noted, 1/2 inch minimum size, except conduit for special systems shall be 3/4” minimum. In slab above grade, exposed outdoor locations, wet interior locations, branch circuits 60 Amperes or larger, and feeders shall be Rigid Steel conduit or Intermediate metal conduit.
   2. Exposed dry interior locations shall be Rigid Steel conduit or Intermediate metal conduit. Electrical metallic tubing may be used exposed when installed on the ceiling, a minimum of ten feet above the floor or where not subject to physical damage. EMT may also be used for concealed, dry, interior locations.
   3. Motor and equipment connections shall be short extensions of flexible metal conduit to allow for vibration. Liquidtight flexible conduit and fittings shall be used for these connections in damp or wet locations.
   4. Provide outlet boxes as shown on the drawings, and as required for splices, taps, wire pulling, equipment connections, device installation and code compliance.
   5. Do not install boxes back-to-back in walls. Provide a minimum 6 inch separation for minimum sound transmission.
   6. Use multiple-gang boxes where more than one device are mounted together; do not use sectional boxes.
   7. Support boxes independently of conduit.
   8. Coordinate mounting heights and locations of outlets mounted above counters, benches and backsplashes.

END OF SECTION 260533

SECTION 26 05 53 – IDENTIFICATION FOR ELECTRICAL SYSTEMS

A. Submittals: None required for this section.
B. Materials
   1. Nameplates: Engraved three-layer laminated plastic, white letters on a black background. Nameplates shall be provided to identify all electrical distribution and control equipment and loads served.
   2. Tape Labels: Adhesive tape labels, with 3/16 inch Bold Black letters on clear background made using Dymo Rhinopro 5000 or equal label printer.
   3. Wire and Cable Markers: Cloth markers, split sleeve or tubing type.
C. Installation:
   1. Gear: Provide engraved three-layer laminated plastic nameplates with white letters on a black background to identify all electrical distribution, control equipment, loads served, and low-voltage system panels.
   2. Conduits: Mark all conduits entering or leaving panelboards with indelible black magic marker with the circuit numbers of the circuits contained inside. Label feeder conduits and spare conduits at each end with source and termination point.
   3. Junction Boxes: Mark all circuit numbers of wiring on all junction boxes with sheet steel covers. Mark with indelible black marker. On exposed junction boxes in public areas, mark on inside of cover. Mark all fire alarm system junction boxes with sheet steel covers with “FA.” Mark with indelible red marker. Mark all other special system junction boxes with sheet steel covers.
   4. Wire Identification: Provide wire markers on each conductor in panelboard gutters, pull boxes, outlet and junction boxes, and at load connection. Markers shall be located within one inch of each cable end, except at panelboards, where markers for branch circuit conductors shall be visible without removing panel deadfront.
   5. Device Plates: Label each receptacle device plate or point of connection denoting the panelboard name and circuit number. Install label on the top of each plate.

END OF SECTION 260553

SECTION 26 24 16 – PANELBOARDS

A. Submittals: Submit product data for approval.
B. Material:
   1. Manufacturers: Square D, GE, Eaton, or Equal.
   2. Provide dead-front circuit breaker panelboards with bus size, short circuit rating, number and size of branch circuits as shown on the drawings. Bussing shall be copper. Cabinets shall be 6 inches deep by 20 inches wide minimum. Provide with flush or surface fronts, as noted on the drawings, with concealed trim clamps, concealed hinge and flushlock. Finish in manufacturer's standard gray enamel. Molded case circuit breakers shall be bolt-on thermal magnetic trip type with common trip handle for all poles.
   3. New breakers in existing panels: NEMA AB 1; UL listed for use in the panel, ampere rating and number of poles as indicated on Plans. AIC rating shall match the lowest rated device in the panel.
C. Installation:
   1. Install panelboards plumb with top of cabinet 6'-6" above finished floor unless otherwise noted on the drawings.
   2. Provide typed circuit directories for each panelboard
   3. Stub 5 empty one inch conduits to accessible location above ceiling [below floor] out of each recessed panelboard.
   4. All panelboards shall have signage for arc hazard installed. The marking shall be located to be clearly visible to qualified personnel before examination, adjustment, servicing or maintenance of the equipment. At a minimum the 3-line signage shall state the following: Warning - Arc Flash and Shock Hazard - Appropriate PPE Required.
   5. Install new breaker(s) in existing panel(s) and test for proper operation. Update circuit directory to reflect all changes.

END OF SECTION 262416

SECTION 26 28 19 – ENCLOSED SWITCHES

A. Submittals: Submit product data for approval.
B. Materials:
   1. Manufacturers: Square D, GE, Eaton, or Equal
   2. Fusible switch assemblies: NEMA KS 1; Type HD; quick-make, quick-break, heavy-duty load interrupter enclosed knife switch with externally operable handle interlocked to prevent opening front cover with switch in ON position. Handle lockable in OFF position. Enclosure shall be NEMA KS 1; Type 1, 3R or 4 as indicated on Drawings. Fuses shall be Class RK1; RK5; dual element, current limiting, time delay, one-time fuses, 600V, with an interrupting rating of 200,000 rms amperes.
   3. Nonfusible Switch Assemblies: Same criteria as above without the fuses.
C. Installation
   1. Install disconnect switches in accordance with the manufacturer's installation instructions. Field locate final location of disconnects to allow ready access and NEC 110.26 working clearances where applicable.
   2. All fused disconnects shall have signage for arc hazard installed. The marking shall be located to be clearly visible to qualified personnel before examination, adjustment, servicing or maintenance of the equipment. At a minimum the 3-line signage shall state the following: Warning - Arc Flash and Shock Hazard - Appropriate PPE Required

END OF SECTION 262819

SECTION 26 29 13– MOTOR STARTERS

A. Submittals: Submit product data for approval.
B. Materials:
   1. Manufacturers: Square D, GE, Eaton, or Equal
   2. Manual and Fractional Motor Starters: NEMA ICS 2, AC general purpose Class A, manually operated unit with number of poles as required by the load served, full-voltage controller for fractional horsepower induction motors, with thermal overload unit, red pilot light, and toggle operator.
   3. Magnetic Motor Starters: NEMA ICS 2; AC general-purpose Class A, full voltage starting, non-reversing type magnetic controller for induction motors rated in horsepower. Provide bi-metal thermal overload relay. Combine motor starters in common enclosure with motor circuit protector circuit breaker that has integral instantaneous magnetic trip in each pole. Include two field convertible contacts in addition to seal-in contact, red LED light, and HAND/OFF/AUTO selector switch in front cover. Include a three phase power monitor in each magnetic starter connected to shut down the motor on loss of any phase, phase reversal, or low voltage on any phase. Power monitor shall automatically reset and restart motor when phase and voltage conditions return to normal. Provide oversize starter enclosures as required to install power monitor.
C. Installation
   1. Select and install heater elements in motor starters to match installed motor characteristics.
   2. Field adjust the trip settings of all motor starter magnetic trip only circuit breakers to approximately 11 times motor full load current. Determine full load current from motor nameplate following installation.
   3. After final connections are made, check and correct the rotation of all motors.
   4. Motor starting equipment shall be listed for use and properly sized for operation with the motors specified by Mechanical.

END OF SECTION 262913

SECTION 28 31 00– ADDRESSABLE FIRE ALARM AND SMOKE DETECTION SYSTEM

A. Summary: This section includes Contractor designed and installed addressable fire alarm and smoke detection system. This is a performance type specification describing the minimum acceptable fire alarm system. The Contractor shall design and install the fire alarm and smoke detection system in accordance with the requirements of NFPA 72 and ADAG. The fire alarm devices on the drawings are shown in suggested locations. The final locations of all devices shall be solely determined by the Contractor and shall be in accordance with NFPA 72 and ADAG. All new devices added to the existing fire alarm control panel shall be UL listed for operation on the existing panel.
B. Submittals: Submit product data for approval.
C. Materials:
   1. Initiating and Signaling Line Circuits: Twisted, shielded or unshielded fire alarm cable as recommended by the fire alarm system manufacturer. Minimum size #16 AWG.
D. Installation:
   1. The complete fire alarm system shall be installed in accordance with the manufacturer's instructions.
   2. Install fire alarm wiring in a dedicated raceway system per Section 26 05 33.

END OF SECTION 283100

LEGEND

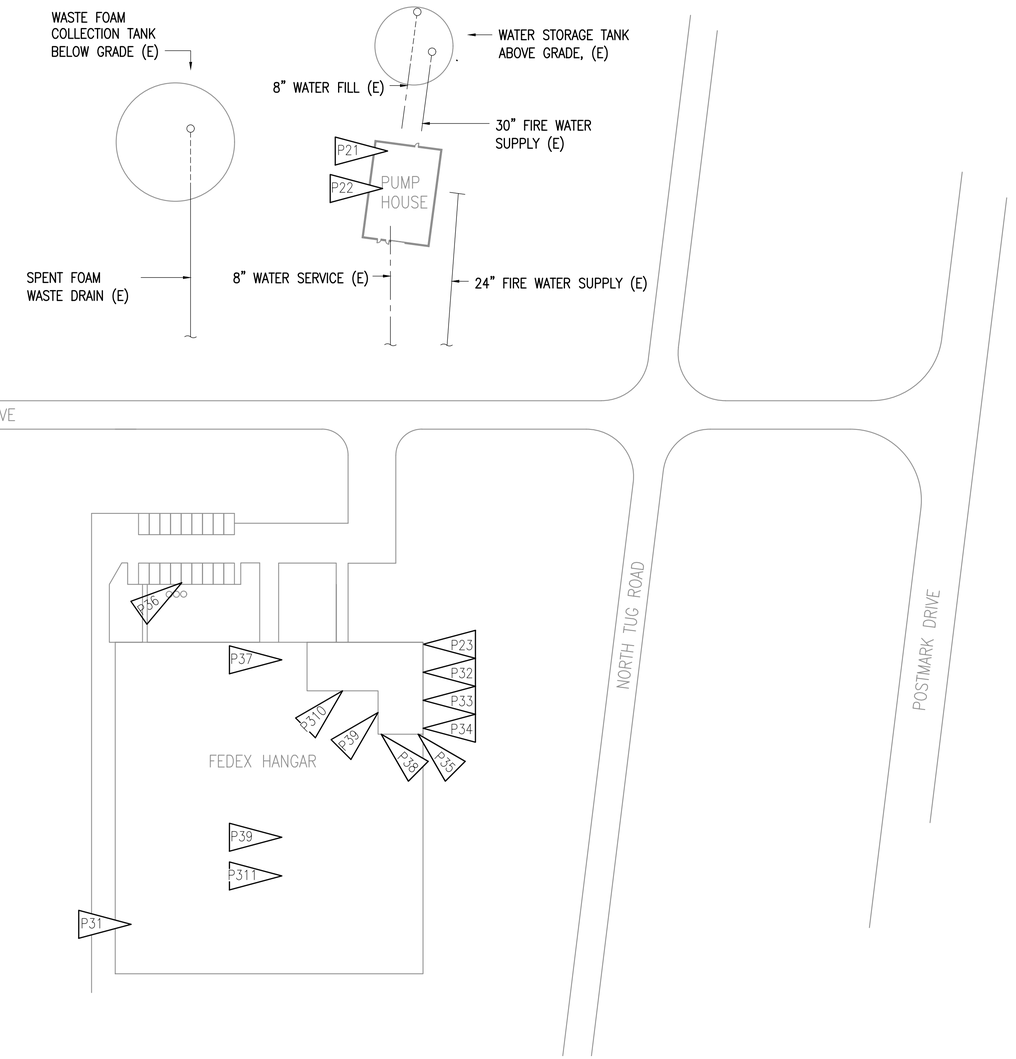
- DENOTES DEMOLITION
- HEAVY LINE DENOTES NEW WORK
- HGS/HGR — HEATING GLYCOL SUPPLY/RETURN
- G — NATURAL GAS PIPING
- PIPE UP
- PIPE DOWN
- TEE UP
- TEE DOWN
- CAP
- 90 ELBOW
- TEE
- UNION
- DIRECTION OF FLOW
- GATE VALVE (EXISTING)
- ISOLATION VALVE
- CHECK VALVE
- CIRCULATING PUMP
- 3-WAY CONTROL VALVE
- BALANCE/SHUT-OFF VALVE
- LUG END BUTTERFLY VALVE
- LUG END BUTTERFLY VALVE
- GAS ISOLATION VALVE
- PRESSURE RELIEF VALVE
- A — ANALOG CONTROL/COMMUNICATIONS
- B — BINARY CONTROL/COMMUNICATIONS
- CONTROL/COMMUNICATION SIGNAL
- MODBUS — ELECTRONIC COMMUNICATIONS
- ROUND DUCT UP & DOWN
- SUPPLY AIR UP & DOWN
- POINT OF CONNECTION (NEW TO EXISTING)
- 5 / M2 — DETAIL NUMBER / SHEET LOCATED ON

GENERAL NOTES

1. PACKAGE 1 ITEMS BID UNDER ANOTHER COVER.
2. ALL PROJECT SCOPE ITEMS SHALL BE PRICED AS ALTERNATES, TO BE INDIVIDUALLY APPROVED AND ACCEPTED BY THE OWNER INTO THE CONTRACT. EACH ITEM SHALL BE LISTED AS LINE ITEM ITEM PRICING TO INCLUDE BUT NOT LIMITED TO ENGINEERING, MOBILIZATION, MATERIALS, LABOR, CLOSEOUT, OVERHEAD & PROFIT.
3. THE INFORMATION SHOWN ON THIS SET IS TAKEN FROM AS-BUILT DRAWINGS AND A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. NO GUARANTEE IS GIVEN TO THE ACCURACY OF THESE DRAWINGS. THE CONTRACTOR SHALL VERIFY CONDITIONS AS WELL AS ENGINEERING AND CONSTRUCTION SERVICES FOR A COMPLETE PROJECT.

PROJECT SCOPE ITEMS

- P21 — PACKAGE 2 ITEM 1 – REFERENCE SHEET M03.
- P22 — PACKAGE 2 ITEM 2 – REFERENCE SHEET M03.
- P23 — PACKAGE 2 ITEM 3 – REFERENCE SHEET M02.
- P31 — PACKAGE 3 ITEM 1 – REFERENCE SHEET M02.
- P32 — PACKAGE 3 ITEM 2 – REFERENCE SHEET M02.
- P33 — PACKAGE 3 ITEM 3 – REFERENCE SHEET M02.
- P34 — PACKAGE 3 ITEM 4 – REFERENCE SHEET M02.
- P35 — PACKAGE 3 ITEM 5 – REFERENCE SHEET M02.
- P36 — PACKAGE 3 ITEM 6 – REFERENCE SHEET M01.
- P37 — PACKAGE 3 ITEM 7 – REFERENCE SHEET M01.
- P38 — PACKAGE 3 ITEM 8 – REFERENCE SHEET M02.
- P39 — PACKAGE 3 ITEM 9 – REFERENCE SHEET M01, M02.
- P310 — PACKAGE 3 ITEM 10 – REFERENCE SHEET M02.
- P311 — PACKAGE 3 ITEM 11 – REFERENCE SHEET M01.



1 MECHANICAL SITE PLAN
1/64" = 1'-0"

PROPOSAL DOCUMENTS NOT FOR CONSTRUCTION

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FEDEX HANGAR MECHANICAL AND ELECTRICAL UPGRADE

REVISIONS:

DRAWN BY:	SF
CHECKED BY:	TTG
DATE:	02/03/16
JOB NUMBER:	L5148
DWG FILE:	L5148

DRAWING TITLE: MECHANICAL SITE PLAN

SHEET: M 00

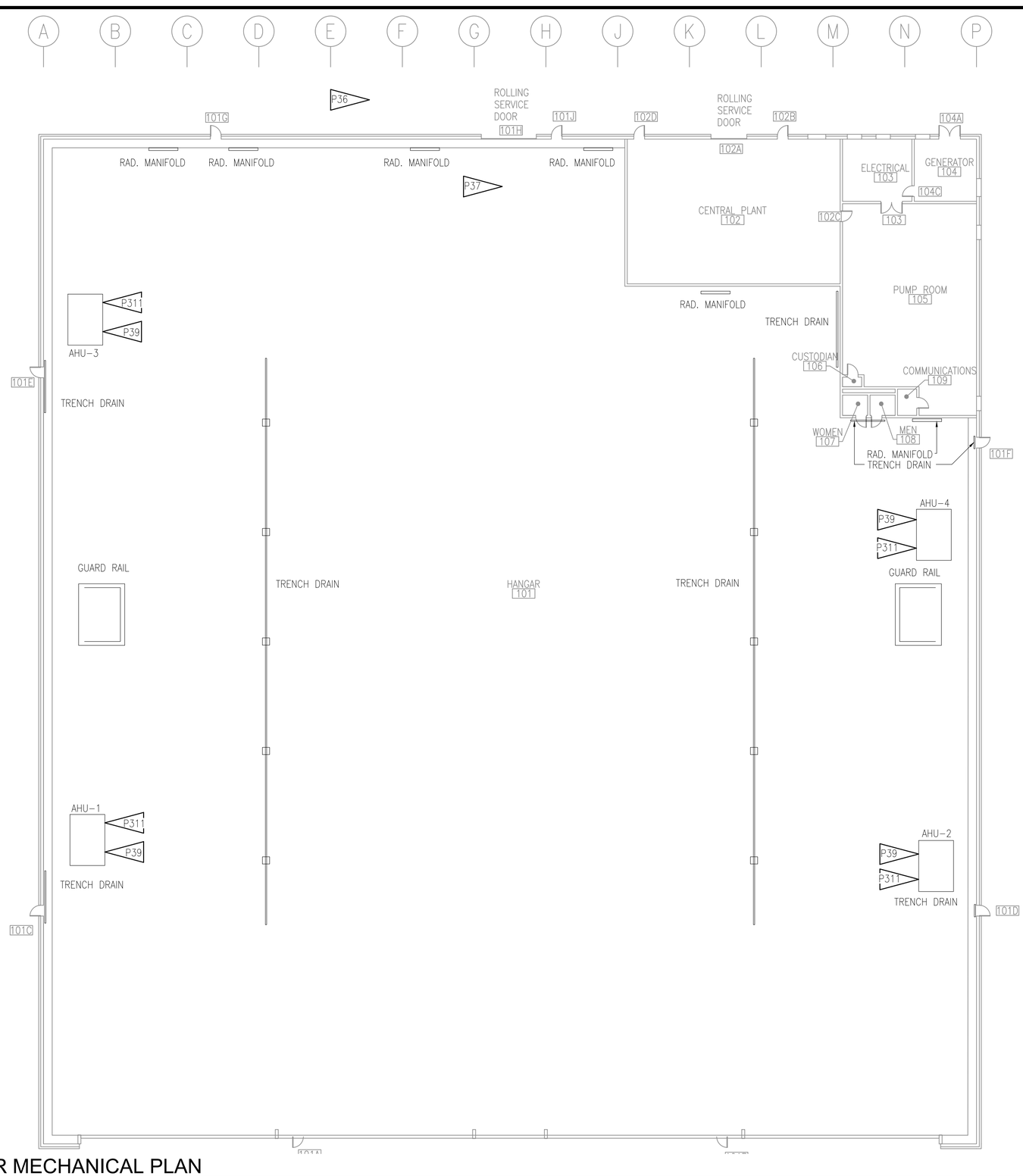
PROJECT SCOPE ITEMS

P36 PACKAGE 3 ITEM 6 – EXCAVATE AND REPAIR OR REPLACE UNDERGROUND BUILDING WASTE DIVERTER VALVE, APPROXIMATELY 12' DEEP. REMOVE AND REINSTALL VALVE ACTUATOR SUCH THAT IT CAN BE SERVICED ABOVE GROUND. (LIMITORQUE MODEL L120–20, SERIAL NUMBER M099943. MOTOR DATA ID: 27900081–872 F–M140–V00–03 P1 HP: 0.5, RPM 1725.) REMOVE SHALLOW MANHOLE AND REPLACE WITH 4", 5'X5' REINFORCED CONCRETE HOUSEKEEPING PAD TO MOUNT ACTUATOR. ALL BACKFILL MUST BE COMPACTED TO 95%. INSTALL SECURITY FENCE WITH GATE AROUND ACTUATOR. ALTERNATIVELY A SMALL STRUCTURE COULD BE INSTALLED TO PROTECT AND SECURE THE ACTUATOR. IN EITHER CASE ENOUGH ROOM MUST BE PROVIDED TO ALLOW EASY SERVICE ACCESS TO THE ACTUATOR. REINSTALL POWER AND CONTROLS SIGNAL FROM THE HANGAR TO THE ACTUATOR. LAWN/LANDSCAPING MUST BE REPAIRED WHEN COMPLETE. INSTALL MAINTENANCE PROVISIONS PER MANUFACTURER'S RECOMMENDATIONS.

P37 PACKAGE 3 ITEM 7 – RELOCATE EXISTING EXHAUST FAN TO ACCESSIBLE LOCATION ON MEZZANINE. PROVIDE NEW EXHAUST PENETRATION AND PATCH EXISTING PENETRATION TO MATCH. REFERENCE EXHIBIT SHEET EX01 (M09.03–1).

P39 PACKAGE 3 ITEM 9 – REPLACE OIL FILLED TYPE PLUG VALVES WITH BALANCING VALVES AND RE–BALANCE, TYPICAL OF 17 AVERAGE SIZE 6", CONTRACTOR TO VERIFY SIZE, NUMBER AND LOCATION OF VALVES PRIOR TO PRICING. REFERENCE EXHIBIT SHEETS EX03 (M09.06) & EX04 (M09.07). REBALANCE NEW BALANCE VALVES TO ORIGINALLY SPECIFIED FLOW–RATES, REFERENCE WAREHOUSE ASBUILTS FOR DESIGN FLOWS.

P311 PACKAGE 3 ITEM 11 – REPLACE EXISTING AIR HANDLER UNIT HYDRONIC HEATING COILS AND RE–PIPE TO COILS UTILIZING EXISTING CONTROLS AND VALVES. EXISTING HEATING COILS ARE SIZED FOR: 35,000 CFM, ENT AIR TEMP: 60°F, LVG AIR TEMP: 103, 185 GPM, 1,641,000 BTU/H, MAX AIR PRESSURE DROP: 0.4", MAX FACE VELOCITY 350 FT/MIN. REFERENCE SHEET EX05 (M09.10).



1 HANGAR MECHANICAL PLAN
1/16" = 1'-0"

PROPOSAL DOCUMENTS NOT FOR CONSTRUCTION

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FEDEX HANGAR MECHANICAL AND ELECTRICAL UPGRADE

REVISIONS:

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JOB NUMBER:	L5148
DWG FILE:	L5148

DRAWING TITLE:
MECHANICAL
HANGAR FLOOR PLAN

SHEET:
M 01

PROJECT SCOPE ITEMS

P23 PACKAGE 2 ITEM 3 – REPLACE FOAM PRESSURE BYPASS VALVE, WITH NEW PRESSURE VALVE SUITABLE FOR FOAM FIRE SUPRESSION SYSTEM. CALIBRATE VALVE TO MAINTAIN SYSTEM PRESSURE PER ORIGINAL SYSTEM SPECIFICATIONS. CONTRACTOR SHALL SELECT VALVE BASED ON ENGINEERING ANALYSIS OF EXISTING SYSTEM AND SUBMIT FOR OWNER APPROVAL. VALVE SHALL BE FM GLOBAL LISTED: KNUNKLE 218/228, CLA–VAL E–850B–4 OR SIMILAR. REFERENCE EXHIBIT SHEET EX08 (F11.02). SEE EXHIBIT PHOTO 2/M04.

P31 PACKAGE 3 ITEM 1 – REPLACE EXISTING AIR COMPRESSOR, AIR DRYER WITH NEW COMPRESSOR (QUINCY QR–25 OR APPROVED EQUAL) SHALL BE 100% DUTY CYCLE DUAL HEAD OIL PRESSURE LUBRICATED WITH OIL FILTER DISPLACEMENT COMPRESSOR W/ PRE AND POST FILTRATION. PROVIDE WITH HEATED BLOWER DESICCANT DRYER SIZED TO MEET ISO 8573.10 CLASS 2 –40 DEG F SPECIFICATION. PURGE CYCLE DESICCANT DRYERS ARE NOT ALLOWED. DEMOLISH EXISTING COMPRESSED AIR SYSTEM IN ITS ENTIRETY. DEMOLISH AND REPLACE COMPRESSED AIR SYSTEM WITH CORROSION PROOF COMPRESSED AIR DISTRIBUTION SYSTEM PIPED FROM AIR DRYER OUTLET TO SERVE: WING TANK/JACK AIR HIGH VOLUME MAIN WITH MANIFOLD AND SHOP TOOLS. PIPING AND FITTINGS SHALL BE SIZED TO DELIVER SPECIFIED AIR FLOW RATES WITHOUT SIGNIFICANT PRESSURE LOSS AT 120 PSI. INTEGRATE COMPRESSOR PACKAGED CONTROLLERS INTO EXISTING DDC SYSTEM AND GRAPHICS FOR STATUS MONITORING AND ALARMS. REFERENCE EXHIBIT SHEET EX02 (M09.04), EX06 (P8.02) & EX07 (P8.03). SEE EXHIBIT PHOTO 1/M04.

NEW LOCATION FOR RIGID PIPE COMPRESSED AIR FITTINGS SHALL BE ON HANGAR WALL SIDE OF THE S/W CORNER OF CENTRAL PLAN ROOM 102. PROVIDE MAIN QUICK CONNECT OUTLET FOR CONNECTION OF LARGE DIAMETER FLEXIBLE LINE AND MINIMUM OF 2 TOOL AIR QUICK CONNECTION OUTLETS AT THIS LOCATION. COORDINATE WITH OWNER FOR AIR JACK AND WING VENT COMPRESSED AIR CONNECTION TYPE REQUIREMENT.

ENGINEER OF RECORD SHALL SUBMIT A PIPE SIZING STUDY WITH CALCULATIONS INCLUDING ALL RIGID DISTRIBUTION PIPING, EQUIPMENT, FLEXIBLE AIR LINES & FITTINGS FROM THE COMPRESSOR OUTLET TO THE POINTS OF DELIVERY. CONTRACTOR SHALL RECOMMEND SIZING FOR FLEXIBLE AIR LINES AND DISTRIBUTION MANIFOLD TO BE USED FOR AIR JACKING OPERATION, WING TANK VENTING OPERATIONS AND TYPICAL TOOL AIR OPERATION. CONTRACTOR SHALL PROVIDE HOSE REEL FOR LARGE DIAMETER HOSE IF DEEMED NECESSARY BASED ON FINAL HOSE SIZING CALCULATIONS.

COMPRESSED AIR SYSTEM CRITERIA:

- COMPRESSOR AND DRYER PACKAGE SHALL BE SIZED TO DELIVER A MINIMUM 30 ACFM @ 120 PSI (235 SCFM). MINIMUM RECEIVER TANK SIZE 200 GALLONS.
- RIGID PIPING DISTRIBUTION FROM COMPRESSOR PACKAGE TO THE MECHANICAL/BOILER ROOM SOUTHWEST CORNER (PROJECT SIZED/CALCULATED, PROJECT FURNISHED AND INSTALLED).
- RIGID PIPING DISTRIBUTION FROM PLANT TO THE EXISTING ABCO AUXILARY POWER UNIT COMPRESSED AIR PIPING BELOW GRADE. PIPING CONNECTION TO BE MADE WITHIN BUILDING, CONTRACTOR TO VERIFY LOCATION AND CFM REQUIREMENTS OF EXISTING EQUIPMENT. CONTRACTOR TO SIZE PIPING APPROPRIATE FOR CONNECTED EQUIPMENT.
- SHOP TOOL AIR COMPRESSED AIR PIPING, FITTINGS, FLEXIBLE LINE AND OUTLET SHALL BE SIZED TO DELIVER A MAXIMUM OF 7.5 ACFM @ 120 PSI (58 SCFM), ASSUME THE USE OF 100 FEET OF FLEXIBLE COMPRESSED AIR LINE TO POINT OF DELIVERY. FLEXIBLE LINE SHALL BE CONTRACTOR SIZED/CALCULATED, FEDEX FURNISHED.
- LARGE FLEXIBLE COMPRESSED AIR LINE TO THE CENTER OF THE HANGAR FROM THE RIGID PIPE AIR SYSTEM TO A DISTRIBUTION MANIFOLD AT END OF LINE. APPROXIMATE LENGTH OF LARGE COMPRESSED AIR LINE IS 100'. LARGE LINE AND MANIFOLD SHALL BE SIZED TO DELIVER A MAXIMUM OF 27.5 ACFM @ 120 PSI (216 SCFM). LARGE DIAMETER MAIN SHALL BE PROJECT SIZED/CALCULATED, FEDEX FURNISHED, MANIFOLD SHALL BE PROJECT SIZED, PROJECT FURNISHED. MANIFOLD SHALL BE OF RIGID PIPING, SIMILAR TO REMAINDER OF SYSTEM.
- POINT OF USE LINES FROM CENTRAL DISTRIBUTION MANIFOLD TO AIR USE POINTS, MINIMUM OF 4 QUICK CONNECT FITTINGS FOR POINT OF USE LINES TO SERVE WING TANK VENT AND COMPRESSED AIR LIFTS. SIZE POINT OF USE LINES FOR MAXIMUM DEMAND OF 9.5 ACFM @ 120 PSI (75 SCFM). FLEXIBLE LINES SHALL BE PROJECT SIZED/CALCULATED, FEDEX FURNISHED.

P32 PACKAGE 3 ITEM 2 – DEMOLISH RADIANT FLOOR HEAT EXCHANGER, THREE WAY VALVE AND RADIANT FLOOR CIRCULATION PUMP (PUMP THP–1, 260 GPM, 100' HD, 10 HP). PROVIDE ENGINEERED SYSTEM DESIGN AND REPLACE HEAT EXCHANGER WITH NEW DDC CONTROLLED 3–WAY VALVE SYSTEM FOR TEMPERATURE MIXING. INSTALL NEW BASE MOUNTED RADIANT SLAB PUMP (THP–1). INSTALL THP–1 ON EXISTING CONCRETE HOUSE KEEPING PAD. PROVIDE WITH NEW ISOLATION VALVES, FLEXIBLE FITTINGS, SUCTION DIFFUSER AND CHECK VALVE. EXTEND EXISTING DDC SYSTEM AND GRAPHICS TO MONITOR AND CONTROL THE NEW MIXING VALVE, AND PUMP AS REQUIRED FOR RADIANT SLAB OPERATION. SYSTEM SHALL MONITOR SYSTEM TEMPERATURES, PRESSURES, VALVE AND PUMP STATUS. SYSTEM SHALL ALARM UPON LOW TEMPERATURE, LOW PRESSURE OR EQUIPMENT FAILURE. SYSTEM SHALL ALARM UPON HIGH TEMP AND SHUTDOWN.

DEMOLISH, PROVIDE ENGINEERED SYSTEM DESIGN AND REPLACE THREE EXISTING FIRETUBE BOILERS WITH NEW BOILER & PIPING PACKAGE, CSD–1 AND FM GLOBAL APPROVED CONTROLS, MINIMUM TOTAL OUTPUT 13,000,000 BTU/H. DRAIN DOWN ALL HEATING SYSTEMS INCLUDING RADIANT FLOOR SYSTEM, FLUSH AND BOIL OUT COMPLETED SYSTEM AND PROVIDE NEW 40% PROPYLENE GLYCOL ANTIFREEZE SOLUTION WITH INHIBITORS. PROVIDE A COMPLETE AND OPERABLE PACKAGE INCLUDING NEW BOILER FLUES, SEALED COMBUSTION (WHERE REQUIRED), GAS PIPING, CONDENSATE DRAIN KITS (WHERE REQUIRED), CONTROLS & RE–PIPE BOILERS TO EXISTING SYSTEM IN A PRIMARY SECONDARY PIPING ARRANGEMENT. THE NEW BOILER VENTING SYSTEM SHALL BE ENGINEERED TO MEET MANUFACTUER'S RECOMMENDATIONS FOR MINIMUM DRAFT AND PRESSURE LOSS. EXISTING BOILER PUMPS PHP–1,2&3 MAY BE RE–USED IF SUITABLE FOR NEW SYSTEM DESIGN. INTEGRATE BOILER MANUFACTURER CONTROL PANEL STATUS AND ALARM OUTPUTS TO EXISTING DDC SYSTEM GRAPHICS FOR MONITORING. OEM BOILER MANUFACTURER CONTROL PANEL TO CONTROL BOILER PRIMARY PUMPS, DDC CONTROL OF BOILER PUMPS NOT ALLOWED. REFERENCE EXHIBIT SHEETS EX02 (M09.04) & EX03 (M09.06). CONTRACTOR SHALL PRICE TWO BOILER PACKAGES INCLUDING ALL PIPING AND APPURTENANCES FOR A FULL AND OPERATIONAL SYSTEM:

OPTION ONE PACKAGE: HIGH EFFICIENCY BOILERS, MINIMUM 3 BOILERS, LOW MASS CONDENSING TYPE, MINIMUM 94% THERMAL EFFICIENCY, MINIMUM 10:1 TURNDOWN RATIO, SEALED COMBUSTION, PRESSURE VENT SYSTEM LISTED FOR USE WITH CATEGORY IV GAS APPLIANCE. MANUFACTURERS PACKAGED BOILER CONTROLS. AERCO BENCHMARK, LOCHINVAR CREST OR APPROVED EQUAL.

OPTION TWO PACKAGE: MINIMUM 3 BOILERS, BENT–TUBE/SHOCKPROOF TYPE, MINIMUM 85% COMBUSTION EFFICIENCY, MINIMUM 5:1 TURNDOWN RATIO, DOUBLE WALL VENT SYSTEM LISTED FORE USE WITH CATEGORY III GAS APPLIANCE, MANUFACTURERS PACKAGED BOILER CONTROLS, BRYAN HE–RV OR APPROVED EQUAL.

P33 PACKAGE 3 ITEM 3 – PROVIDE & INSTALL SUPPLEMENTAL AND REDUNDANT BASE MOUNTED PUMP (SHP–2): BELL & GOSSETT MODEL 1510 BF, 10.625" IMPELLER, 40 HP 11800 RPM, TO MATCH EXISTING. INSTALL NEW PUMP ON NEW POURED CONCRETE HOUSE KEEPING PAD. PROVIDE NEW PUMP (SHP–2) WITH ISOLATION VALVES, FLEXIBLE FITTINGS, SUCTION DIFFUSER AND CHECK VALVE. EXTEND EXISTING DDC SYSTEM AND GRAPHICS TO CONTROL SYSTEM PUMPS WITH MONITORING, CONTROL AND ALARM FUNCTIONS. SEE EXHIBIT PHOTO 3/M05.

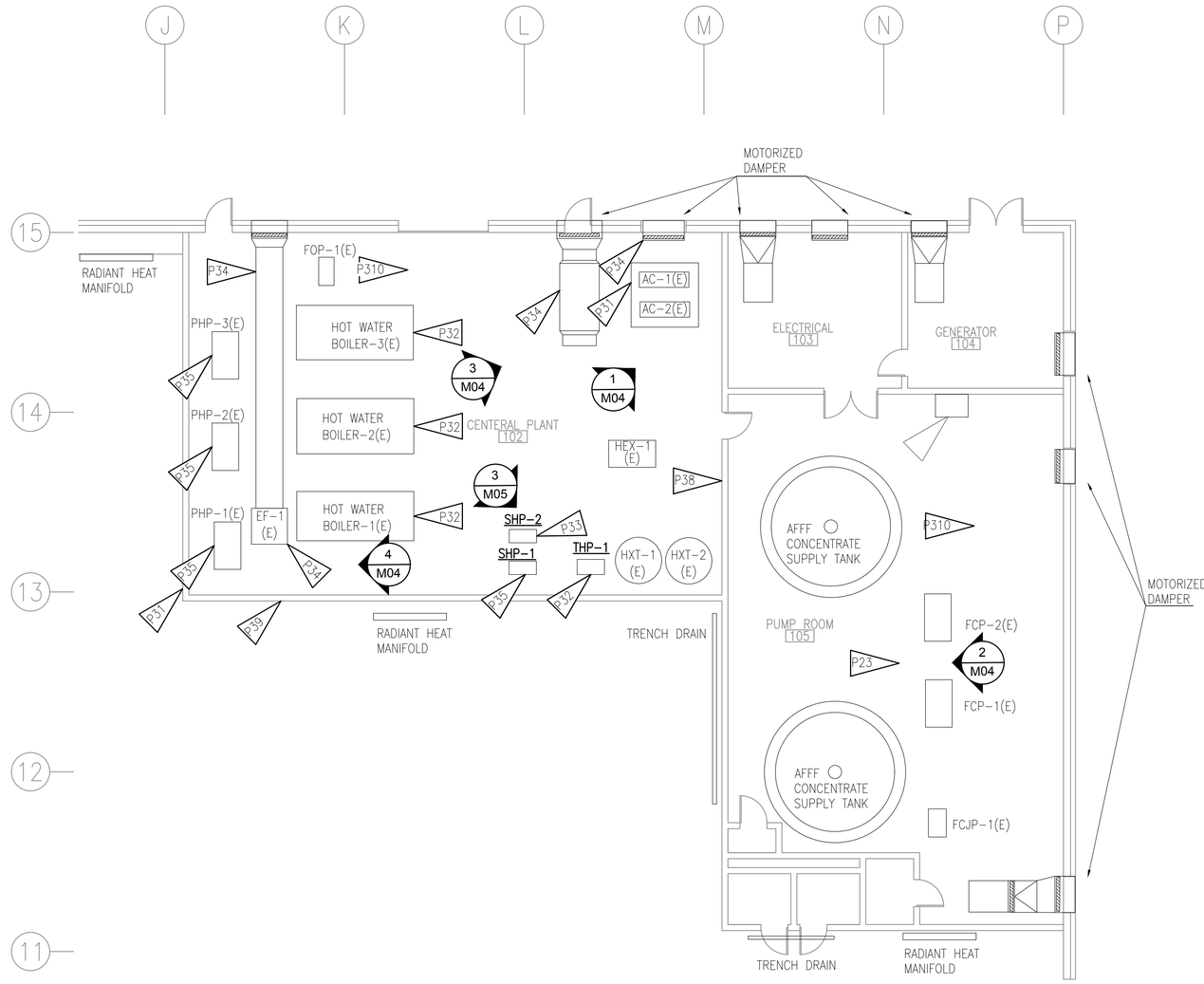
P34 PACKAGE 3 ITEM 4 – DEMOLISH EXISTING MAKEUP AIR UNIT AND COMBUSTION AIR DAMPER. EXISTING EXHAUST FAN UNIT TO REMAIN, ABANDON IN PLACE. INSTALL INSULATED UPTURN ELBOW ON COMBUSTION AIR OPENING, TERMINATE 12" BELOW CEILING. OPENING SHALL BE SIZED FOR COMPRESSOR INTAKE, DRYER INTAKE (IF REQUIRED) BOILER COMBUSTION AIR (IF REQUIRED) AND RELIEF AIR FUNCTIONS. PROVIDE AND INSTALL NEW AXIAL VENTILATION FAN WITH RETURN MIXING DAMPER AND OUTSIDE AIR DAMPER IN PLACE OF DEMOLISHED MAKE–UP AIR UNIT. UNIT SHALL BE DESIGNED TO MEET COOLING LOAD IN THE BOILER ROOM SPACE. CONTROL VENTILATION FAN TO TEMPER SUPPLY AIR WITH RETURN MIXING DAMPER. EXTEND EXISTING DDC SYSTEM AND GRAPHICS TO CONTROL NEW VENTILATION FAN AND MIXING AIR TEMPERATURE OPERATION, PROVIDE FAN AND DAMPER STATUS AND ALARMS. REFERENCE EXHIBIT SHEET EX02 (M09.04). SEE EXHIBIT PHOTO 3/M04.

P35 PACKAGE 3 ITEM 5 – INSTALL ISOLATION GATE VALVES ON DISCHARGE OF BASE MOUNTED HEATING PUMPS, TYPICAL OF 4. REFERENCE EXHIBIT SHEET EX02 (M09.06). SEE EXHIBIT PHOTO 4/M04.

P38 PACKAGE 3 ITEM 8 – REVISE MOTOR STARTER CONTROLS PER ELECTRICAL PLANS.

P39 PACKAGE 3 ITEM 9 – REPLACE OIL FILLED TYPE PLUG VALVES WITH BALANCING VALVES AND RE–BALANCE, TYPICAL OF 17 AVERAGE SIZE 6", CONTRACTOR TO VERIFY SIZE, NUMBER AND LOCATION OF VALVES PRIOR TO PRICING. REFERENCE EXHIBIT SHEETS EX03 (M09.06) & EX04 (M09.07). REBALANCE NEW BALANCE VALVES TO ORIGINALLY SPECIFIED FLOW–RATES, REFERENCE WAREHOUSE ASBUILTS FOR DESIGN FLOWS.

P310 PACKAGE 3 ITEM 10 – PROVIDE AND INSTALL 4 NEW 10 KW ELECTRIC UNIT HEATERS, 2 EACH IN CENTRAL PLANT ROOM 102 & 2 EACH IN PUMP ROOM 105. UNIT HEATERS SHALL BE PROVIDED WITH THERMOSTATIC CONTROL AND TWO SPACE TEMPERATURE ALARMS TO DDC.



1 HANGAR AREA 'A' MECHANICAL PLAN
1/8" = 1'-0"

PROPOSAL DOCUMENTS NOT FOR CONSTRUCTION

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FEDEX HANGAR MECHANICAL AND ELECTRICAL UPGRADE

REVISIONS:

DRAWN BY:	SF
CHECKED BY:	TTG
DATE:	02/03/16
JOB NUMBER:	L5148
DWG FILE:	L5148

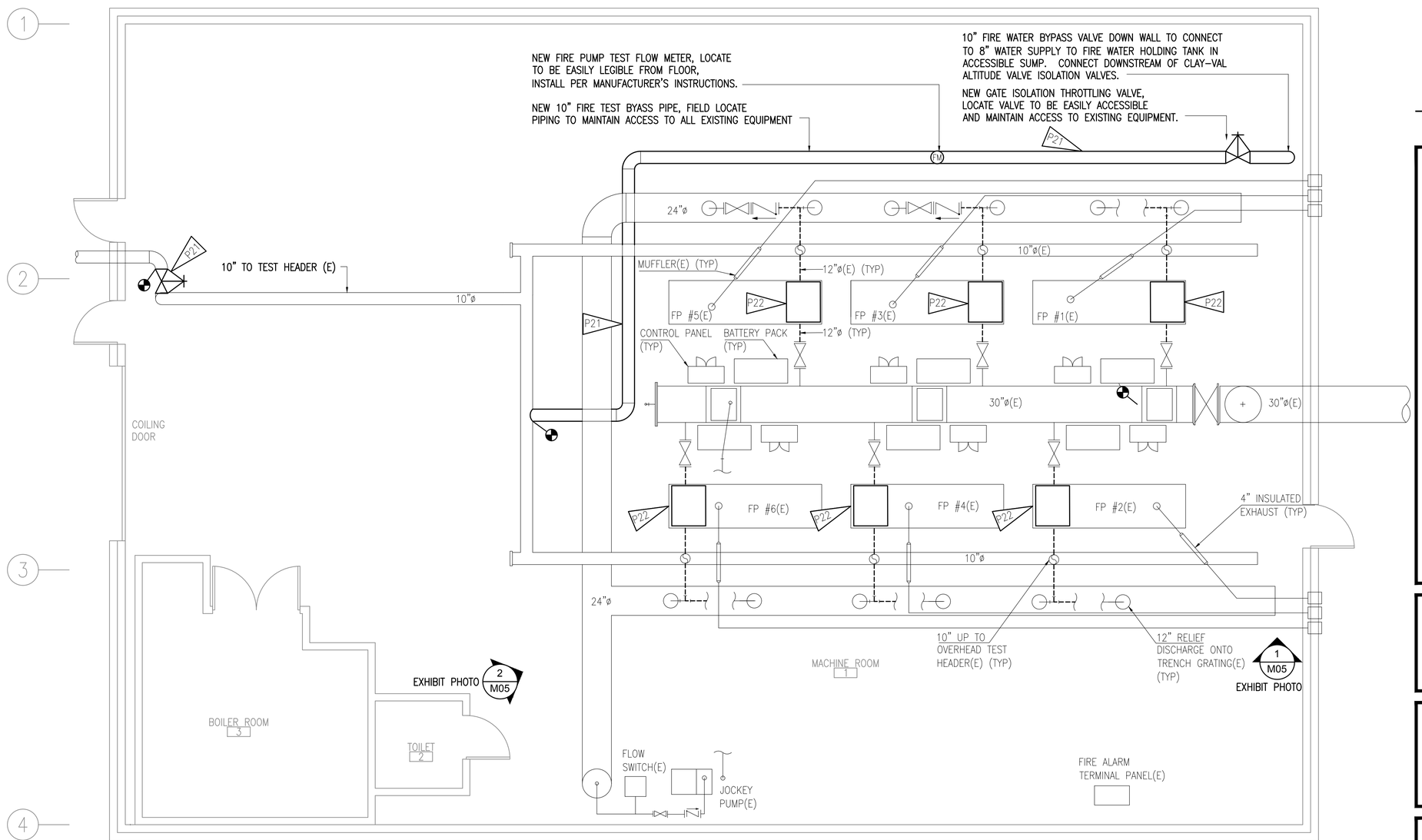
DRAWING TITLE:
MECHANICAL CENTRAL PLANT & PUMP ROOM ENLARGED PLAN

SHEET:
M 02

PROJECT SCOPE ITEMS

P21 PACKAGE 2 ITEM 1 – INSTALL 10" FIRE TEST BYPASS LOOP TO 8" FIRE WATER STORAGE SUPPLY PIPING WITH APPROVED 8" TEST METER AND OS&Y GATE THROTTLING VALVE. PROVIDE PRESSURE GAUGE ON INLET & DISCHARGE OF EACH FIRE PUMP, PROVIDE HIGH WATER TEMPERATURE GAUGE ON 10" FIRE TEST BYPASS PIPING FOR LOCAL TEMPERATURE MONITORING PER NFPA 25, PART 8.3.3.1.2.3. PROVIDE 10" GATE ISOLATION VALVE ON TEST HEADER OUTLET TO EXTERIOR TEST STATION. LOCATE ALL VALVES TO BE READILY ACCESSIBLE. REFERENCE EXHIBIT SHEETS EX12 (F10.01) & EX13 (F12.01) FOR EXISTING INTERIOR PIPING. SEE EXHIBIT PHOTO 1/M05.

P22 PACKAGE 2 ITEM 2 – DEMOLISH AND REPLACE EXISTING FIRE PUMP ASSEMBLIES (VOLUTE & IMPELLER), DIESEL ENGINES SHALL REMAIN. DEMOLISH AND REPLACE SUCTION AND DISCHARGE SPOOLS FROM SUCTION ISOLATION VALVE TO DISCHARGE CHECK VALVE: FAIRBANKS MORSE MODEL 2824AF, 8"ø, 1 STAGE 2080 RPM, 3000 GPM, 130 PSI. INSTALLATION SHALL INCLUDE FULL ENGINE, PUMP AND PIPING ALIGNMENT. TYPICAL OF SIX (6) PUMPS. PROVIDE ULTRASONIC TESTING OF ALL FIRE PROTECTION PIPING FOR EROSION DAMAGE WITHIN BUILDING. SUBMIT TEST REPORT DOCUMENTATION RESULTS OF ULTRASONIC TESTING. TEST REPORT SHALL INDICATE ORIGINAL PIPE WALL THICKNESS, CURRENT PIPE WALL THICKNESS AND TEST POINT LOCATIONS. MINIMUM PIPING TEST INTERVAL SHALL BE EVERY 5 FEET. REFERENCE EXHIBIT SHEETS EX12 (F10.01) & EX13 (F12.01). SEE REFERENCE PHOTO 2/M05.



1 PUMP HOUSE FLOOR PLAN
1/4" = 1'-0"

PROPOSAL DOCUMENTS NOT FOR CONSTRUCTION

RSA Engineering, Inc.
MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS
670 West Fireweed Lane, Suite 200 Anchorage, AK 99503 Phone (907) 276-1521 Fax (907) 276-1751
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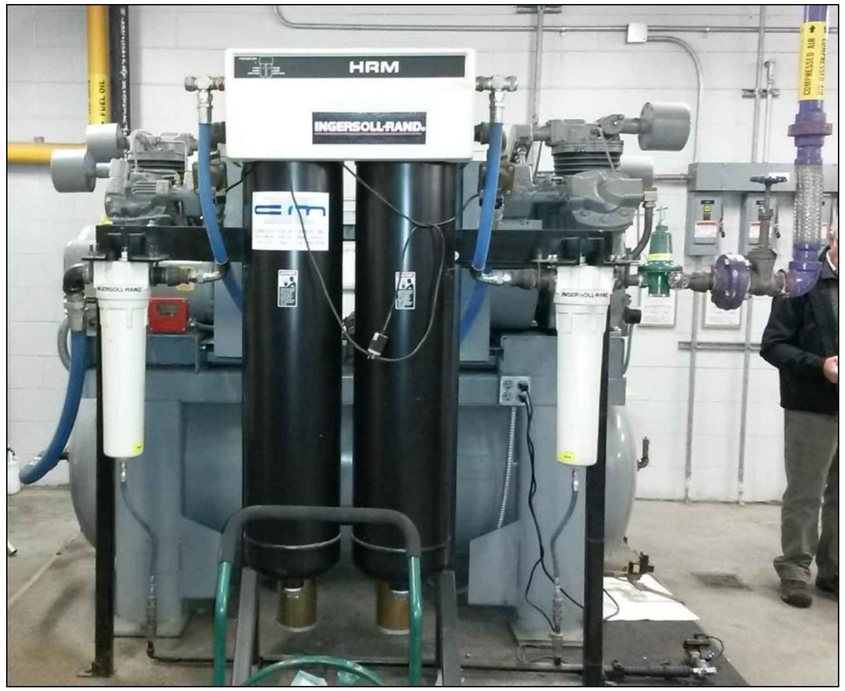
FEDEX HANGAR MECHANICAL AND ELECTRICAL UPGRADE

REVISIONS:

DRAWN BY:	SF
CHECKED BY:	TTG
DATE:	02/03/16
JOB NUMBER:	L5148
DWG FILE:	L5148

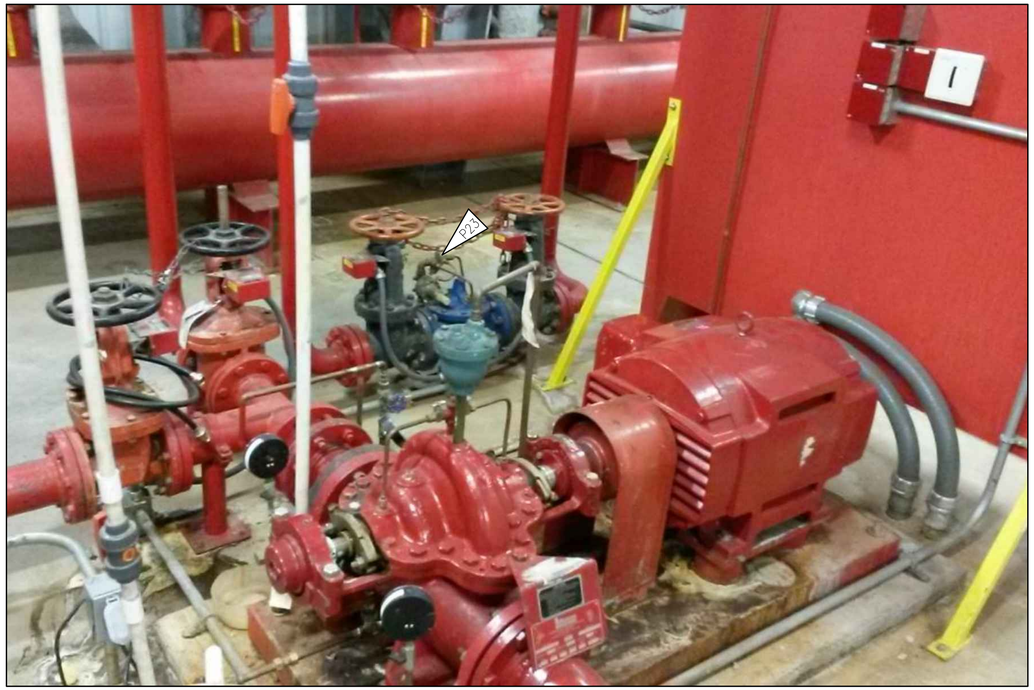
DRAWING TITLE:
MECHANICAL
PUMP HOUSE FLOOR PLAN

SHEET:
M 03

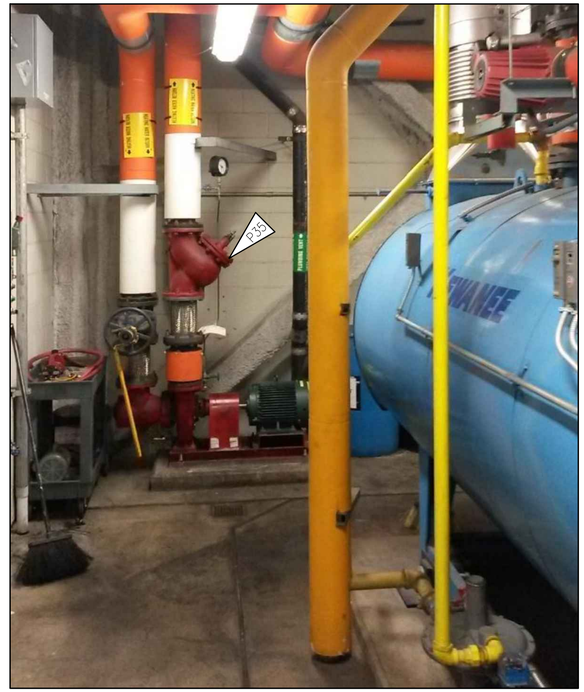


1 P31 - EXISTING AIR COMPRESSORS AND AIR DRYER

3 P34 - EXISTING MAKE-UP AIR UNIT AND DAMPER



2 P23 - EXISTING FOAM SYSTEM PRESSURE BYPASS VALVE



4 P35 - TYPICAL EXISTING BOILER CIRCULATION PUMP

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FEDEX HANGAR MECHANICAL AND ELECTRICAL UPGRADE

REVISIONS:

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DATE:	02/03/16
JOB NUMBER:	L5148
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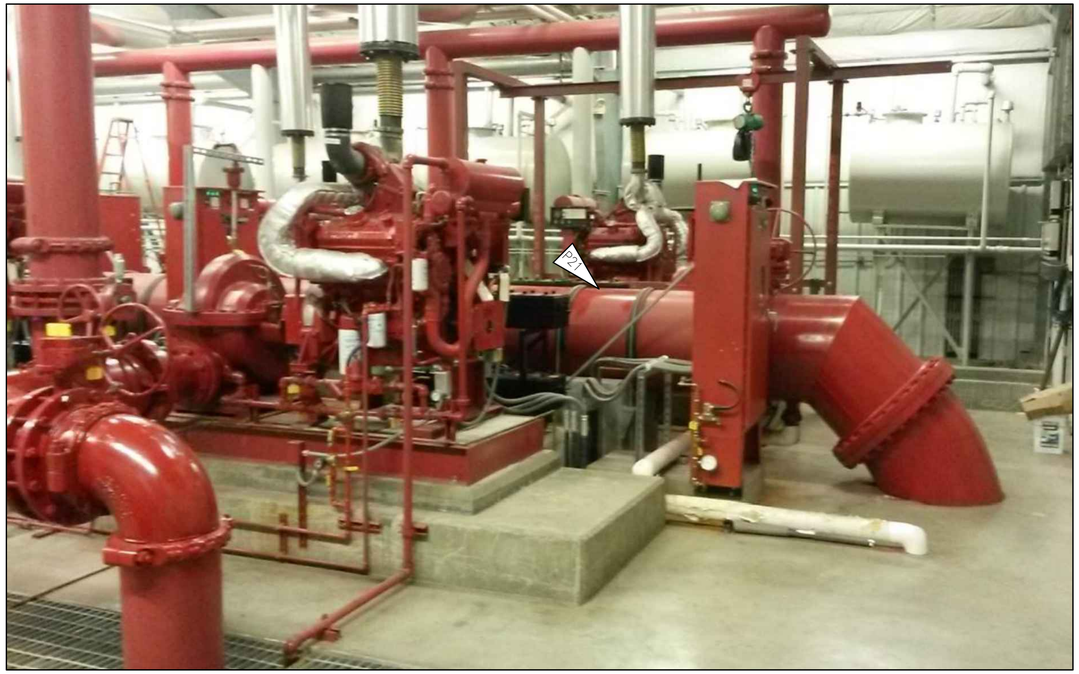
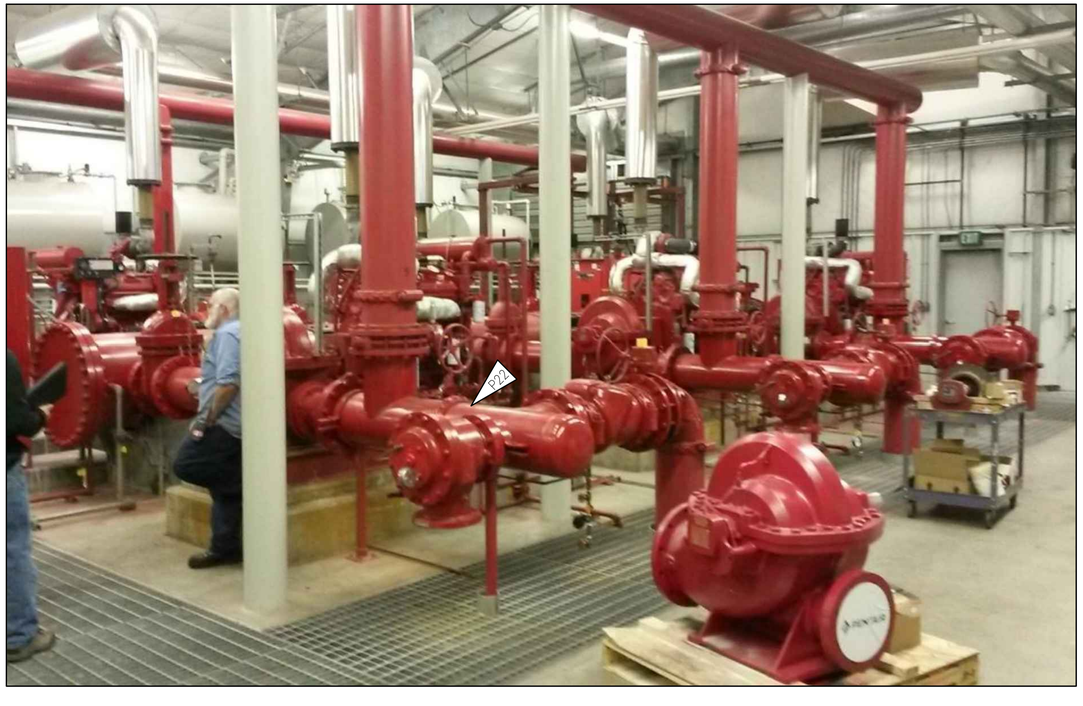
DRAWING TITLE:
MECHANICAL
EXHIBIT PHOTOS

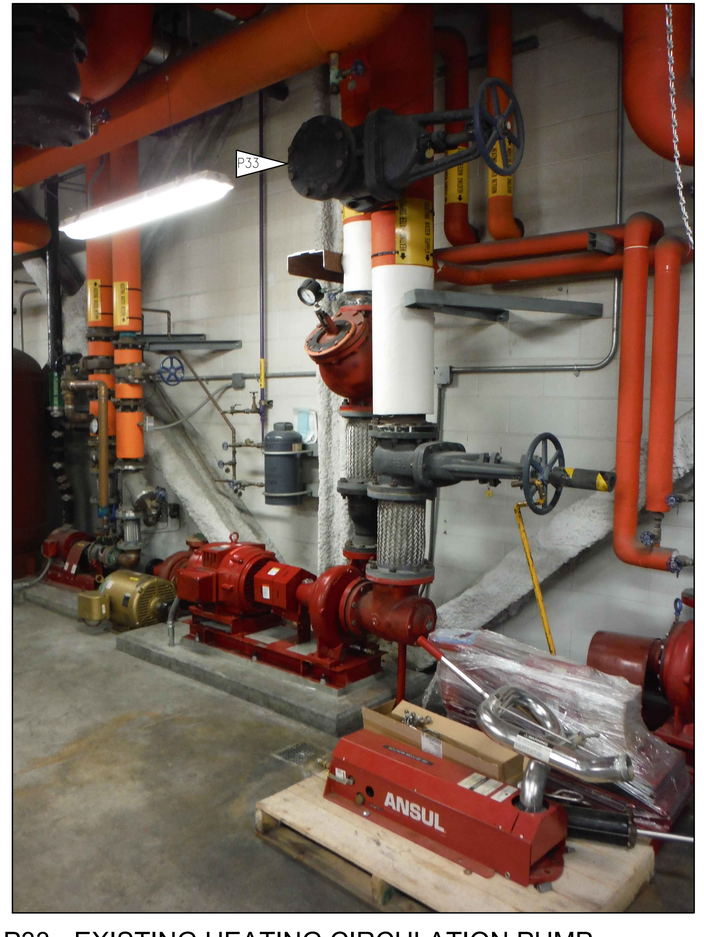
SHEET:
M 04



1 P21 - EXISTING 30" FIRE WATER MAIN



2 P22 - TYPICAL EXISTING FIRE PUMP SUCTION AND DISCHARGE PIPING



3 P33 - EXISTING HEATING CIRCULATION PUMP

PROPOSAL DOCUMENTS NOT FOR CONSTRUCTION

RSA Engineering, Inc.
MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS
670 West Fireweed Lane, Suite 200 Anchorage, AK 99503 Phone (907) 276-1521 Fax (907) 276-1751
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FEDEX HANGAR MECHANICAL AND ELECTRICAL UPGRADE

REVISIONS:

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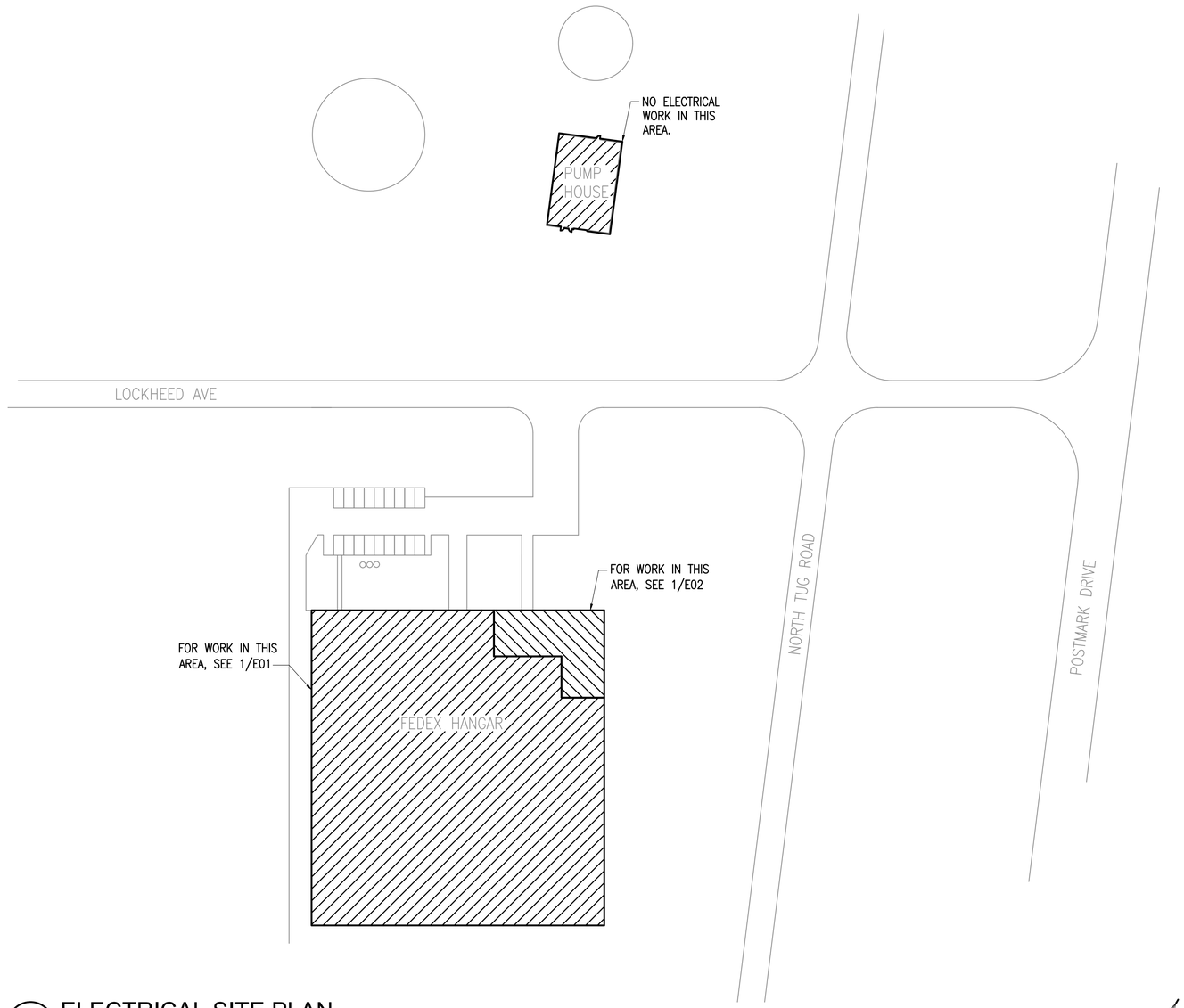
JOB NUMBER:	L5148
DWG FILE:	L5148

DRAWING TITLE:
MECHANICAL
EXHIBIT PHOTOS

SHEET:
M 05

LEGEND	
	CONDUIT
	PANEL
J	JUNCTION BOX
	MOTOR (SIZED AS NOTED)
$_{HP}	FRACTIONAL HORSEPOWER MOTOR STARTER
	DISCONNECT SWITCH
	COMBINATION DISCONNECT/MAGNETIC MOTOR STARTER
1	NOTE TAG (No. INDICATES NOTE)
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
C	CONDUIT
E	DENOTES EXISTING ITEM
NEC	NATIONAL ELECTRICAL CODE
NTS	NOT TO SCALE
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED



1 ELECTRICAL SITE PLAN
1" = 60'-0"

PROPOSAL DOCUMENTS NOT FOR CONSTRUCTION

RSA Engineering, Inc.
MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS
670 West Fireweed Lane, Suite 200 Anchorage, AK 99503 Phone (907) 276-0521 Fax (907) 276-1751
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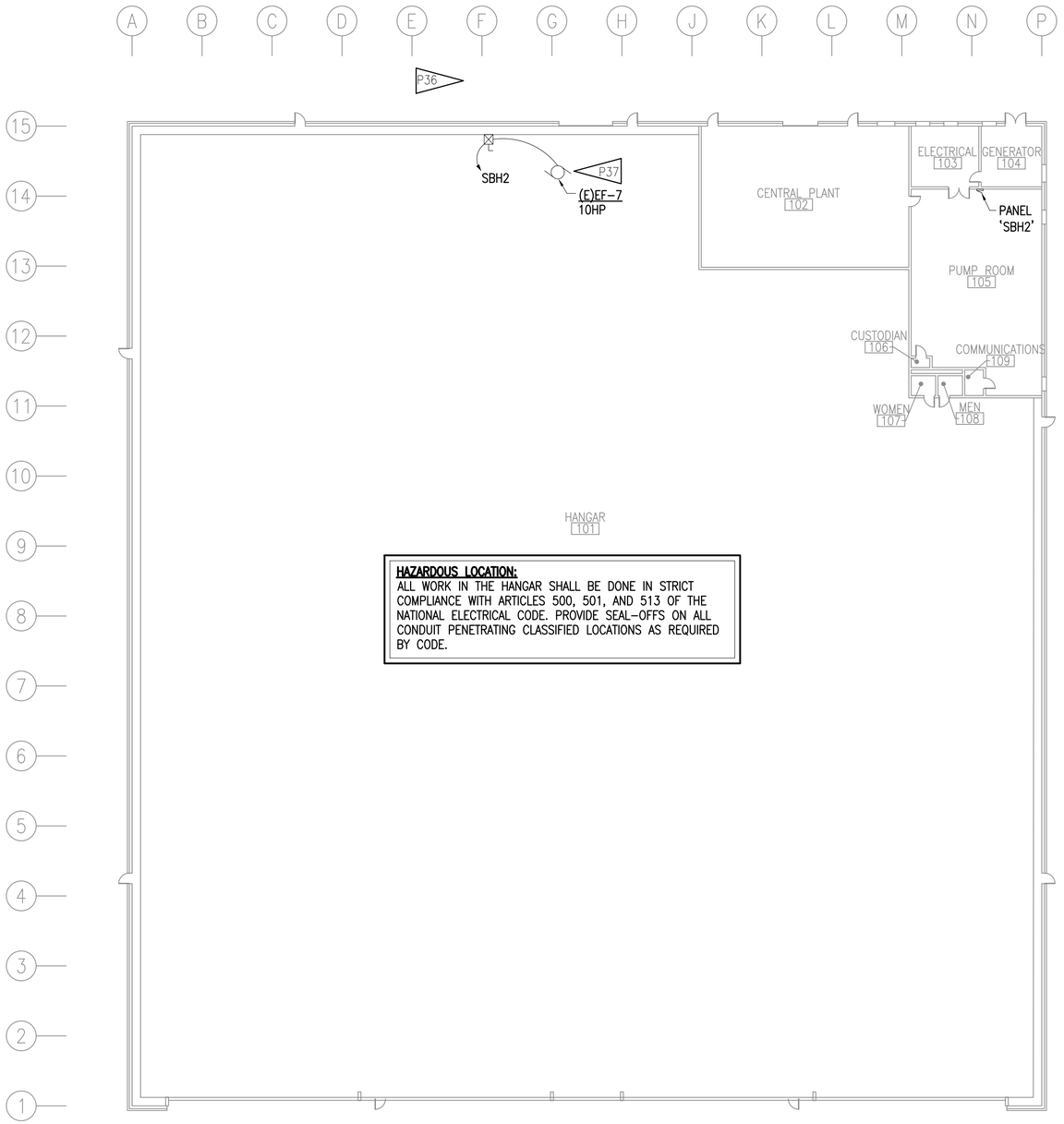
FEDEX HANGAR MECHANICAL AND ELECTRICAL UPGRADE

REVISIONS:

DRAWN BY:	FWS
CHECKED BY:	CPL, DB
DATE:	02/03/16
JOB NUMBER:	L5148
DWG FILE:	L5148_ESeries

DRAWING TITLE:
ELECTRICAL SITE PLAN

SHEET:
E 00



1 HANGAR FLOOR PLAN
1" = 20'-0"

GENERAL NOTES:

A. PACKAGE 1 ITEMS BID UNDER ANOTHER COVER.

B. ALL PROJECT SCOPE ITEMS SHALL BE PRICED AS ALTERNATES, TO BE INDIVIDUALLY APPROVED AND ACCEPTED BY THE OWNER INTO THE CONTRACT. EACH ITEM SHALL BE PRICED TO INCLUDE ENGINEERING, MOBILIZATION, MATERIALS, LABOR, CLOSEOUT, OVERHEAD, AND PROFIT.

C. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM AS-BUILT DRAWINGS AND A NON-DESTRUCTIVE WALK THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HERE-IN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS SCHEDULED FOR DEMOLITION PRIOR TO START OF WORK.

D. THE OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL SALVAGEABLE MATERIALS. THE CONTRACTOR SHALL DELIVER SALVAGED MATERIALS TO A WAREHOUSE AS DIRECTED BY THE OWNER. THE CONTRACTOR SHALL DISPOSE OF, OFF SITE, ALL UNWANTED MATERIALS.

E. CONTRACTOR TO PROVIDE NEC LOAD CALCULATIONS TO SHOW EXISTING SERVICE AND PANELS HAVE CAPACITY WHERE LOADS ARE INCREASED.

PROJECT SCOPE ITEMS:

P36 PACKAGE 3 ITEM 6: DISCONNECT EXISTING CIRCUITS FOR ELECTRONIC ACTUATOR AND RECONNECT TO NEW REPLACEMENT EQUIPMENT. CONTRACTOR MAY USE EXISTING CONDUIT AND WIRE IF ADEQUATE FOR NEW ELECTRICAL LOAD. PROVIDE NEW CONNECTION FROM EXISTING FIRE ALARM PANEL FOR AUTOMATIC ACTUATION OF NEW DIVERTER VALVE. COORDINATE WITH MECHANICAL.

P37 PACKAGE 3 ITEM 7: EXISTING EXHAUST FAN TO BE RELOCATED BY MECHANICAL. DISCONNECT AND EXTEND CIRCUIT TO NEW LOCATION AND RECONNECT. COORDINATION WITH MECHANICAL FOR NEW LOCATION.

PROPOSAL DOCUMENTS NOT FOR CONSTRUCTION

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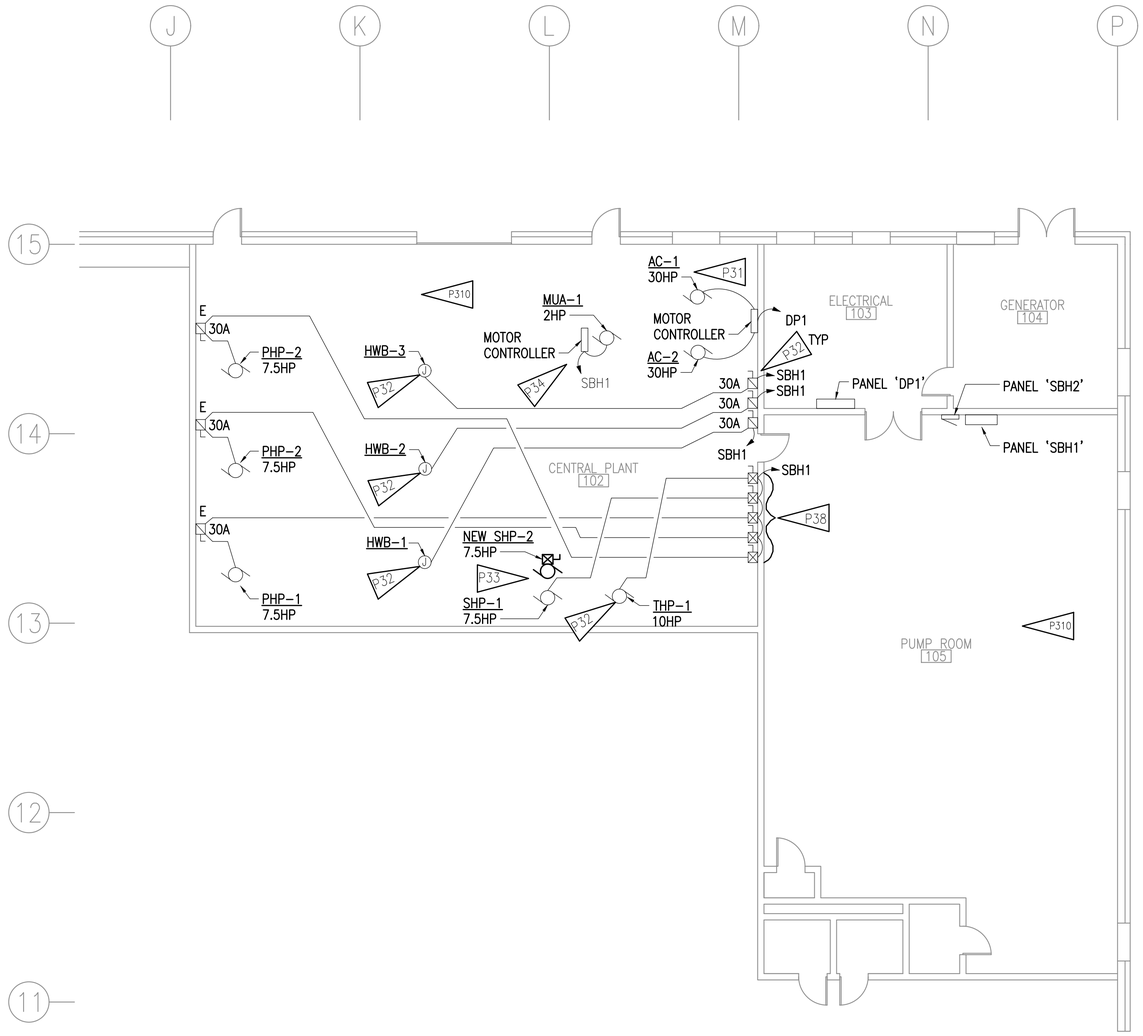
FEDEX HANGAR MECHANICAL AND ELECTRICAL UPGRADE

REVISIONS:

DRAWN BY:	FWS
CHECKED BY:	CPL, DB
DATE:	02/03/16
JOB NUMBER:	L5148
DWG FILE:	L5148_ESeries

DRAWING TITLE: HANGAR FLOOR PLAN

SHEET: E 01



1 HANGAR 'A' ELECTRICAL REMODEL PLAN

1/8" = 1'-0"

GENERAL NOTES:

A. PACKAGE 1 ITEMS BID UNDER ANOTHER COVER.

B. ALL PROJECT SCOPE ITEMS SHALL BE PRICED AS ALTERNATES, TO BE INDIVIDUALLY APPROVED AND ACCEPTED BY THE OWNER INTO THE CONTRACT. EACH ITEM SHALL BE PRICED TO INCLUDE ENGINEERING, MOBILIZATION, MATERIALS, LABOR, CLOSEOUT, OVERHEAD, AND PROFIT.

C. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM AS-BUILT DRAWINGS AND A NON-DESTRUCTIVE WALK THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HERE-IN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS SCHEDULED FOR DEMOLITION PRIOR TO START OF WORK.

D. THE OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL SALVAGEABLE MATERIALS. THE CONTRACTOR SHALL DELIVER SALVAGED MATERIALS TO A WAREHOUSE AS DIRECTED BY THE OWNER. THE CONTRACTOR SHALL DISPOSE OF, OFF SITE, ALL UNWANTED MATERIALS.

E. AT CONTRACTORS OPTION, AN ADDITIONAL PANEL MAY BE ADDED FOR NEW LOADS CONNECTED TO STANDBY POWER. SEE EXHIBIT SHEET EX-11 FOR EXISTING PANEL SCHEDULES AND EXHIBIT SHEET EX-10 FOR POWER ONE-LINE.

F. WHERE NEW BREAKERS ARE TO BE INSTALLED IN EXISTING PANELS. THE NEW CIRCUIT BREAKERS SHALL BE COMPATIBLE WITH AND LISTED FOR USE IN THE EXISTING PANEL BOARD AND SHALL HAVE A MINIMUM SHORT CIRCUIT AIC RATING TO MATCH THE LOWEST RATED EXISTING DEVICE IN THE PANEL.

G. CONTRACTOR TO PROVIDE NEC LOAD CALCULATIONS TO SHOW EXISTING SERVICE AND PANELS HAVE CAPACITY WHERE LOADS ARE INCREASED.

PROJECT SCOPE ITEMS:

P31 PACKAGE 3 ITEM 1: DISCONNECT EXISTING CIRCUITS FOR AIR DRYER AND COMPRESSED AIR SYSTEM AND RECONNECT TO NEW REPLACEMENT EQUIPMENT. SIZE AND CIRCUIT NEW AIR DRYER TO EXISTING PANEL 'DP1'. CONTRACTOR MAY USE EXISTING CONDUIT, WIRE, BREAKER AND DISCONNECT/STARTER IF ADEQUATE FOR NEW ELECTRICAL LOAD. SEE 1/M02 FOR MECHANICAL COORDINATION.

P32 PACKAGE 3 ITEM 2: DISCONNECT EXISTING CIRCUITS FOR FIRETUBE BOILERS AND RECONNECT TO NEW REPLACEMENT EQUIPMENT. SIZE AND CIRCUIT NEW BOILER CIRCULATION PUMPS TO EXISTING PANEL 'SHB1'. CONTRACTOR MAY USE EXISTING CONDUIT, WIRE, BREAKER, AND DISCONNECT/STARTER IF ADEQUATE FOR NEW ELECTRICAL LOAD. SEE 1/M02 FOR MECHANICAL COORDINATION.

P33 PACKAGE 3 ITEM 3: DISCONNECT EXISTING CIRCUIT FOR HEAT PUMP SHP-1 AND RECONNECT TO NEW REPLACEMENT EQUIPMENT. SIZE AND CIRCUIT NEW PUMP TO EXISTING PANEL 'SHB1'. CONTRACTOR MAY USE EXISTING CONDUIT, WIRE, BREAKER, AND DISCONNECT/STARTER IF ADEQUATE FOR NEW ELECTRICAL LOAD. SIZE AND CIRCUIT NEW HEAT PUMP SHP-2 TO EXISTING PANEL 'SHB2'. SEE 1/M02 FOR MECHANICAL COORDINATION.

P34 PACKAGE 3 ITEM 4: DISCONNECT EXISTING CIRCUIT FOR MAKEUP AIR UNIT AND VENTILATION FAN AND RECONNECT TO NEW REPLACEMENT EQUIPMENT. SIZE AND CIRCUIT NEW EXHAUST FAN TO EXISTING PANEL 'SBH1'. CONTRACTOR MAY USE EXISTING CONDUIT, WIRE, BREAKER, AND DISCONNECT/STARTER IF ADEQUATE FOR NEW ELECTRICAL LOAD. SEE 1/M03 FOR MECHANICAL COORDINATION.

P38 PACKAGE 3 ITEM 8: INSTALL TIME DELAY RELAY ON EACH MOTOR STARTER. STAGGER SUCH THAT WHEN THE ATS TRANSFERS POWER FROM NORMAL SIDE TO GENERATOR OR FROM GENERATOR TO NORMAL SIDE, THE MOTORS WILL SEQUENTIALLY START TO AVOID MORE THAN ONE MOTOR STARTING AT THE SAME TIME. ALLOW 30 SECONDS BETWEEN EACH MOTOR STARTING. SEE EXHIBIT SHEET EX-10 FOR EXISTING ONE-LINE.

P310 PACKAGE 3 ITEM 10: CONNECT 4 NEW 10KW ELECTRIC UNIT HEATERS TO EXISTING PANEL 'SHB2'. INSTALL TWO NEW ELECTRIC UNIT HEATERS IN CENTRAL PLANT 102 AND TWO NEW ELECTRIC UNIT HEATERS IN PUMP ROOM 105. SEE 1/M03 FOR MECHANICAL COORDINATION.

PROPOSAL DOCUMENTS NOT FOR CONSTRUCTION

RSA Engineering, Inc.
MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS
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191 East Swanson Ave. Wasilla, AK 99654 Phone (907) 357-5521 Fax (907) 357-1751

FEDEX HANGAR MECHANICAL AND ELECTRICAL UPGRADE

REVISIONS:

DRAWN BY:	FWS
CHECKED BY:	CPL, DB
DATE:	02/03/16
JOB NUMBER:	L5148
DWG FILE:	L5148_ESeries

DRAWING TITLE: HANGAR 'A' ELECTRICAL REMODEL PLAN

SHEET: E 02

GENERAL NOTES

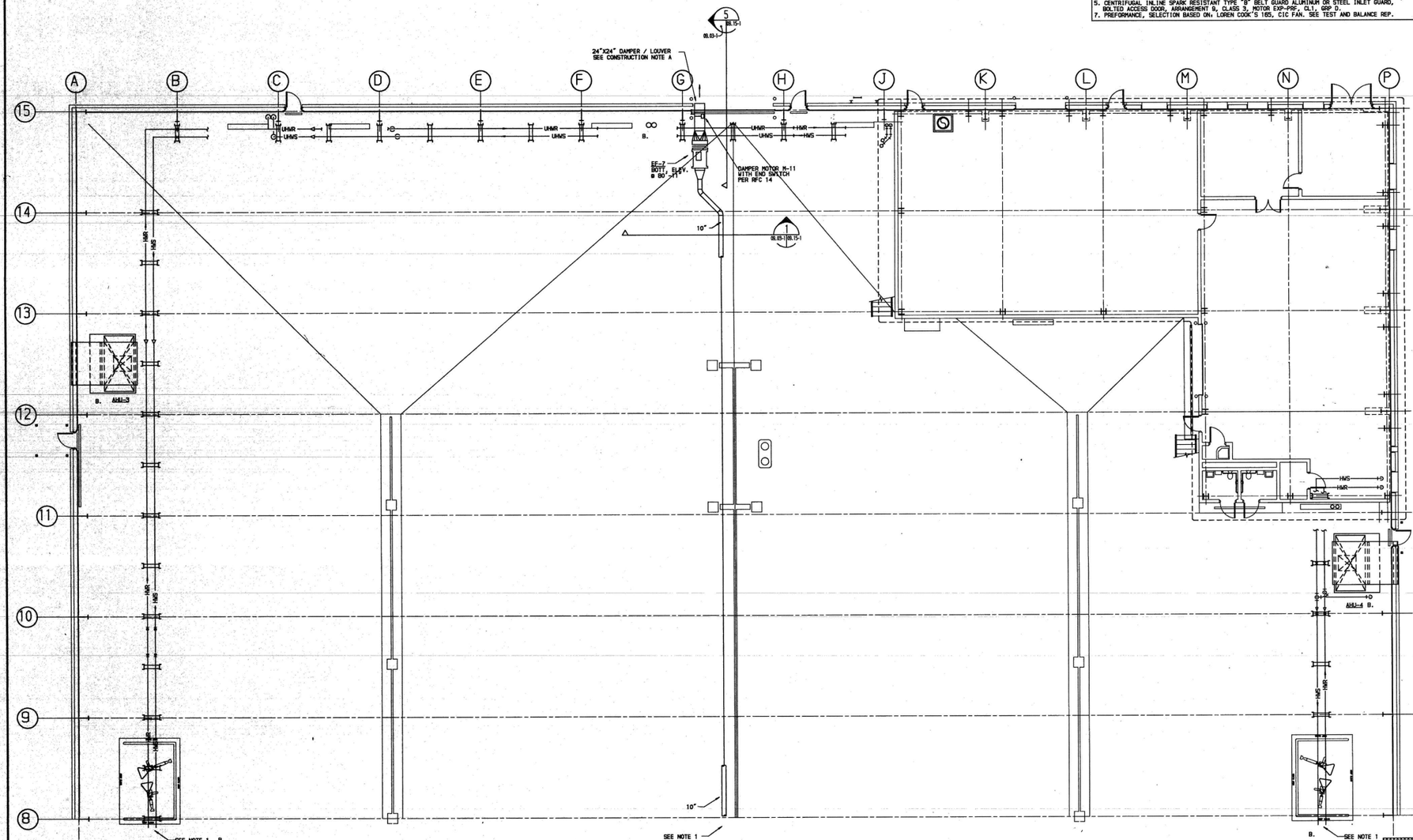
1. FOR CONTINUATION SEE SHEET 09.02-1.
2. SEE SECTIONS & DETAILS SHEET 09.15.

EXHAUST FAN SCHEDULE

MARK	SERVICE	CFM	EXT. S.P. (IN. WG)	FAN RPM	DRIVE	60 HZ. MOTOR DATA HP	60 HZ. MOTOR DATA V/PH	ACCESSORIES AND NOTES
EF-7	FUEL TANK EXHAUST	1100	9"	3300	BELT	10	460/3	4,5,7

NOTE:

1. SEE EXHAUST FAN SCHEDULE SHEET 09.16 ALSO.
4. INLET GUARD
5. CENTRIFUGAL INLINE SPARK RESISTANT TYPE "B" BELT GUARD ALUMINUM OR STEEL INLET GUARD, BOLTED ACCESS DOOR, ARRANGEMENT 9, CLASS 3, MOTOR EXP-PSF, CL1, GRP D.
7. PREFORMANCE, SELECTION BASED ON, LOREN COOK'S 165, CIC FAN. SEE TEST AND BALANCE REP.



CONSTRUCTION NOTES:

A. DAMPER AND DUCTWORK SEE CONSTRUCTION NOTES SHEET 09.15-1

B. SEE DWG. 09.01 FOR OTHER SYSTEMS THIS AREA.

KEY PLAN

HVAC FLOOR PLAN (AREA B)

SCALE: 1/8"=1'-0"

RECORD DRAWINGS INCLUDE AS BUILT MODIFICATIONS AND CORRECTIONS OF ORIGINAL PLANS AS SUBMITTED BY THE GENERAL CONTRACTOR.

STATE OF ALASKA — 49TH — Lianne R. Frank No. ME 8877 — MECHANICAL ENGINEER

REV.	ISSUE DATE / REVISION RECORD	BY	DATE
			10-25-94

ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY

AIRCRAFT HANGAR MODIFICATIONS
ANCHORAGE INTERNATIONAL AIRPORT
HVAC FLOOR PLAN (AREA B)

PROJ. 91050260	LOCATION. ANCHORAGE, ALASKA
DSN.	CHK. APP. SCH.
DWG. NO.. 09.03-1	REV.

FRANKFURT SHORT BRUZA
ARCHITECTS - ENGINEERS - PLANNERS
5701 NORTH SHARTEL SUITE 210
OKLAHOMA CITY, OKLAHOMA 73118
405/840-2931 FAX, 842-7750

PROPOSAL DOCUMENTS NOT FOR CONSTRUCTION

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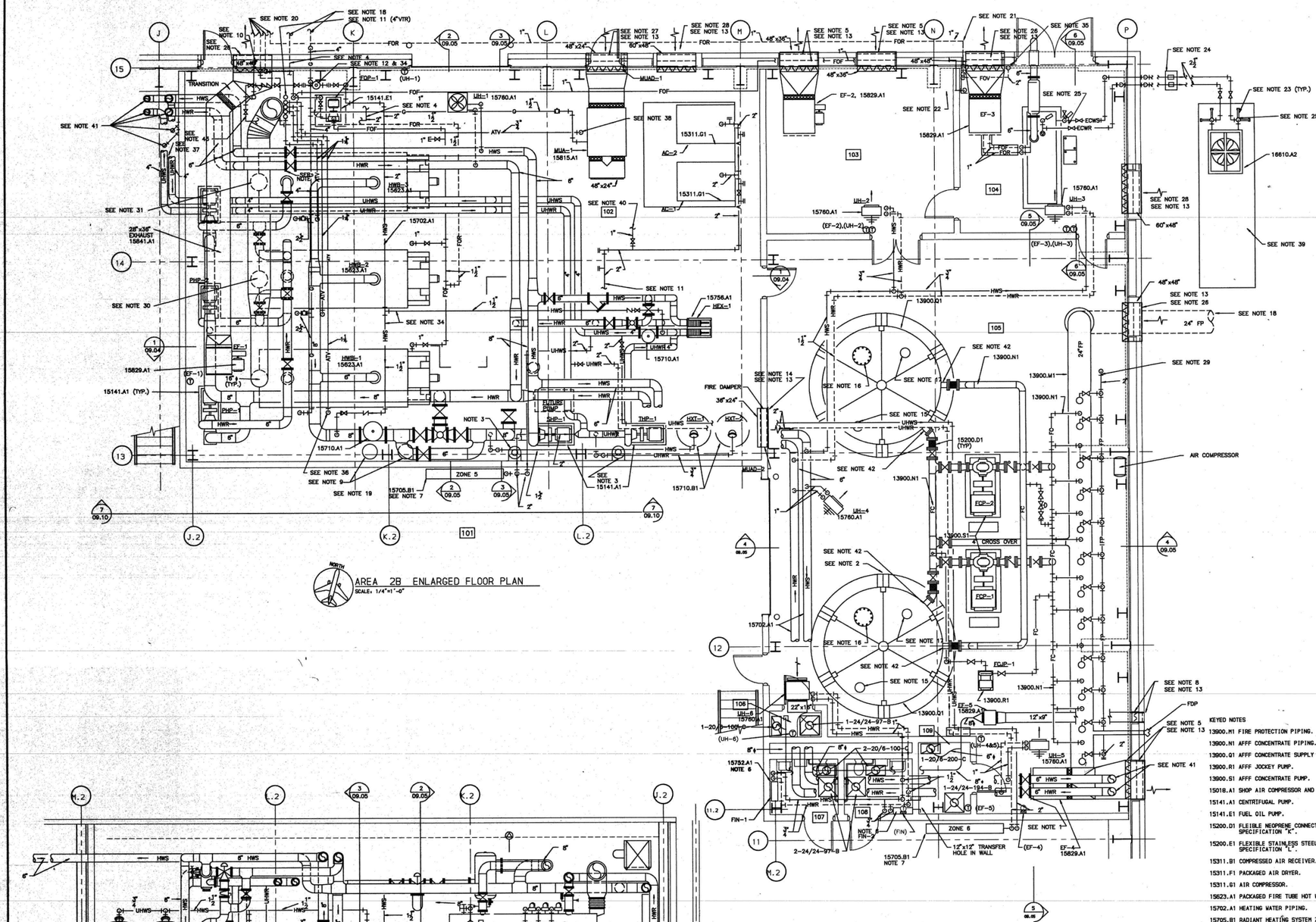
FEDEX HANGAR MECHANICAL AND ELECTRICAL UPGRADE

REVISIONS:

DRAWN BY:
CHECKED BY:
DATE: 12/18/15
JOB NUMBER: L5148
DWG FILE: L5148_EXHIBIT

DRAWING TITLE:
EXHIBIT SHEET
WAREHOUSE M09.03-1

SHEET:
EX 01



AREA 2B ENLARGED FLOOR PLAN
SCALE: 1/4"=1'-0"

1 SECTION 09.04
SCALE: 1/4"=1'-0"

KEY PLAN

GENERAL NOTES

1. REFER TO SHEET 09.07 FOR DELINEATION OF ALTERNATES.
2. REFER TO DETAIL SHEET 11.03 FOR TANK RESTRAINT DETAILS.
3. BYPASS CHEMICAL FEEDER, REF 15689.A1
4. DOMESTIC COLD WATER, REF DWG 08.03 FOR CONTINUATION.
5. 48"x36" WALL LOUVER W/48"x36" MOTORIZED DAMPER, INTERLOCKED WITH EF-2.
6. FIN TUBE BASEBOARD HEATER, 2'-0"x8".
7. RADIANT HEATING MANIFOLD CABINET, REF. DET. SHT. 09.15.
8. 12"x24" LOUVER WITH 12"x24" MOTORIZED DAMPER.
9. PROPYLENE GYCOL STORAGE & INJECTION PUMP.
10. FUEL OIL TANK VENT, REFER SHEET 09.09 FOR DETAIL.
11. REFER TO PLUMBING SHT. 08.03 FOR CONTINUATION.
12. FILL-RITE LIQUID FLOW METER, REF. SHT. 09.06.
13. HOLD TOP OF WALL PENETRATION AT 15'-0" ABOVE FINISH FLOOR UNLESS SPECIFIED OTHERWISE.
14. 36"X24" WALL LOUVER WITH 36"x24" MOTORIZED DAMPER, INTERLOCKED WITH MUA-1.
15. PRESSURE/VACUUM VENT.
16. INSPECTION HATCH.
17. FILL CUP.
18. FOR CONTINUATION SEE SHEET 01.10.
19. REFER TO SHEET 09.06 FOR DELINEATION OF ALTERNATES.
20. FOR CONTINUATION SEE SHEET 01.10. FOR FUEL OIL TANK DETAILS SEE SHEET 09.09.
21. GENERATOR FUEL OIL DAY TANK OVERFLOW LINE TO BURIED FUEL OIL TANK.
22. FUEL OIL SUPPLY TO GENERATOR DAY TANK.
23. SEISMIC PIPE BRACING.
24. 24"X15"X10" DEEP CAST IN PLACE CONCRETE PIPE SUPPORTS @ 7'-0" O.C.
25. PROVIDE FLEXIBLE PIPE CONNECTORS, 15200.E1.
26. 48"X48" WALL LOUVER W/ 48"X48" MOTORIZED DAMPER. INTERLOCKED WITH EF-4.
27. 48"X24" WALL LOUVER W/ 48"X12" MOTORIZED DAMPER.
28. 60"X48" WALL LOUVER W/ MOTORIZED DAMPER. ROOM 102 DAMPER INTERLOCKED WITH EF-1, ROOM 104 DAMPER INTERLOCKED WITH EF-3.
29. ROUTE TO NEAREST FLOOR SINK.
30. CAP 16" BOILER STACK RUN-OUT IF ALTERNATES 6 AND 7 NOT TAKEN.
31. CAP 18" BOILER STACK RUN-OUT IF ALTERNATE 6 AND 7 NOT TAKEN.
32. ROUTE TO NEAREST FLOOR SINK.
33. REFER TO NOTE 6, SHEET 09.08.
34. PROPYLENE GLYCOL/WATER SYSTEM FILL PIPING.
35. FUEL OIL DAY TANK VENT. ROUTE UP TO TOP OF HANGAR REFER SHEET 09.09.&09.10
36. 1½" ATV FROM BOILER GAS TRAIN VENT VALVE (TYPICAL OF THREE).
37. FOR CONTINUATION REFER TO SHEET 09.10.
38. ¾" ATV FROM MUA-1 GAS TRAIN VENT VALVE.
39. CONCRETE PAD 5'-0"X20'-0" CENTER AT 22'-10" EAST OF GRID "P" AND 14' SOUTH OF GRID 15.
40. FOR CONTINUATION SEE SHEET 09.19 CONTROL DRAWINGS AT MAIN SUPPLY CONTROL AIR POINTS.
41. FOR CONTINUATION SEE SHEET 09.03.
42. SEE FOAM TANK DETAILS SHEET 11.03
43. DOMESTIC WATER FILL LINE FOR HEATING WATER AND UNDERFLOOR HEATING WATER SYSTEMS.

KEYED NOTES

13900.M1 FIRE PROTECTION PIPING.
13900.N1 AFFF CONCENTRATE PIPING.
13900.Q1 AFFF CONCENTRATE SUPPLY TANK.
13900.R1 AFFF JOCKEY PUMP.
13900.S1 AFFF CONCENTRATE PUMP.
15018.A1 SHOP AIR COMPRESSOR AND CONTROLS.
15141.A1 CENTRIFUGAL PUMP.
15141.E1 FUEL OIL PUMP.
15200.D1 FLEIBLE NEOPRENE CONNECTORS, SPECIFICATION "K".
15200.E1 FLEXIBLE STAINLESS STEEL HOSE, SPECIFICATION "L".
15311.B1 COMPRESSED AIR RECEIVER.
15311.F1 PACKAGED AIR DRYER.
15311.G1 AIR COMPRESSOR.
15623.A1 PACKAGED FIRE TUBE HOT WATER BOILER.
15702.A1 HEATING WATER PIPING.
15705.B1 RADIANT HEATING SYSTEM ZONE ASSEMBLY.
15710.A1 INLINE AIR SEPARATOR.
15710.B1 HEATING WATER EXPANSION TANK.
15752.A1 HOT WATER FIN TUBE HEATER.
15756.A1 PLATE AND FRAME HEAT EXCHANGER.
15760.A1 HOT WATER UNIT HEATER.
15815.A1 DIRECT FIRED MAKE-UP AIR UNIT.
15829.A1 INLINE EXHAUST FAN.
15841.A1 LOW PRESSURE METAL DUCT.
15855.A1 BOILER STACK.
16610.A2 REMOTE RADIATOR.

RECORD DRAWINGS INCLUDE AS BUILT MODIFICATIONS AND CORRECTIONS OF ORIGINAL PLANS AS SUBMITTED BY THE GENERAL CONTRACTOR.

STATE OF ALASKA — 4911 — REGISTERED PROFESSIONAL ENGINEER — Liana R. Frank — No. ME 9277

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R&M CONSULTANTS, INC.
ENGINEERS-GEOLOGISTS-PLANNERS-SURVEYORS
ANCHORAGE, ALASKA 99503

REV.	REVISION RECORD	BY	DATE
	FINAL RECORD DRAWINGS		10/02/95
	ISSUE DATE		7/2/92

ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY

LINE MAINTENANCE HANGAR
ANCHORAGE INTERNATIONAL AIRPORT
CENTRAL PLANT ENLARGED FLOOR PLAN

PROJ. 91050260 LOCATION: ANCHORAGE, ALASKA
DWN. CHK. APP. DES.
DWG. NO. 09.04 REV.

PROPOSAL DOCUMENTS NOT FOR CONSTRUCTION

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FEDEX HANGAR MECHANICAL AND ELECTRICAL UPGRADE

REVISIONS:

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WAREHOUSE M09.04

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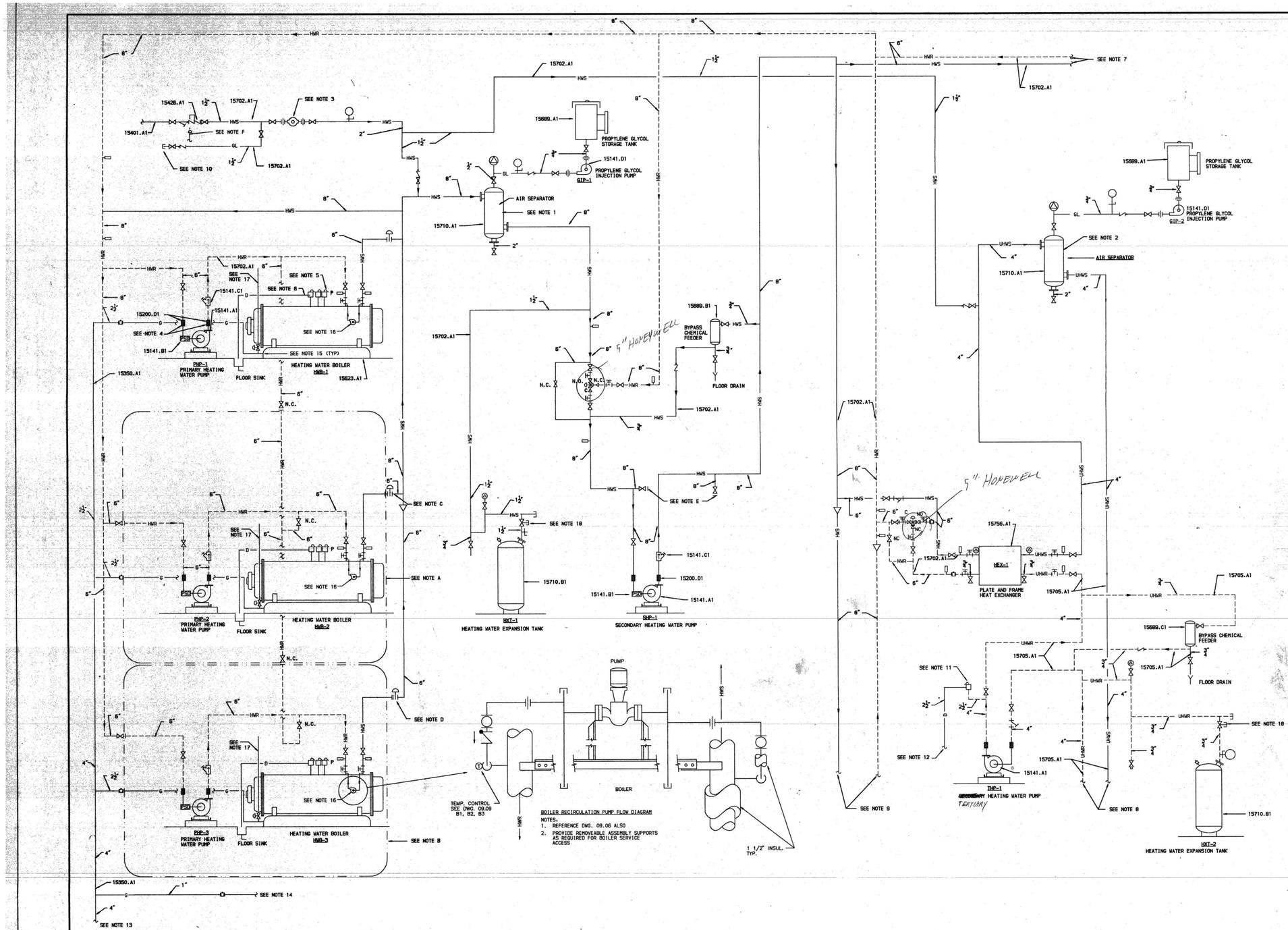
EX 02



HEATING WATER SCHEMATIC PIPING DIAGRAM

NO SCALE

GENERAL NOTES

1. AIR SEPARATOR SIZED FOR 1200 GPM WITH 8" FLANGED TANGENTIAL OPENINGS.
2. AIR SEPARATOR SIZED FOR 300 GPM WITH 4" FLANGED TANGENTIAL OPENINGS.
3. FILL-RITE LIQUID FLOWMETER C807A-1-NO. 5-20 GPM FLOW RANGE, RESETTABLE COUNTER TO 100 GALLONS AT +/- 2% ACCURACY IN 1/10 GALLON INCREMENTS, UL LISTED. 100,000 GALLON NONRESETTABLE TOTALIZER. RATED FOR WATER.
4. SPECIFICATION K FLEXIBLE NEOPRENE CONNECTORS (TYPICAL).
5. BOILER RELIEF VALVE SETTING 125 PSIG (TYPICAL).
6. AREA OF COMMON BOILER RELIEF VALVE DISCHARGE SHALL EXCEED TOTAL COMBINED DISCHARGE PORT AREAS OF ALL CONNECTED RELIEF VALVES (TYPICAL).
7. EAST CENTRAL PLANT BRANCH. FOR CONTINUATION, SEE EAST PUMP ROOM UNIT HEATER PIPING, SHEET 09.07.
8. UNDERFLOOR HEATING BRANCH. FOR CONTINUATION, SEE HANGAR UNDERFLOOR HEATING SYSTEM SHEET 09.07.
9. WEST CENTRAL PLANT BRANCH. FOR CONTINUATION, SEE WEST CENTRAL PLANT BRANCH, SHEET 09.07.
10. SCREW OFF CAP. PROPYLENE GLYCOL CHARGING STATION
11. RADIANT HEATING SYSTEM RELIEF VALVE SETTING 50 PSIG, 2" SAFETY RELIEF VALVE TO PASS 200 GPM AT 50 PSIG SETPOINT.
12. ROUTE TO NEAREST FLOOR SINK.
13. FOR CONTINUATION SEE SHEET 01.10.
14. CONNECT TO MAU-1 GAS TRAIN.
15. CONNECT TO BOILER GAS TRAIN.
16. BOILER RECIRCULATION PUMP PROVIDED AS PART OF PACKAGED BOILER.
17. 1¼" GAS VENT THRU ROOF.
18. VALVED LOCKED OPEN

KEYED NOTES

15141.A1 CENTRIFUGAL PUMP.
15141.B1 SUCTION DIFFUSER.
15141.C1 TRIPLE DUTY VALVE.
15141.D1 GLYCOL INJECTION GEAR PUMP.
15200.D1 FLEXIBLE NEOPRENE CONNECTORS, SPECIFICATION "K".
15350.A1 NATURAL GAS PIPING ABOVE GRADE.
15401.A1 DOMESTIC WATER PIPING ABOVE GRADE.
15426.A1 REDUCED PRESSURE BACKFLOW PREVENTER.
15623.A1 PACKAGED FIRE TUBE HOT WATER BOILER.
15689.A1 PROPYLENE GYLCOL STORAGE TANK.
15689.B1 BYPASS CHEMICAL FEEDER.
15689.C1 NONFERROUS BYPASS CHEMICAL FEEDER.
15702.A1 HEATING WATER PIPING.
15705.A1 RADIANT HEATING PIPING.
15710.A1 INLINE AIR SEPARATOR.
15710.B1 HEATING WATER EXPANSION TANK.
15756.A1 PLATE AND FRAME HEAT EXCHANGER.

CONSTRUCTION NOTES

A. EQUIPMENT AND PIPING WITHIN DASHED LINE BOX PART OF ALTERNATE 7. IF ALTERNATE 6 IS TAKEN, THIS EQUIPMENT AND PIPING IS ALSO PART OF ALTERNATE 6.

B. EQUIPMENT AND PIPING WITHIN DASHED LINE BOX PART OF ALTERNATE 6. THEY ARE NOT PART OF ALTERNATE 7.

C. IF ALTERNATE 7 OR ALTERNATE 6 ARE NOT TAKEN, DELETE AUTO OPERATOR FROM BUTTERFLY VALVE AND PROVIDE HAND OPERATOR AND BLIND FLANGE. VALVE SHALL BE CONFIGURED TO ACCEPT FUTURE AUTO OPERATOR.

D. IF ALTERNATE 6 NOT TAKEN, DELETE AUTO OPERATOR FROM BUTTERFLY VALVE AND PROVIDE HAND OPERATOR AND BLIND FLANGE. VALVE SHALL BE CONFIGURED TO ACCEPT FUTURE AUTO OPERATOR.

E. GATE VALVE AND BLIND FLANGE FOR FUTURE SECONDARY PUMP INSTALLATION.

F. SIZE TO MATCH FITTING ON REDUCED PRESSURE BACKFLOW PREVENTER, ROUTE TO NEAREST FLOOR SINK.

RECORD DRAWINGS INCLUDE AS BUILT MODIFICATIONS AND CORRECTIONS OF ORIGINAL PLANS AS SUBMITTED BY THE GENERAL CONTRACTOR.

STATE OF ALASKA — 49TH — Liane R. Frank No. ME 9977 — PROFESSIONAL ENGINEER

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REV.	REVISION RECORD	BY	DATE
1	ADDENDUM #1, CLARIFICATION		10/28/92

ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY

LINE MAINTENANCE HANGAR
ANCHORAGE INTERNATIONAL AIRPORT
HEATING WATER SCHEMATIC
PIPING DIAGRAM

PROJ. 91050260 LOCATION: ANCHORAGE, ALASKA
DSN. | CK. | APP. | SCA.
DWG. NO. 09.06 REV.

PROPOSAL DOCUMENTS NOT FOR CONSTRUCTION

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FEDEX HANGAR MECHANICAL AND ELECTRICAL UPGRADE

REVISIONS:

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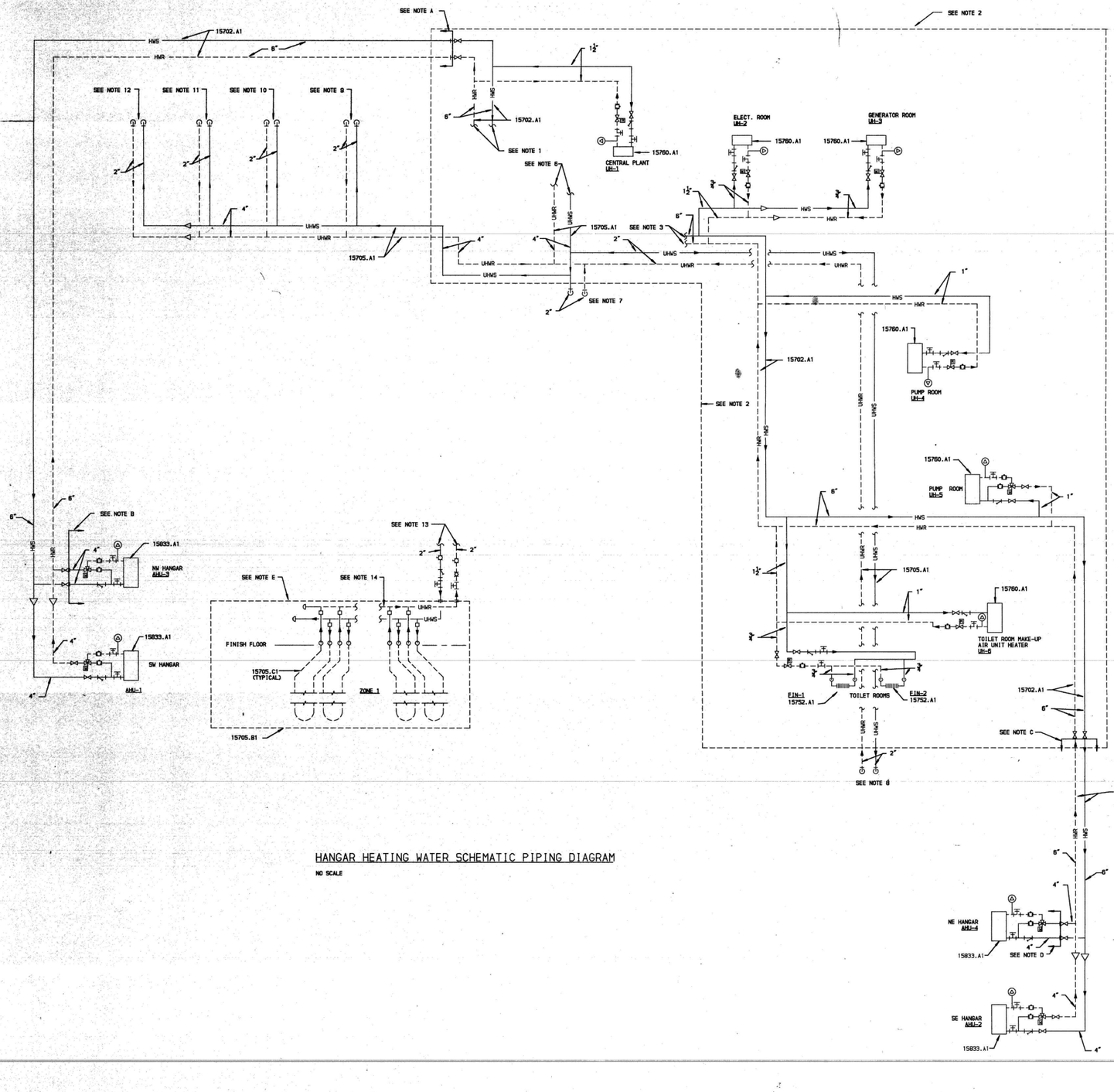

HANGAR HEATING WATER SCHEMATIC PIPING DIAGRAM

NO SCALE

GENERAL NOTES

1. WEST CENTRAL PLANT BRANCH. FOR CONTINUATION, SEE WEST CENTRAL PLANT BRANCH, SHEET 09.06
2. OUTLINE OF CENTRAL PLANT AND PUMP ROOM.
3. EAST PUMP ROOM UNIT HEATER BRANCH. FOR CONTINUATION, SEE EAST CENTRAL PLANT BRANCH, SHEET 09.06
4. NOT USED.
5. NOT USED.
6. UNDERFLOOR HEATING BRANCH. FOR CONTINUATION, SEE 4" UHWS/UHWR LEAVING CENTRAL PLANT SHEET 09.06.
7. 2" UHWS/UHWR DOWN TO ZONE 5 UNDER-FLOOR HEATING TUBING DISTRIBUTION HEADER.
8. 2" UHWS/UHWR DOWN TO ZONE 6 UNDER-FLOOR HEATING TUBING DISTRIBUTION HEADER.
9. 2" UHWS/UHWR DOWN TO ZONE 4 UNDER-FLOOR HEATING TUBING DISTRIBUTION HEADER.
10. 2" UHWS/UHWR DOWN TO ZONE 3 UNDER-FLOOR HEATING TUBING DISTRIBUTION HEADER.
11. 2" UHWS/UHWR DOWN TO ZONE 2 UNDER-FLOOR HEATING TUBING DISTRIBUTION HEADER.
12. FOR CONTINUATION SEE TYPICAL UNDER-FLOOR HEATING TUBING DISTRIBUTION HEADER THIS SHEET.
13. TYPICAL UNDERFLOOR HEATING ZONE ASSEMBLY. FOR CONTINUATION. SEE NOTE 8,9,10,11,OR 12.
14. TYPICAL UNDERFLOOR HEATING DISTRIBUTION HEADER

KEYED NOTES

15702.A1 HEATING WATER PIPING.
15705.A1 RADIANT HEATING PIPING.
15705.B1 RADIANT HEATING SYSTEM ZONE ASSEMBLY.
15705.C1 RADIANT HEATING SYSTEM DISTRIBUTION TUBING.
15752.A1 HOT WATER FIN TUBE HEATER.
15760.A1 HOT WATER UNIT HEATER.
15833.A1 HANGAR AIR HANDLING UNIT.

CONSTRUCTION NOTES

A. HWS & HWR PIPING FROM GATE VALVES TO AHU-1, INCLUDING AHU-1, PART OF ALTERNATE 7 EXCEPT WHERE INDICATED.
B. HWS & HWR PIPING FROM GATE VALVES TO AHU-3, INCLUDING AHU-3, PART OF ALTERNATE 8
C. HWS & HWR PIPING FROM GATE VALVES TO AHU-2, INCLUDING AHU-2, PART OF ALTERNATE 7 EXCEPT WHERE INDICATED.
D. HWS & HWR PIPING FROM GATE VALVES TO AHU-4, INCLUDING AHU-4, PART OF ALTERNATE 6
E. TYPICAL UNDERFLOOR HEATING ZONE ASSEMBLY. ALL PIPING AND EQUIPMENT WITHIN DASHED BOX PROVIDED BY UNDERFLOOR HEATING SYSTEM MANUFACTURER.

RECORD DRAWINGS INCLUDE AS BUILT MODIFICATIONS AND CORRECTIONS OF ORIGINAL PLANS AS SUBMITTED BY THE GENERAL CONTRACTOR.

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REV.	REVISION RECORD	BY	DATE

ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY

LINE MAINTENANCE HANGAR
ANCHORAGE INTERNATIONAL AIRPORT
HANGAR HEATING WATER SCHEMATIC PIPING DIAGRAM

PROJ. 91050260	LOCATION: ANCHORAGE, ALASKA
DSN.	DR. APP. SCA.
DWG. NO. 09.07	REV.

STATE OF ALASKA — 49TH — Liana R. Frank No. ME 9277 — REGISTERED MECHANICAL ENGINEER

PROPOSAL DOCUMENTS NOT FOR CONSTRUCTION

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FEDEX HANGAR MECHANICAL AND ELECTRICAL UPGRADE

REVISIONS:

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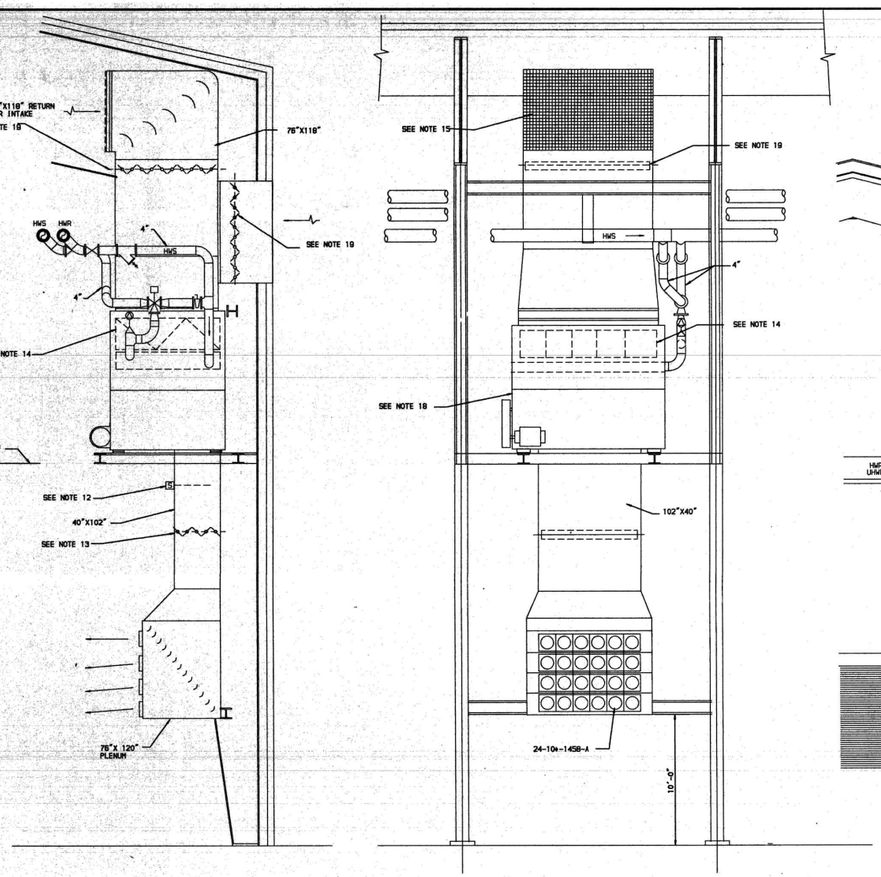
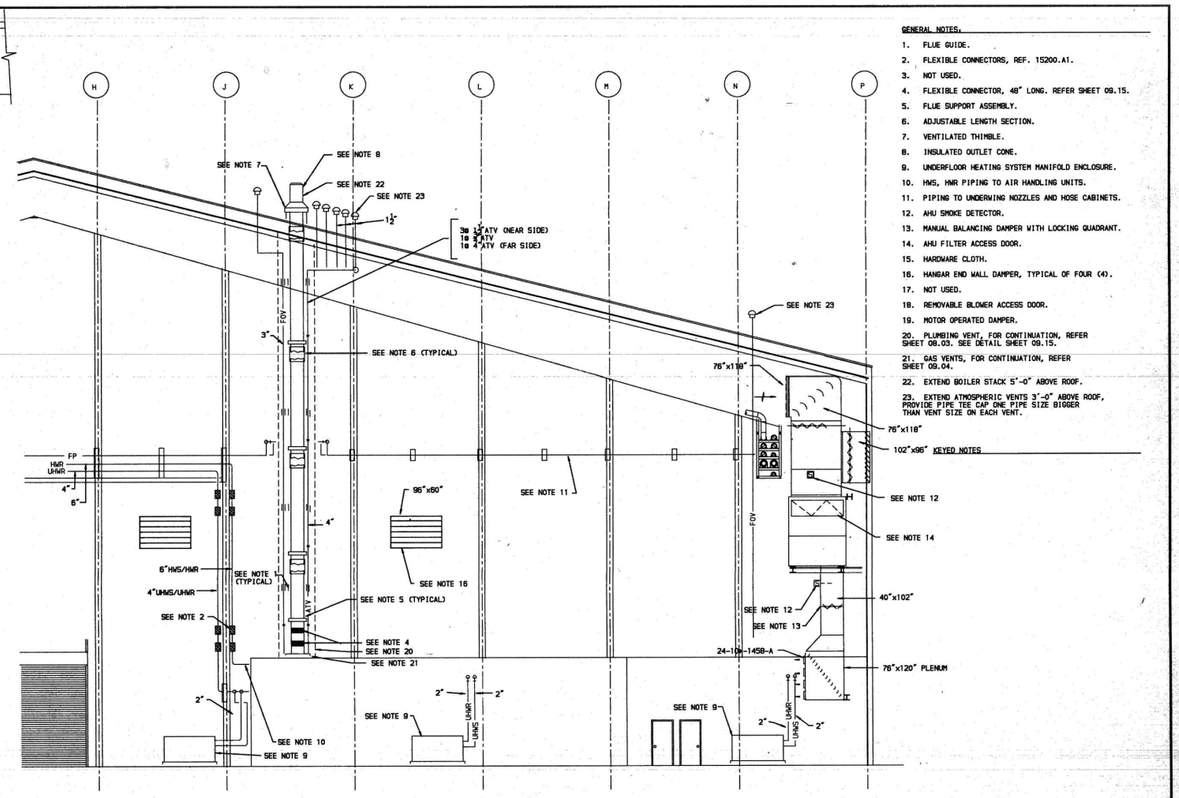


8 SECTION
09.10 SCALE : 1/4"=1'-0"

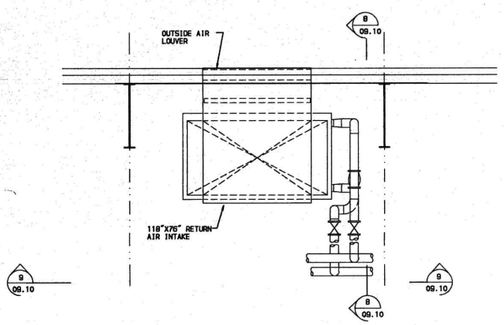
9 SECTION
09.10 SCALE : 1/4"=1'-0"



GENERAL NOTES:

1. FLUE GUIDE.
2. FLEXIBLE CONNECTORS, REF. 15200.A1.
3. NOT USED.
4. FLEXIBLE CONNECTOR, 48" LONG. REFER SHEET 09.15.
5. FLUE SUPPORT ASSEMBLY.
6. ADJUSTABLE LENGTH SECTION.
7. VENTILATED THIMBLE.
8. INSULATED OUTLET CONE.
9. UNDERFLOOR HEATING SYSTEM MANIFOLD ENCLOSURE.
10. HWS, HWR PIPING TO AIR HANDLING UNITS.
11. PIPING TO UNDERWING NOZZLES AND HOSE CABINETS.
12. AHU SMOKE DETECTOR.
13. MANUAL BALANCING DAMPER WITH LOCKING QUADRANT.
14. AHU FILTER ACCESS DOOR.
15. HARDWARE CLOTH.
16. HANGAR END WALL DAMPER, TYPICAL OF FOUR (4).
17. NOT USED.
18. REMOVABLE BLOWER ACCESS DOOR.
19. MOTOR OPERATED DAMPER.
20. PLUMBING VENT, FOR CONTINUATION, REFER SHEET 08.03. SEE DETAIL SHEET 08.15.
21. GAS VENTS, FOR CONTINUATION, REFER SHEET 09.04.
22. EXTEND BOILER STACK 5'-0" ABOVE ROOF.
23. EXTEND ATMOSPHERIC VENTS 3'-0" ABOVE ROOF, PROVIDE PIPE TEE CAP ONE PIPE SIZE BIGGER THAN VENT SIZE ON EACH VENT.

7 SECTION
09.10 SCALE: 1/8"=1'-0"



PLAN; TYPICAL HANGAR PLATFORM MOUNTED HEATING UNIT
09.10 SCALE : 1/4"=1'-0"
NOTE: TYPICAL OF FOUR (4) UNITS.

RECORD DRAWINGS INCLUDE AS BUILT MODIFICATIONS AND CORRECTIONS OF ORIGINAL PLANS AS SUBMITTED BY THE GENERAL CONTRACTOR.

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REV.	REVISION RECORD	BY	DATE
1	ADDENDUM #1, REVISIONS		8/10/92

ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY

LINE MAINTENANCE HANGAR
ANCHORAGE INTERNATIONAL AIRPORT
SECTIONS AND DETAILS

PROJ. 91050260 | LOCATION: ANCHORAGE, ALASKA
DR. | CK. | APP. | SCH.
DWG. NO. 09.10 | REV.

STATE OF ALASKA
No. 49TH
Liana M. Frank
No. ME 6577
REGISTERED PROFESSIONAL ENGINEER

PROPOSAL DOCUMENTS NOT FOR CONSTRUCTION

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FEDEX HANGAR MECHANICAL AND ELECTRICAL UPGRADE

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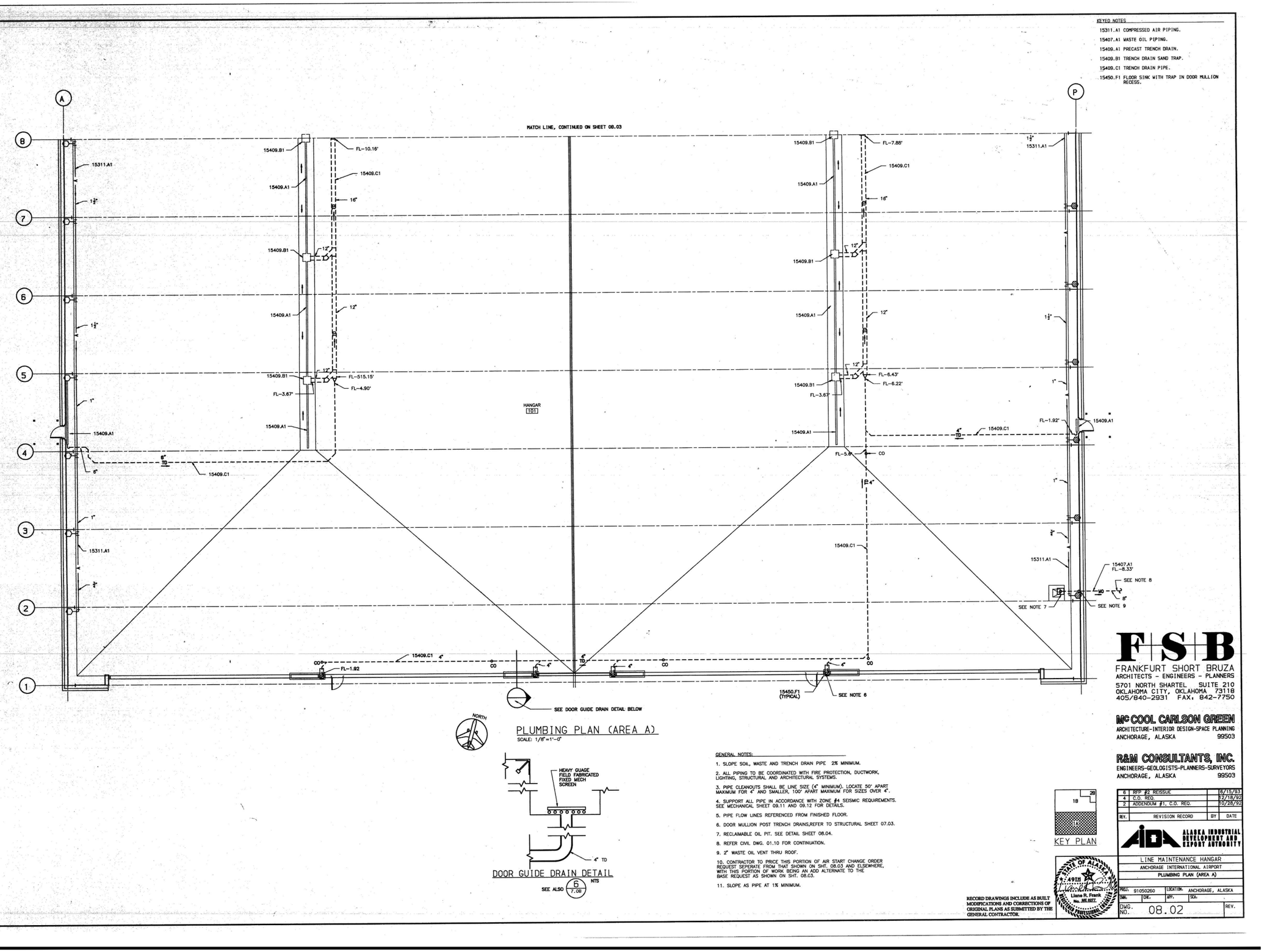

KEYED NOTES

15311.A1 COMPRESSED AIR PIPING.

15407.A1 WASTE OIL PIPING.

15409.A1 PRECAST TRENCH DRAIN.

15409.B1 TRENCH DRAIN SAND TRAP.

15409.C1 TRENCH DRAIN PIPE.

15450.F1 FLOOR SINK WITH TRAP IN DOOR MULLION RECESS.

PLUMBING PLAN (AREA A)

SCALE: 1/8"=1'-0"

DOOR GUIDE DRAIN DETAIL

NTS

SEE ALSO 6/7.08

GENERAL NOTES:

1. SLOPE SOIL, WASTE AND TRENCH DRAIN PIPE 2% MINIMUM.
2. ALL PIPING TO BE COORDINATED WITH FIRE PROTECTION, DUCTWORK, LIGHTING, STRUCTURAL AND ARCHITECTURAL SYSTEMS.
3. PIPE CLEANOUTS SHALL BE LINE SIZE (4" MINIMUM). LOCATE 50' APART MAXIMUM FOR 4" AND SMALLER, 100' APART MAXIMUM FOR SIZES OVER 4".
4. SUPPORT ALL PIPE IN ACCORDANCE WITH ZONE #4 SEISMIC REQUIREMENTS. SEE MECHANICAL SHEET 09.11 AND 09.12 FOR DETAILS.
5. PIPE FLOW LINES REFERENCED FROM FINISHED FLOOR.
6. DOOR MULLION POST TRENCH DRAINS,REFER TO STRUCTURAL SHEET 07.03.
7. RECLAIMABLE OIL PIT. SEE DETAIL SHEET 08.04.
8. REFER CIVIL DWG. 01.10 FOR CONTINUATION.
9. 2" WASTE OIL VENT THRU ROOF.
10. CONTRACTOR TO PRICE THIS PORTION OF AIR START CHANGE ORDER REQUEST SEPERATE FROM THAT SHOWN ON SHT. 08.03 AND ELSEWHERE, WITH THIS PORTION OF WORK BEING AN ADD ALTERNATE TO THE BASE REQUEST AS SHOWN ON SHT. 08.03.
11. SLOPE AS PIPE AT 1% MINIMUM.

RECORD DRAWINGS INCLUDE AS BUILT MODIFICATIONS AND CORRECTIONS OF ORIGINAL PLANS AS SUBMITTED BY THE GENERAL CONTRACTOR.

KEY PLAN

REV.	REVISION RECORD	BY	DATE
6	RFP #2 REISSUE		6/15/93
4	C.O. REQ.		12/18/92
2	ADDENDUM #1; C.O. REQ.		10/28/92

ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY

LINE MAINTENANCE HANGAR
ANCHORAGE INTERNATIONAL AIRPORT
PLUMBING PLAN (AREA A)

PROJ. 91050260	LOCATION: ANCHORAGE, ALASKA	
DES.	DRF.	APP.	SCA.
DWG. NO. 08.02		REV.

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PROPOSAL DOCUMENTS NOT FOR CONSTRUCTION

FEDEX HANGAR MECHANICAL AND ELECTRICAL UPGRADE

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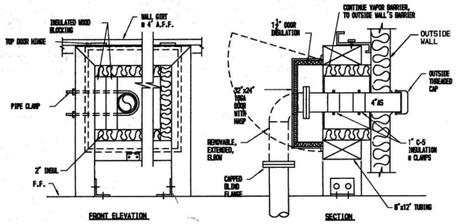
EX 06



DETAIL OF AIR START PIPE SLEEVE THRU WALL

SCALE: 3/4"=1'-0"

NOTES: = SEE DETAIL - SECTION #3 SHEET 07.00 THIS AREA

GENERAL NOTES:

1. SLOPE SOIL, WASTE AND TRENCH DRAIN PIPE 2% MINIMUM.
2. ALL PIPING TO BE COORDINATED WITH FIRE PROTECTION, DUCTWORK, LIGHTING, STRUCTURAL AND ARCHITECTURAL SYSTEMS.
3. PIPE CLEANOUTS SHALL BE LINE SIZE (4" MAXIMUM). LOCATE 50' APART MAXIMUM FOR 4" AND SMALLER, 100' APART MAXIMUM FOR SIZES OVER 4".
4. SUPPORT ALL PIPE IN ACCORDANCE WITH ZONE #4 SEISMIC REQUIREMENTS. SEE MECHANICAL SHEET 09.11 FOR DETAILS.
5. PIPE FLOW LINES REFERENCED FROM FINISHED FLOOR 100ft DATUM.
6. SEE SHEET 10.07 FOR ELECTRICAL COORDINATION.
7. 4" AIR START PIPE SLEEVE THRU WALL 30"± ENDS. SEE DETAIL THIS SHEET.
8. FIRE PROTECTION NOZZLES, SEE SHEET 11.01.
9. SEE MECHANICAL SHEET 09.04 FOR CONTINUATION.
10. SEE CIVIL SHEET 01.10 FOR CONTINUATION.
11. SHUT-OFF VALVES 42" ABOVE FLOOR.
12. DOMESTIC COLD WATER PRESSURE REGULATOR/METER FOR 50 GPM, 2" PIPE, 80 PSI.
13. VENT PIPE LOCATED BELOW FLOOR.
14. VENT PIPE LOCATED NEAR CEILING.
15. DROP COMPRESSED AIR BELOW FLOOR SLAB.
16. PIPE TRENCH, SEE STRUCTURAL SHEET 07.03. OPEN DRAIN TO TRAP.
17. SEE PLUMBING RISER DIAGRAM SHEET 08.04.
18. SEE COMPRESSED AIR OUTLET DETAIL ON SHEET 08.04.
19. SLOPE AS PIPE AT 1% MINIMUM.

CONSTRUCTION NOTES

A. SECURE TO WALL, HIGH AS POSSIBLE.

B. COORDINATE UNDERFLOOR PIPE WITH ELECTRICAL BUS DUCTS. SEE SHEET 10.08.

C. LOCATE FLOOR SINK AGAINST HOUSE KEEPING PAD'S EDGE. COORDINATE WITH STRUCTURAL DRAWINGS THIS AREA.

D. DOMESTIC WATER METER - CONTRACTOR INSTALLED, PROVIDED BY OTHERS.

E. DOMESTIC WATER METER REMOTE READER.

F. COMBINATION WASTE & VENT OCCURS ON FLOOR DRAINS WITHIN CENTRAL PLANT & PUMP ROOM ONLY.

G. SEE AIR START PIT ASSEMBLY DETAILS SHEET 08.01

H. PROTECT ALL UNACHORED UNDERGROUND (AS) PIPING TEES ELBOWS, WITH 3", CODE CS, 6 TO 3 PCF, SEMI RIGID GLASS FIBER, PVC JACKETED INSULATION TO 16ft AWAY EACH DIRECTIONS. MAXIMUM ALLOWABLE STRAIGHT PIPE RUN SHALL NOT EXCEED 50ft.

I. AIR START (AS) PIPING ABOVE AND BELOW GROUND SHALL BE STAINLESS STEEL, TYPE 304 OR TYPE 316 SCHEDULE 5S EXCEPT WHERE THREADED CONNECTIONS REQUIRE SCHEDULE 40S.

J. BUTT WELDED S.S. FITTINGS ON (AS) PIPING SHALL COMPLY TO ANSI 36.10 AND MSS-SP43. EXPANSION JOINTS, WHERE ALLOWED, SHALL BE S.S. 6" AXIAL MOVEMENT, CORRUGATED, DESIGNED FOR 50 PSIG WORKING PRESSURE, 400 DEG. F. GRADIENT. EXPANSION JOINTS SHALL NOT BE INSTALLED BELOW GROUND OR IN INACCESSABLE PLACES.

K. (AS) VALVES, 2" AND SMALLER SHALL BE SMITH 0316 BALL VALVES, 21/32" AND LARGER SHALL BE CENTERLINE FLOW SEAL 1WA-121RTG, BUTTERFLY VALVES WITH DIT HANDLES. ALL CHECK VALVES SHALL BE WILLIAMS S151F6-316.

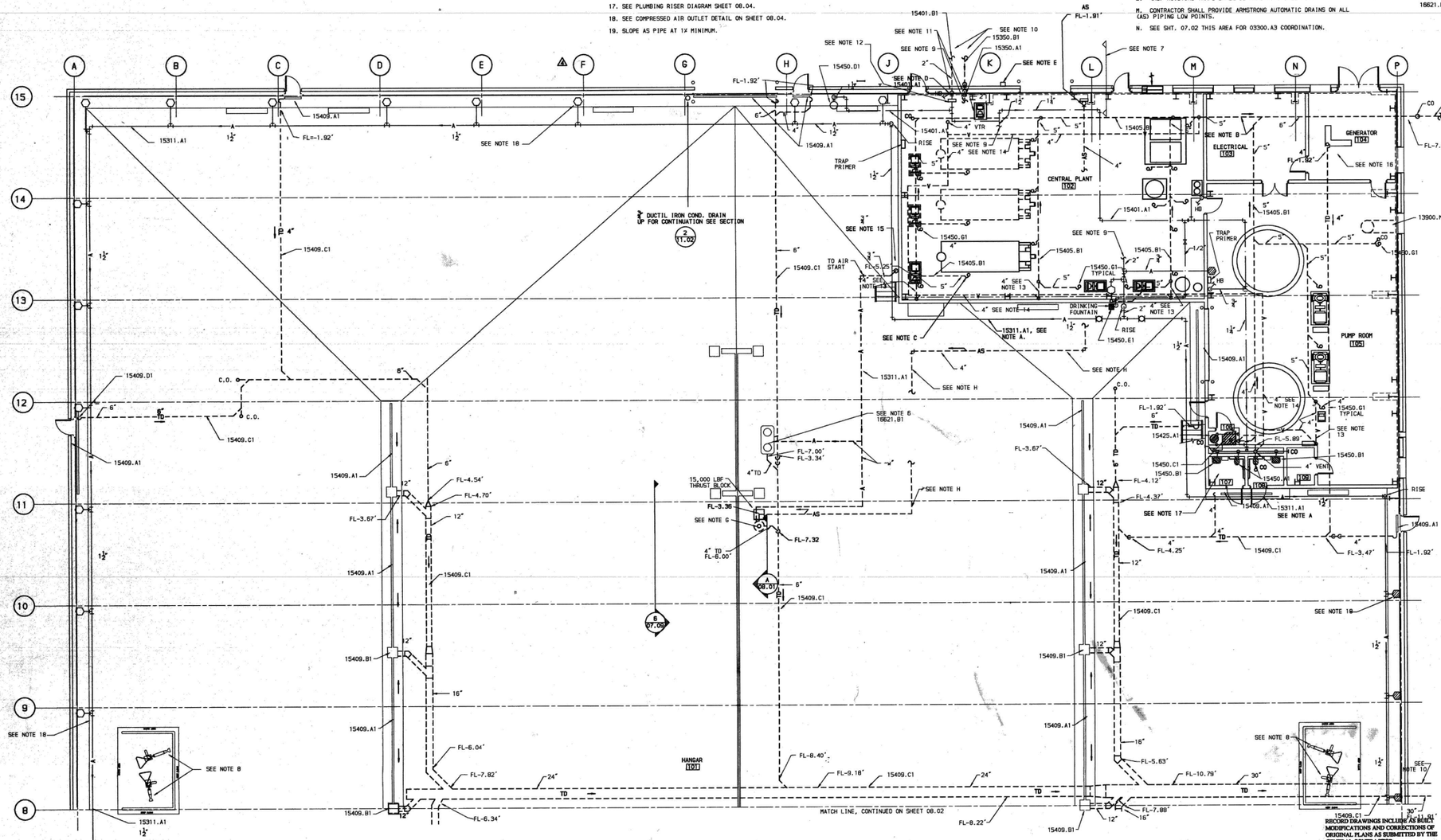
L. (AS) MOISTURE TRAPS SHALL BE ARMSTRONG BALL FLOAT No. 71.

M. CONTRACTOR SHALL PROVIDE ARMSTRONG AUTOMATIC DRAINS ON ALL (AS) PIPING LOW POINTS.

N. SEE SHT. 07.02 THIS AREA FOR 03300.A3 COORDINATION.

KEYED NOTES

13900.M1 FIRE PROTECTION PIPING.
15311.A1 COMPRESSED AIR PIPING.
15350.A1 NATURAL GAS PIPING ABOVE GRADE.
15350.B1 NATURAL GAS PIPING BELOW GRADE.
15401.A1 DOMESTIC WATER PIPING ABOVE GRADE.
15401.B1 DOMESTIC WATER PIPING BELOW GRADE.
15405.A1 BELL AND SPIGOT JOINT.
15405.B1 SOIL, WASTE AND VENT PIPING.
15409.A1 PRECAST TRENCH DRAIN.
15409.C1 TRENCH DRAIN PIPE.
15409.D1 TRENCH DRAIN PIPE P-TRAP.
15425.A1 DOMESTIC WATER HEATER (ELECTRIC).
15450.A1 WATER CLOSET.
15450.B1 LAVATORY.
15450.C1 SERVICE SINK WITH TRAP.
15450.D1 EMERGENCY SHOWER/EYEWASH.
15450.E1 DRINKING FOUNTAIN.
15450.F1 FLOOR SINK WITH TRAP IN DOOR MULLION RECESS.
15450.G1 FLOOR SINK WITH TRAP.
16621.B1 DUAL 400Hz ELECTRICAL PIT WITH SHOP AIR.



PLUMBING PLAN (AREA B)

SCALE: 1/8"=1'-0"

KEY PLAN

RECORD DRAWINGS INCLUDE AS BUILT MODIFICATIONS AND CORRECTIONS OF ORIGINAL PLANS AS SUBMITTED BY THE GENERAL CONTRACTOR.

FRANKFURT SHORT BRUZA
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ARCHITECTURE-INTERIOR DESIGN-SPACE PLANNING
ANCHORAGE, ALASKA 99503

R&M CONSULTANTS, INC.
ENGINEERS-GEOLOGISTS-PLANNERS-SURVEYORS
ANCHORAGE, ALASKA 99503

REV.	REVISION RECORD	BY	DATE
6	RFP #2 REISSUE		5/15/93
4	C.O.		12/18/92
2	C.O. REQ.		10/28/92

ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY

LINE MAINTENANCE HANGAR
ANCHORAGE INTERNATIONAL AIRPORT
PLUMBING PLAN (AREA B)

PROJ. 91050260 | LOCATION: ANCHORAGE, ALASKA
DSN. | DR. | APP. | SCA.
DWG. NO. 08.03 | REV.

STATE OF ALASKA 49TH — Liane R. Frank No. 9814127

PROPOSAL DOCUMENTS NOT FOR CONSTRUCTION

FEDEX HANGAR MECHANICAL AND ELECTRICAL UPGRADE

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REVISIONS:

DRAWN BY:
CHECKED BY:
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JOB NUMBER: L5148
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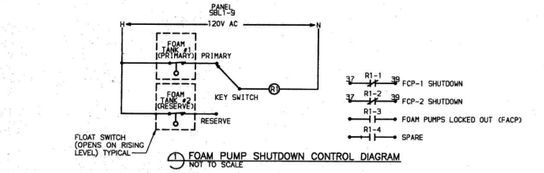
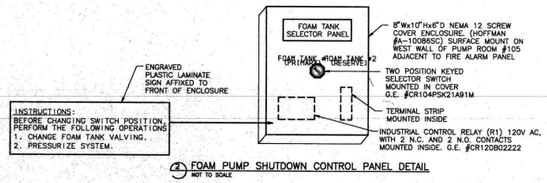
DRAWING TITLE:
EXHIBIT DRAWING
WAREHOUSE P08.03

SHEET:
EX 07

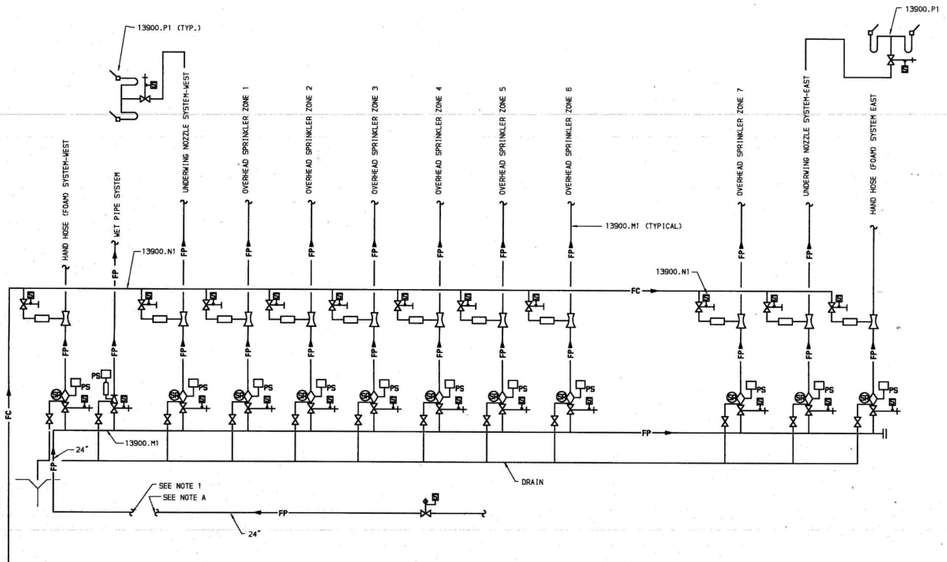


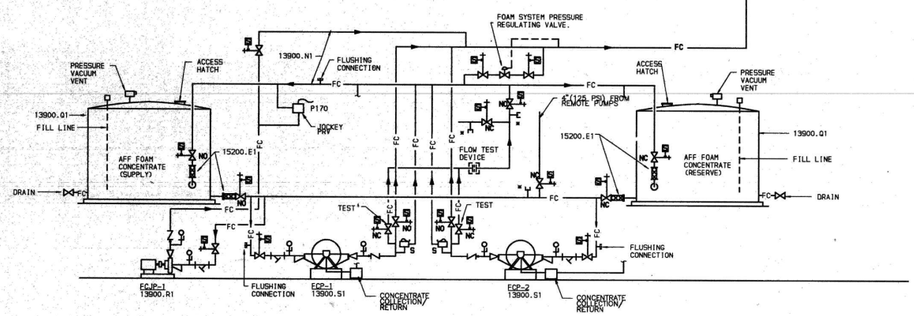
1 FOAM PUMP SHUTDOWN CONTROL DIAGRAM
NOT TO SCALE



2 FOAM PUMP SHUTDOWN CONTROL PANEL DETAIL
NOT TO SCALE

FOAM CONCENTRATE PUMP SCHEDULE						
MARK	TYPE	RPM	HEAD	FLOW	HP	POWER
FCP-1	CENTRIFUGAL	3500	150 PSI	500 GPM	100	460/3ø/60Hz
FCP-2	CENTRIFUGAL	3500	150 PSI	500 GPM	100	460/3ø/60Hz
FCJP-1	CENTRIFUGAL	3600	150 PSI	5 GPM	5	460/3ø/60Hz





FIRE WATER / AFF FOAM CONCENTRATE FLOW DIAGRAM
NO SCALE

GENERAL NOTES

1. 24" INCOMING FIRE PROTECTION MAIN. REFER TO SHEET 01.10 AND 11.01

KEYED NOTES

13900.M1 FIRE PROTECTION PIPING.
13900.N1 AFFF CONCENTRATE PIPING.
13900.P1 AFFF/WATER OSCILLATING NOZZLES.
13900.Q1 AFFF CONCENTRATE SUPPLY TANK.
13900.R1 AFFF JOCKEY PUMP.
13900.S1 AFFF CONCENTRATE PUMP.
15200.E1 FLEXIBLE STAINLESS STEEL HOSE, SPECIFICATION "L".

CONSTRUCTION NOTES

A. CAP OR CONNECT TO 24" FIRE PROTECTION SERVICE FOR FUTURE CONNECTION TO FIRE SERVICE MAIN. SEE SITE PLAN FOR LOCATION AND DETAILS.

B. EXHAUST DAMPERS, LOW LEAKAGE, 14 GAGE CHANNEL FRAME WITH 16 GA. DOUBLE SKIN, AIR FOIL, OPPOSED BLADES WITH EXTERNAL, OUT OF STREAM, LINKAGE, 1/2" DIA. PLATED STEEL AXLES, SS SLEEVE PRESSED BEARINGS RUSKIN CD 8F AF2. DAMPER INLETS FITTED WITH 2" SQUARE BIRD SCREEN, FINISHES, MILL GALVANIZED PROVIDE 120V, UL RATED, ELECTRIC DAMPER MOTOR OPERATOR.

C. HIGH PRESSURE METAL DUCTWORK AS PER NFPA STANDARD 91, CLASS 1, WELDED LONGITUDINAL OR SPIRAL LOCK SEAM RATED, (-) 14" WG. PRESSURE 4000 FPM VELOCITY GALVANIZED ASTM A-527-67. HIGH PRESSURE SEALING AS PER SMACNA SEAL CLASS "B".

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REV.	REVISION RECORD	BY	DATE
6	RFP #2 REISSUE		06/15/93
5	C.O. REQ. FUEL EXH.		02/17/93
2	C.O. REQ.		10/28/92

ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY

LINE MAINTENANCE HANGAR
ANCHORAGE INTERNATIONAL AIRPORT
FIRE WATER / AFF FOAM CONCENTRATE FLOW DIAGRAM

PROJ. 91050260	LOCATION. ANCHORAGE, ALASKA		
DSN.	CHK.	APP.	SCA.
DWG. NO. 11.02			REV.

RECORD DRAWINGS INCLUDE AS BUILT MODIFICATIONS AND CORRECTIONS OF ORIGINAL PLANS AS SUBMITTED BY THE GENERAL CONTRACTOR.

STATE OF ALASKA ★49TH★ Liana R. Frank No. ME 9017 REGISTERED PROFESSIONAL ENGINEER

PROPOSAL DOCUMENTS NOT FOR CONSTRUCTION

RSA Engineering, Inc.
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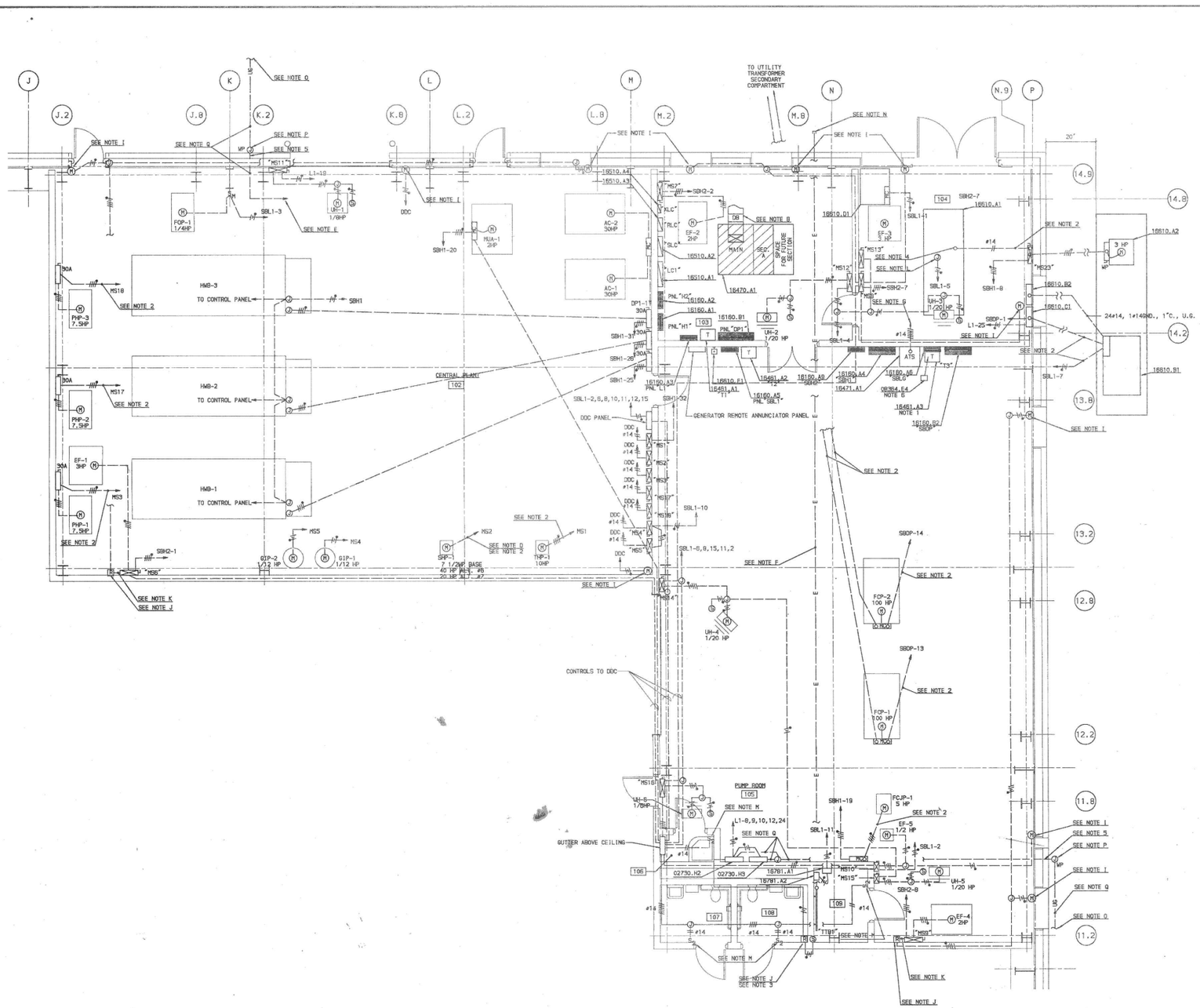
FEDEX HANGAR MECHANICAL AND ELECTRICAL UPGRADE

REVISIONS:

DRAWN BY:
CHECKED BY:
DATE: 12/18/15
JOB NUMBER: L5148
DWG FILE: L5148_EXHIBIT

DRAWING TITLE:
EXHIBIT DRAWING
WAREHOUSE F11.02

SHEET:
EX 08



ENLARGED AREA "2B" POWER PLAN

SCALE: 1/4" = 1'-0"

KEYED NOTES:

02730.H2 TANK LEAK DETECTOR PANEL

02730.H3 OWS LEVEL MONITOR PANEL

08364.E4 CONTROL RELAY "SCR1", 120VAC, 4-POLE N.O. CONTACT INDUSTRIAL RELAY, (SQUARE D #8501-X043, MOUNTED IN A 8"X 8"W X 6"D NEMA 1 ENCLOSURE, HOFFMAN #A-8N6D).

16160.A1 PANEL "H1".

16160.A2 PANEL "H2".

16160.A3 PANEL "L1".

16160.A4 PANEL "SBH1".

16160.A5 PANEL "SBL1"

16160.A5 PANEL "SBL6".

16160.A6 PANEL "SBH2".

16160.B1 PANEL "DP1".

16160.B2 PANEL "SBDP".

16461.A1 TRANSFORMER "T1".

16461.A2 TRANSFORMER "T2".

16461.A3 TRANSFORMER "T3".

16470.A1 MAIN SWITCHBOARD "MSWB1".

16471.A1 AUTOMATIC TRANSFER SWITCH

16510.A1 LIGHTING CONTACTOR "LC1".

16510.A2 LIGHTING CONTACTOR "SLC".

16510.A3 LIGHTING CONTACTOR "RLC".

16510.A4 LIGHTING CONTACTOR "XLC".

16610.A1 250 KW ENGINE GENERATOR

16610.A2 REMOTE RADIATOR.

16610.B1 100KW LOAD BANK

16610.B2 LOAD BANK REMOTE CONTROL PANEL.

16610.C1 CONTACTOR "LBC", 200A RESISTIVE, 3 POLE, ELECTRICALLY HELD LIGHTING CONTACTOR W/CONTROL POWER TRANSFORMER 2 CONTROL CIRCUIT FUSES, "OPEN" & "CLOSE" PUSHBUTTONS, GREEN "OPEN" AND RED "CLOSE" PILOT LIGHTS, 120V COIL. (SQUARE "D" #8903-SVG2.)

16610.D1 PACKAGE CONTROL DAYTANK.

16610.E1 STANDBY GENERATOR KILL SWITCH (ASCO #124000).

16781.A1 MICROWEB II PROCESSOR.

16781.A2 9600 BAUD MODEM.

GENERAL NOTES:

A. NOT USED.
B. SEE DRAWING 01.60 FOR CONTINUATION OF DUCT BANK.
C. NOT USED
D. 3#12, 1#12 GND., 1"C. - BASE BID.
3#4, 1#6 GND., 1"C. - ALTERNATE #6.
3#8, 1#10 GND., 1"C. - ALTERNATE #7.
E. TO LEAK DETECTOR PANEL 02730.H2.
F. 3" CONDUIT FOR TELEPHONE.
G. ROUTE TO GENERATOR CONTROL PANEL.
H. NOT USED
I. DAMPER MOTOR.
J. CONTROL TRANSFORMER AND RELAY RE; MECHANICAL.
K. NOT USED
L. JACKET WATER HEATER.
M. TWO POLE SWITCH SHALL CONTROL LIGHTS AND EXHAUST FAN TOGETHER.
N. STUB CONDUIT OUT PAST BUILDING. TURN UP AND CAP FLUSH WITH GRADE FOR CONTINUATION BY OTHERS.
O. RE; DRAWING 01.60 FOR CONTINUATION.
P. J-BOXES WALL MOUNTED 2'-0" AFG.
Q. RE; MANUFACTURER'S WIRING DIAGRAM FOR NUMBER AND SIZE OF WIRES.

CONSTRUCTION NOTES:

1. WALL MOUNT TRANSFORMER 8'-0" AFF.
2. ROUTE CONDUIT UNDER FLOOR.
3. MOUNT ABOVE CEILING.
4. COORDINATE WITH LOCATION OF GENERATOR TEMPERATURE SWITCH.
5. PROVIDE 4" OF PVC CONDUIT AS A THERMAL BREAK WHERE CONDUIT PASSES THROUGH WALL INSULATION.
6. MOUNT CONTROL RELAY ENCLOSURE ABOVE PANELBOARD.

KEY PLAN

RECORD DRAWINGS INCLUDE AS BUILT MODIFICATIONS AND CORRECTIONS OF ORIGINAL PLANS AS SUBMITTED BY THE GENERAL CONTRACTOR.

REV.	REVISION RECORD	BY	DATE
	ISSUE DATE		12/2/15
1B	FINAL RECORD DRAWING		10/2/15

ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY

LINE MAINTENANCE HANGAR
ANCHORAGE INTERNATIONAL AIRPORT
ENLARGED POWER PLAN - AREA "2B"

PROJ. 91050260 LOCATION ANCHORAGE, ALASKA
DATE DSN. APP. SCL
DWG. NO. 10.08 REV.

STATE OF ALASKA — 49TH — Walter C. Barnes — No. 9E 8819 — REGISTERED PROFESSIONAL ENGINEER

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ANCHORAGE, ALASKA 99503

PROPOSAL DOCUMENTS NOT FOR CONSTRUCTION

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FEDEX HANGAR MECHANICAL AND ELECTRICAL UPGRADE

REVISIONS:

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CHECKED BY:
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JOB NUMBER: L5148
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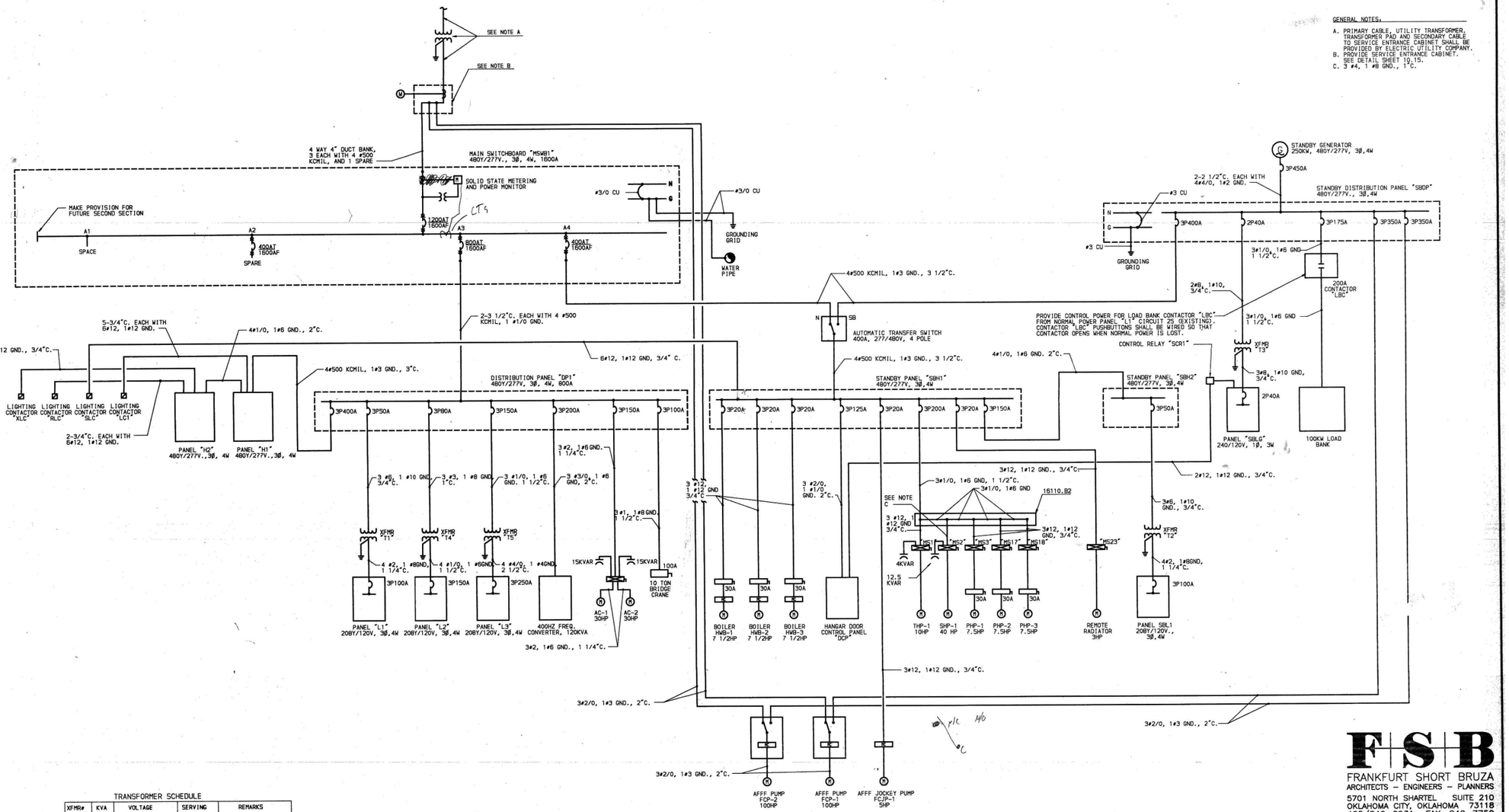
EXHIBIT DRAWING
WAREHOUSE E10.08

SHEET:
EX 09



KEYED NOTES

16110.B2 NEMA 3R 4" X 4" WIRING TROUGH.

GENERAL NOTES:

A. PRIMARY CABLE, UTILITY TRANSFORMER, TRANSFORMER PAD AND SECONDARY CABLE TO SERVICE ENTRANCE CABINET SHALL BE PROVIDED BY ELECTRIC UTILITY COMPANY.
B. PROVIDE SERVICE ENTRANCE CABINET. SEE DETAIL SHEET 10.15.
C. 3 #4, 1 #8 GND., 1"C.

TRANSFORMER SCHEDULE

XFMR#	KVA	VOLTAGE PH & WIRE	SERVING PANEL #	REMARKS
T1	30	480 △208 Y¢120V	L1	
T2	30	480 △208 Y¢120V	SBL1	
T3	7.5	480 - 120/240V. 1 ¢	SBLG	
T4	45	480 △208 Y¢120V	L2	NEMA 3R
T5	75	480 △208 Y¢120V	L3	NEMA 3R

SINGLE LINE DIAGRAM
NOT TO SCALE

RECORD DRAWINGS INCLUDE AS BUILT MODIFICATIONS AND CORRECTIONS OF ORIGINAL PLANS AS SUBMITTED BY THE GENERAL CONTRACTOR.

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ANCHORAGE, ALASKA 99503

REV.	REVISION RECORD	BY	DATE
	FINAL RECORD DRAWING		10/2/95
	ISSUE DATE		7/2/92

ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY

LINE MAINTENANCE HANGAR
ANCHORAGE INTERNATIONAL AIRPORT
SINGLE LINE DIAGRAM

PROJ: 91050260 | LOCATION: ANCHORAGE, ALASKA
DWN: | DSN: | APP: | SCA:
DWG. NO. 10.09 | REV.

STATE OF ALASKA — 49TH — Walter C. Barnes No. SE 8019 — REGISTERED PROFESSIONAL ENGINEER

PROPOSAL DOCUMENTS NOT FOR CONSTRUCTION

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FEDEX HANGAR MECHANICAL AND ELECTRICAL UPGRADE

REVISIONS:

DRAWN BY:
CHECKED BY:
DATE: 12/18/15
JOB NUMBER: L5148
DWG FILE: L5148_EXHIBIT

DRAWING TITLE:
EXHIBIT DRAWING
WAREHOUSE E10.09

SHEET:
EX 10

PANEL DP1 SCHEDULE

VOLTS 480Y/277, PHASE 3, WIRE 4, SN Y, EQUIPMENT GROUND BUS Y, SURFACE MOUNTED
DISCONNECT MLO, POLES, AMP, MAINS AMP 800, LOCATED ROOM 103
MINIMUM AIC 30000

CIRC NO.	TRIP AMPS	NO. POLES	LOAD SERVED	PHASE LOAD VA A	PHASE LOAD VA B	PHASE LOAD VA C	LOAD SERVED	CIRC NO.	TRIP AMPS	NO. POLES
1	150	3	M-AC-1 & 2	22170 41737			PANEL H1	2	400	3
3			---		22170 41737		---	4		
5			---			22170 41737	---	6		
7	200	3	400Hz PWR/ CONV.	40000 21188			PANEL L1	8	50	3
9			AIA — COMP		40000 21188		---	10		
11			---			40000 21188	---	12		
ALT. #6 ALT. #7	90	3	M-AHU-1	8425 11180			PANEL L2	14	80	3
15			---		8425 11180		---	16		
17			---			8425 11180	---	18		
ALT. #6 ALT. #7	90	3	M-AHU-2	8425 13380			PANEL L3	20	150	3
21			400Hz — GPU		8425 13380		---	22		
23			---			8425 13380	---	24		
ALT. #6	90	3	M-AHU-3	8425			SPACE	26		
27			---		8425		---	28		
29			---			8425	SPACE	30		
ALT. #6	90	3	M-AHU-4	8425 17750			10 TON BRIDGE CRANE	32	100	3
33			---		8425 17750		---	34		
35			---			8425 17750	---	36		
37			SPACE				SPACE	38		
39			SPACE				SPACE	40		
41			SPACE				SPACE	42		
				TOTAL 183880	183880	183880				

TOTAL CONNECTED LOAD 551.8KVA
ESTIMATED DEMAND LOAD 480.8KVA
DEMAND LINE AMPS 554

PANEL H1 SCHEDULE

VOLTS 480Y/277, PHASE 3, WIRE 4, SN Y, EQUIPMENT GROUND BUS Y, SURFACE MOUNTED
DISCONNECT MLO, POLES, AMP, MAINS AMP 400, LOCATED ROOM 103
MINIMUM AIC 10000

CIRC NO.	TRIP AMPS	NO. POLES	LOAD SERVED	PHASE LOAD VA A	PHASE LOAD VA B	PHASE LOAD VA C	LOAD SERVED	CIRC NO.	TRIP AMPS	NO. POLES
1	20	3	L-LC1 (RCA)-1,2,3	3450 2300			L-LC1 (RCB)-1,2,3	2	20	3
3			---		3450 2300		---	4		
5			---			3450 2300	---	6		
7	20	3	L-LC1 (RCB)-4,5,6	2300 3450			L-LC1 (RCC)-1,2,3	8	20	3
9			---		2300 3450		---	10		
11			---			2300 3450	---	12		
13	20	3	L-LC1 (RCD)-1,2,3	2300 2300			L-LC1 (RCC)-4,5,6	14	20	3
15			---		2300 2300		---	16		
17			---			2300 2300	---	18		
19	20	3	L-LC1 (RCE)-1,2,3	3450 2300			L-LC1 (RCE)-4,5,6	20	20	3
21			---		3450 2300		---	22		
23			---			3450 2300	---	24		
25	20	3	L-LC1 (RCF)-1,2,3	2300 3450			SPARE	26	20	3
27			---		2300 3450		---	28		
29			---			2300 3450	---	30		
31	20	3	SPARE				SPARE	32	20	3
33			---				---	34		
35			---				---	36		
37	20	3	EMERG. WALLPACKS HANGAR	200 4070			PANEL "H2"	38	150	3
39	20	3	SPARE		14070		---	40		
41	20	3	SPARE			14070	---	42		
				TOTAL 41870	41670	41670				

TOTAL CONNECTED LOAD 125.2KVA
ESTIMATED DEMAND LOAD 125.2KVA
DEMAND LINE AMPS 151

PANEL H2 SCHEDULE

VOLTS 480Y/277, PHASE 3, WIRE 4, SN Y, EQUIPMENT GROUND BUS Y, SURFACE MOUNTED
DISCONNECT MLO, POLES, AMP, MAINS AMP 225, LOCATED ROOM 103
MINIMUM AIC 22000

CIRC NO.	TRIP AMPS	NO. POLES	LOAD SERVED	PHASE LOAD VA A	PHASE LOAD VA B	PHASE LOAD VA C	LOAD SERVED	CIRC NO.	TRIP AMPS	NO. POLES
1	20	1	L-XLC (RCX)-1	1160 2650			L-CENTRAL PLANT	2	20	1
3	20	1	L-XLC (RCX)-2		820 3250		L-ELEC. RM, GEN RM, PUMP RM	20	1	
5	20	1	SPARE			SPARE		6	20	1
7	20	3	L-RLC (RCRX)-1,2,3	2300 3450			L-RLC (RCRX)-4,5,6	8	20	3
9			---		2300 3450		---	10		
11			---			2300 3450	---	12		
13	20	3	L-RLC (RCRE)-1,2,3	2300 3450			L-RLC (RCRE)-4,5,6	14	20	3
15			---		2300 3450		---	16		
17			---			2300 3450	---	18		
19	20	3	SPARE				SPACE	20		
21			---				SPACE	22		
23			---				SPACE	24		
25	20	1	SPARE				SPARE	26	20	1
27	20	1	SPARE				SPARE	28	20	1
29	20	3	EAST EXH. HOSE WINCH	500 500			WEST EXH. HOSE WINCH	30	20	3
31			---		500 500		---	32		
33			---			500 500	---	34		
35			SPACE				SPACE	36		
37			SPACE				SPACE	38		
39			SPACE				SPACE	40		
41			SPACE				SPACE	42		
				TOTAL 16300	16410	12500				

TOTAL CONNECTED LOAD 45.2KVA
ESTIMATED DEMAND LOAD 44.8KVA
DEMAND LINE AMPS 54

PANEL L1 SCHEDULE

VOLTS 208Y/120, PHASE 3, WIRE 4, SN Y, EQUIPMENT GROUND BUS Y, SURFACE MOUNTED
DISCONNECT MCB, POLES 3, AMP 100, MAINS AMP 225, LOCATED ROOM 105
MINIMUM AIC 10000

CIRC NO.	TRIP AMPS	NO. POLES	LOAD SERVED	PHASE LOAD VA A	PHASE LOAD VA B	PHASE LOAD VA C	LOAD SERVED	CIRC NO.	TRIP AMPS	NO. POLES
1	20	1	LIGHTING CONTROL CKT	180			SPARE	2	20	1
3	20	1	SPARE		900		SPARE	4	20	1
5	20	1	SPARE			900	SPARE	6	20	1
7	20	1	R-RM 103, 104, 105 N.	900 880			R-RM 101 CH-12), 105 SW	8	20	1
9	20	1	R-RM 105 S. 109, 101 CH-13,		880 900		R-RM 107	10	20	1
11	20	1	R-RM 102, 105 N.W.			720 900	R-RM 108	12	20	1
13	20	1	R-RM 101 (COL. J), 102	1180			SPARE	14	20	1
15	20	1	R-RM 101 N (COL. E-J)		1500		SPARE	16		
17	20	1	R-RM 101 N (COL. C-E)			1000	SPARE	18	20	1
19	20	1	M-UH-1	300 300			M-EYE WASH HEAT TRACE	20	20	1
21	20	1	M-OD-1 & 2		300 400		M-MTR LOUVERS N. WALL	22	20	1
23	20	1	M-FINTUBE CNTRL RM107			100 100	LEAK & LEVEL DET. PNL	24	20	1
25	20	1	CONTACTOR "LBC"	50 500			EAST FUEL TANK EXH.	26	20	1
27	20	1	SPARE		300		WEST FUEL TANK EXH.	28	20	1
29	20	1	SPARE				SPACE	30		
31			SPACE				SPACE	32		
33			SPACE				SPACE	34		
35			SPACE				SPACE	36		
37	20	3	OVERHEAD DOOR OPERATOR	265			SPACE	38		
39			---		265		SPACE	40		
41			---			265	SPACE	42		
				TOTAL 4610	4425	2985				

TOTAL CONNECTED LOAD 12.0KVA
ESTIMATED DEMAND LOAD 7.1KVA
DEMAND LINE AMPS 20

PANEL L2 SCHEDULE

VOLTS 208Y/120, PHASE 3, WIRE 4, SN Y, EQUIPMENT GROUND BUS Y, SURFACE MOUNTED
DISCONNECT MCB, POLES 3, AMP 150, MAINS AMP 225, LOCATED COL. 8-A
MINIMUM AIC 10000

CIRC NO.	TRIP AMPS	NO. POLES	LOAD SERVED	PHASE LOAD VA A	PHASE LOAD VA B	PHASE LOAD VA C	LOAD SERVED	CIRC NO.	TRIP AMPS	NO. POLES
1	20	1	R-RM 101 W(COL 8-11)	1500 1500			R-RM 101 W(COL 5-8)	2	20	1
3	20	1	R-RM 101 W(COL 11-14)		1500 1000		R-RM 101 W(COL 3-5)	4	20	1
5	20	1	R-RM 101 N.W.			1000	R-RM 101 W(COL 1-3)	6	20	1
7	20	1	AHU-3 CNTRL PNL	300			SPACE	8		
9	20	1	AHU-1 CNTRL PNL		300		SPACE	10		
11	20	1	SPARE				SPACE	12		
13			SPACE				SPACE	14		
15			SPACE				SPACE	16		
17			SPACE				SPACE	18		
19			SPACE				SPACE	20		
21			SPACE				SPACE	22		
23			SPACE				SPACE	24		
25	60	3	80A RECEPT. N.W.	4800 4800			80A RECEPT. S.W.	26	60	3
27			---		4800 4800		---	28		
29			---			4800 4800	---	30		
31								32		
33								34		
35								36		
37								38		
39								40		
41								42		
				TOTAL 12900	12400	12100				

TOTAL CONNECTED LOAD 37.4KVA
ESTIMATED DEMAND LOAD 27.5KVA
DEMAND LINE AMPS 76

PANEL L3 SCHEDULE

VOLTS 208Y/120, PHASE 3, WIRE 4, SN Y, EQUIPMENT GROUND BUS Y, SURFACE MOUNTED
DISCONNECT MCB, POLES 3, AMP 250, MAINS AMP 400, LOCATED COL. 8-P
MINIMUM AIC 10000

CIRC NO.	TRIP AMPS	NO. POLES	LOAD SERVED	PHASE LOAD VA A	PHASE LOAD VA B	PHASE LOAD VA C	LOAD SERVED	CIRC NO.	TRIP AMPS	NO. POLES
1	20	1	R-RM 101 E(COL 8-11)	1500 1500			R-RM 101 E(COL 5-8)	2	20	1
3	20	1	AHU-4 CNTRL PNL		300 1000		R-RM 101 E(COL 3-5)	4	20	1
5	20	1	AHU-2 CNTRL PNL			300 1000	R-RM 101 E(COL 1-3)	6	20	1
7	20	1	SPARE	2050			SNOW MELTING	8	40	2
9	20	1	SPARE		2050		---	10		
11	20	1	SPARE			2050	SNOW MELTING	12	40	2
13			SPACE	2050			---	14		
15			SPACE		2050		SNOW MELTING	16	40	2
17			SPACE			2050	---	18		
19			SPACE	2050			SNOW MELTING	20	40	2
21			SPACE		2050		---	22		
23			SPACE				SPACE	24		
25			SPACE				SPACE	26		
27			SPACE				SPACE	28		
29			SPACE				SPACE	30		
31			SPACE				SPACE	32		
33			SPACE				SPACE	34		
35			SPACE				SPACE	36		
37	60	3	60A RECEPT. N.E.	4800 4800			60A RECEPT. S.E.	38	60	3
39			---		4800 4800		---	40		
41			---			4800 4800	---	42		
				TOTAL 18750	17050	15000				

TOTAL CONNECTED LOAD 50.8KVA
ESTIMATED DEMAND LOAD 40.0KVA
DEMAND LINE AMPS 111

■ GFI BREAKER

PANEL SBDP SCHEDULE

VOLTS 480Y/277, PHASE 3, WIRE 4, SN Y, EQUIPMENT GROUND BUS Y, SURFACE MOUNTED
DISCONNECT MLO, POLES, AMP, MAINS AMP 600, LOCATED ROOM 105
MINIMUM AIC 10000

CIRC NO.	TRIP AMPS	NO. POLES	LOAD SERVED	PHASE LOAD VA A	PHASE LOAD VA B	PHASE LOAD VA C	LOAD SERVED	CIRC NO.	TRIP AMPS	NO. POLES
1	175	3	RESISTIVE LOAD BANK	33000 25			PANEL "SBLG"	2	40	2
3			---		33000 25		---	4		
5			---			33000	SPACE	6		
7	400	3	ATS (PANEL SBH1)	37319			SPACE	8		
9			---		37319		SPACE	10		
11			---			37319	SPACE	12		
13	350	3	M-FCP-1	32650 32650			M-FCP-2	14	350	3
15			---		32650 32650		---	16		
17			---			32650 32650	---	18		
19	350	3	SPARE				SPACE	20		
21			---				SPACE	22		
23			---				SPACE	24		
25								26		
27								28		
29								30		
31								32		
33								34		
35								36		
37								38		
39								40		
41								42		
				TOTAL 136244	136244	136219				

TOTAL CONNECTED LOAD 408.7KVA
ESTIMATED DEMAND LOAD 247.8KVA
DEMAND LINE AMPS 298

ALT. #6

PANEL SBH1 SCHEDULE

VOLTS 480Y/277, PHASE 3, WIRE 4, SN Y, EQUIPMENT GROUND BUS Y, SURFACE MOUNTED
DISCONNECT MLO, POLES, AMP, MAINS AMP 400, LOCATED ROOM 105
MINIMUM AIC 22000

CIRC NO.	TRIP AMPS	NO. POLES	LOAD SERVED	PHASE LOAD VA A	PHASE LOAD VA B	PHASE LOAD VA C	LOAD SERVED	CIRC NO.	TRIP AMPS	NO. POLES
1	20	3	L-SLC (RCB & RCD)	2300 2300			L-SLC (RCF)	2	20	3
3			---		2300 2300		---	4		
5			---			2300 2300	---	6		
7	20	3	SPARE	1330			REMOTE RADIATOR	8	20	3
9			---		1330		---	10		
11			---			1330	---	12		
13	20	1	EXIT LIGHTS	50 2800			CENTRAL PLANT FCR RM, ELEC. RM	14	20	1
15	20	1	SPARE		2800		SPARE	16	20	1
17	20	1	SPARE				SPARE	18	20	1
19	20	3	M-FCJP-1	2100 1842			M-MUA-1	20	20	3
21			---		2100 1842		---	22		
23			---			2100 1842	---	24		
25	20	3	M-HMB-1	3100 3100			M-HMB-2	26	20	3
27			---		3100 3100		---	28		
29			---			3100 3100	---	30		
31	20	3	M-HMB-3	3100 28300			M-SHP-1, THP-1, &	32	200	3
33			---		3100 28300		PHP-1 THRU PHP-3	34		
35			---			3100 28300	---	36		
37	125	3	HNGR DOOR CNTRL "DCP"	25400 8333			PANEL "SBH2"	38	150	3
39			---		25400 8333		---	40		
41			---			25400 8333	---	42		
				TOTAL 79155	76305	76305				

TOTAL CONNECTED LOAD 231.8KVA
ESTIMATED DEMAND LOAD 170.8KVA
DEMAND LINE AMPS 205

ALT. #6
ALT. #7

PANEL SBH2 SCHEDULE

VOLTS 480Y/277, PHASE 3, WIRE 4, SN Y, EQUIPMENT GROUND BUS Y, SURFACE MOUNTED
DISCONNECT MLO, POLES, AMP, MAINS AMP 225, LOCATED ROOM 105
MINIMUM AIC 22000

CIRC NO.	TRIP AMPS	NO. POLES	LOAD SERVED	PHASE LOAD VA A	PHASE LOAD VA B	PHASE LOAD VA C	LOAD SERVED	CIRC NO.	TRIP AMPS	NO. POLES
1	20	3	M-EF-1	1320 1440			M-EF-2	2	20	3
3			---		1320 1440		---	4		
5			---			1320 1440	---	6		
7	20	3	M-EF-3	1320 1440			M-EF-4	8	20	3
9			---		1320 1440		---	10		
11			---			1320 1440	---	12		
13	20	3	M-AIR COMPRESSOR	1440 19400			M-EF-6	14	70	3
15			---		1440 19400		---	16		
17			---			1440 19400	---	18		
19			SPACE	3878			M-EF-7	20	25	3
21			SPACE		3878		---	22		
23			SPACE			3878	---	24		
25			SPACE				SPACE	26		
27			SPACE				SPACE	28		
29			SPACE				SPACE	30		
31			SPACE				SPACE	32		
33			SPACE				SPACE	34		
35			SPACE				SPACE	36		
37			SPACE	3400			PANEL "SBL1"	38	50	3
39			SPACE		3400		---	40		
41			SPACE			3400	---	42		
				TOTAL 22158	22158	22158				

TOTAL CONNECTED LOAD 66.4KVA
ESTIMATED DEMAND LOAD 53.1KVA
DEMAND LINE AMPS 64.00

PANEL SBL1 SCHEDULE

VOLTS 208Y/120, PHASE 3, WIRE 4, SN Y, EQUIPMENT GROUND BUS Y, SURFACE MOUNTED
DISCONNECT MCB, POLES 3, AMP 100, MAINS AMP 100, LOCATED ROOM 105
MINIMUM AIC 10000

CIRC NO.	TRIP AMPS	NO. POLES	LOAD SERVED	PHASE LOAD VA A	PHASE LOAD VA B	PHASE LOAD VA C	LOAD SERVED	CIRC NO.	TRIP AMPS	NO. POLES
1	20	1	DAY TANK CONTROL	480 480			M-EF-5	2	20	1
3	20	1	M-FCP-1		700 900		M-UH-2 & 3	4	20	1
5	20	1	GEN. JACKET WTR HTR			1500 300	M-UH-4 & 5	6	20	1
7	20	1	LOAD BANK CNTRL PNL	500 500			M-UH-6	8	20	1
9	20	1	SPARE		500		M-GIP-1 & 2	10	20	1
11	20	1	ACCESS CONTROL MICROWEB			300 500	FIRE ALARM PNL "FACP"	12	20	1
13	20	1	MAG-LOCK POWER SUPPLIES	100 800			EXH. FAN DAMPER CNTRL	14	20	1
15	20	1	HVAC CNTRL - RM. 106		500 1000		DDC PANEL	16	20	1
17	20	1	SPARE			15	LIGHTING CONTROL CKT PK BLDG	18	20	1
19	20	1	OBSTRUCTION LIGHTS N.	345 1108			GATE OPERATOR	20	20	3
21	20	1	OBSTRUCTION LIGHTS S.		778 1108		---	22		
23	20	3	OWS VALVE CNTRL PNL			100 1108	---	24		
25			---	100 500			SPARE	26	20	1
27			---		100		SPARE	28	20	1
29	20	1	CCTV EQUIP.			800	SPARE	30	20	1
31	20	1	CCTV HEATERS	360			SPACE	32		
33	20	1	CCTV (WEST)		500		SPACE	34		
35			SPACE				SPACE	36		
37			SPACE				SPACE	38		
39			SPACE				SPACE	40		
41			SPACE				SPACE	42		
				TOTAL 4941	4484	3823				

TOTAL CONNECTED LOAD 13.25KVA
ESTIMATED DEMAND LOAD 10.6KVA
DEMAND LINE AMPS 29

PANEL SBLG SCHEDULE

VOLTS 120/240, PHASE 1, WIRE 3, SN Y, EQUIPMENT GROUND BUS Y, SURFACE MOUNTED
DISCONNECT MCB, POLES 2, AMP 40, MAINS AMP 100, LOCATED ROOM 105
MINIMUM AIC 10000

CIRC NO.	TRIP AMPS	NO. POLES	LOAD SERVED	PHASE LOAD VA A	PHASE LOAD VA B	LOAD SERVED	CIRC NO.	TRIP AMPS	NO. POLES
1	20	1	CONTROL RELAY "SCR1"	50		SPARE	2	20	1
3	20	1	SPARE			SPARE	4	20	1
5	20	1	SPARE			SPARE	6	20	1
7			SPACE			SPACE	8		
9			SPACE			SPACE	10		
11			SPACE			SPACE	12		
13							14		
15							16		
17							18		
19							20		
21							22		
23							24		
25							26		
27							28		
29							30		
31							32		
33							34		
35							36		
37							38		
39							40		
41							42		
				TOTAL 50	0				

TOTAL CONNECTED LOAD 0.05KVA
ESTIMATED DEMAND LOAD 0.05KVA
DEMAND LINE AMPS 1

RECORD DRAWINGS INCLUDE AS BUILT MODIFICATIONS AND CORRECTIONS OF ORIGINAL PLANS AS SUBMITTED BY THE GENERAL CONTRACTOR.

STATE OF ALASKA — 4913 — Walter C. Barnes No. EE 9219 — PROFESSIONAL ENGINEER

PROPOSAL DOCUMENTS NOT FOR CONSTRUCTION

FEDEX HANGAR MECHANICAL AND ELECTRICAL UPGRADE

RSA Engineering, Inc.
MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS
670 West Fireweed Lane, Suite 200 Anchorage, AK 99503 Phone (907) 277-1932 Fax (907) 276-7541
191 East Swanson Ave. Wasilla, AK 99654 Phone (907) 357-5121 Fax (907) 357-1751

FSB
FRANKFURT SHORT BRUZA
ARCHITECTS – ENGINEERS – PLANNERS
5701 NORTH SHARTEL SUITE 210
OKLAHOMA CITY, OKLAHOMA 73118
405/840-2931 FAX: 842-7750

McCOOL CARLSON GREEN
ARCHITECTURE–INTERIOR DESIGN–SPACE PLANNING
ANCHORAGE, ALASKA 99503

R&M CONSULTANTS, INC.
ENGINEERS–GEOLOGISTS–PLANNERS–SURVEYORS
ANCHORAGE, ALASKA 99503

REV.	REVISION RECORD	BY	DATE
6	RFP #2 REISSUE		8/15/93
2	C.O. REQ.		10/28/92
1	ISSUE DATE		7/2/92

ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY

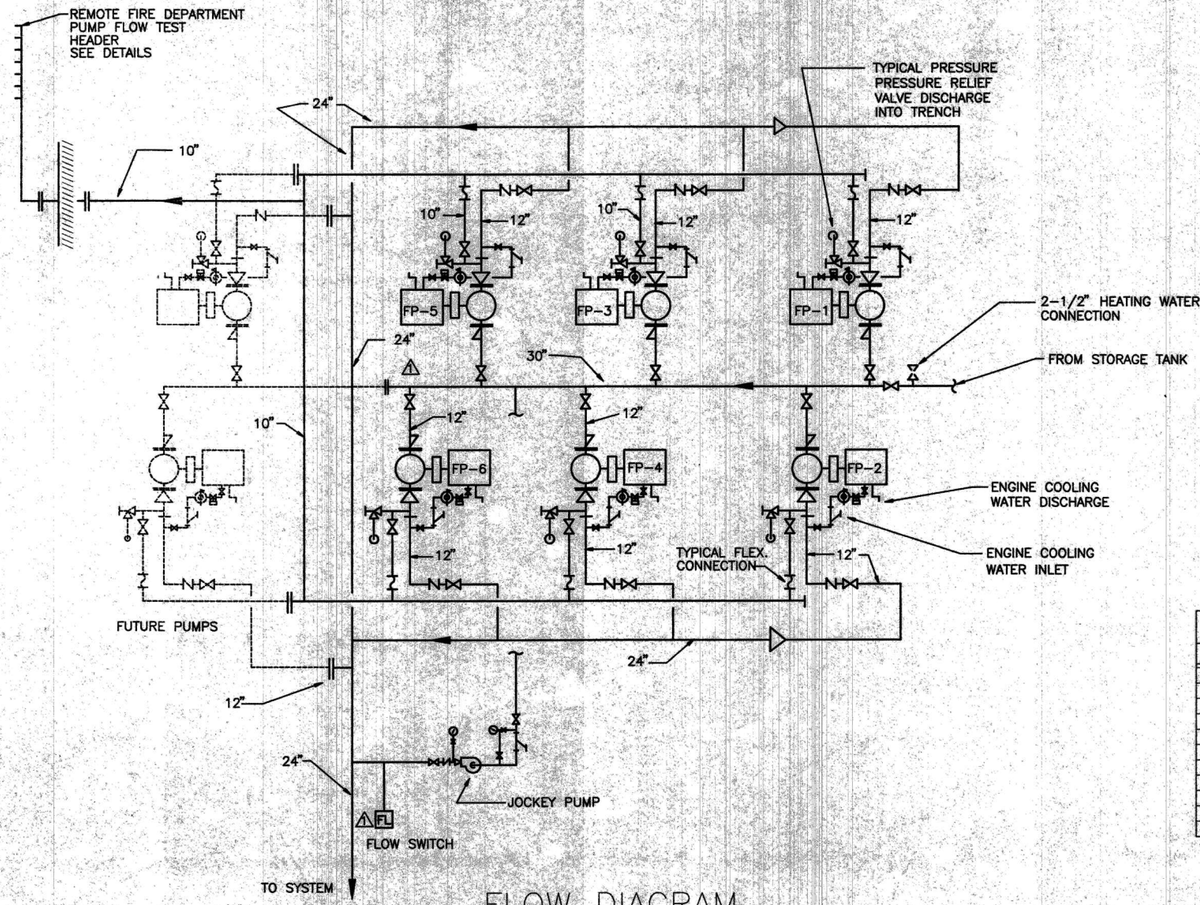
LINE MAINTENANCE HANGAR
ANCHORAGE INTERNATIONAL AIRPORT
PANEL SCHEDULES

PROJ: 91050260 LOCATION: ANCHORAGE, ALASKA
DWN: CHK: APP: SSK
DWG. NO. 10.13 REV.

DRAWN BY:
CHECKED BY:
DATE: 12/18/15
JOB NUMBER: L5148
DWG FILE: L5148_EXHIBIT

DRAWING TITLE:
EXHIBIT DRAWING
PANEL SCHEDULES 10.13

SHEET:
EX 11



FLOW DIAGRAM
NO SCALE

LEGEND

ABBR.	EXPLANATION	SYMBOL
PRV	PRESSURE RELIEF VALVE	
CV	CHECK VALVE	
	SOLENOID VALVE	
	PRESSURE REGULATOR	

PUMP SCHEDULE

MARK	TYPE	RPM	HEAD	FLOW	HP	POWER	NOTES
FP-1	CENFRIFUGAL	2,100	125 psi	3,000 gpm	340	DIESEL	
FP-2	CENFRIFUGAL	2,100	125 psi	3,000 gpm	340	DIESEL	
FP-3	CENFRIFUGAL	2,100	125 psi	3,000 gpm	340	DIESEL	
FP-4	CENFRIFUGAL	2,100	125 psi	3,000 gpm	340	DIESEL	
FP-5	CENFRIFUGAL	2,100	125 psi	3,000 gpm	340	DIESEL	
FP-6	CENFRIFUGAL	2,100	125 psi	3,000 gpm	340	DIESEL	
JOCKEY	REGEN.TURBIN.	---	140 psi	15 gpm	5	480V / 3PH	

6/94	RECORD DRAWINGS	
2-8-93	CONFORMED DOCUMENT	
BY:	DATE:	REVISIONS

FSB

DATE: 11/2/92
R&M NO. 251814
DESIGN JK
DRAWN CLD
CHECK JK
APPROVED LF

ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY

R&M CONSULTANTS, INC.
ENGINEERS GEOLOGISTS SURVEYORS TESTLAB
PLANNERS COMPUTER SERVICES
9101 VANGUARD DRIVE, ANCHORAGE, ALASKA 99507
PH. (907) 522-1707, FAX: (907) 522-3409

AFFF FIRE SUPPRESSION SYSTEM
FIRE PROTECTION
FIRE-PUMP
FLOW DIAGRAM

KEY PLAN

SHEET NUMBER
F10.01
SHEET 70 OF 72

PLOTTED: 1:96 H:\AKA\AK02\MECH\ F1001 02/24/93 10:07

PROPOSAL DOCUMENTS NOT FOR CONSTRUCTION

RSA Engineering, Inc.
MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS
670 West Fireweed Lane, Suite 200 Anchorage, AK 99503 Phone (907) 276-0521 Fax (907) 276-1751
191 East Swanson Ave. Wasilla, AK 99654 Phone (907) 357-5121 Fax (907) 357-1751

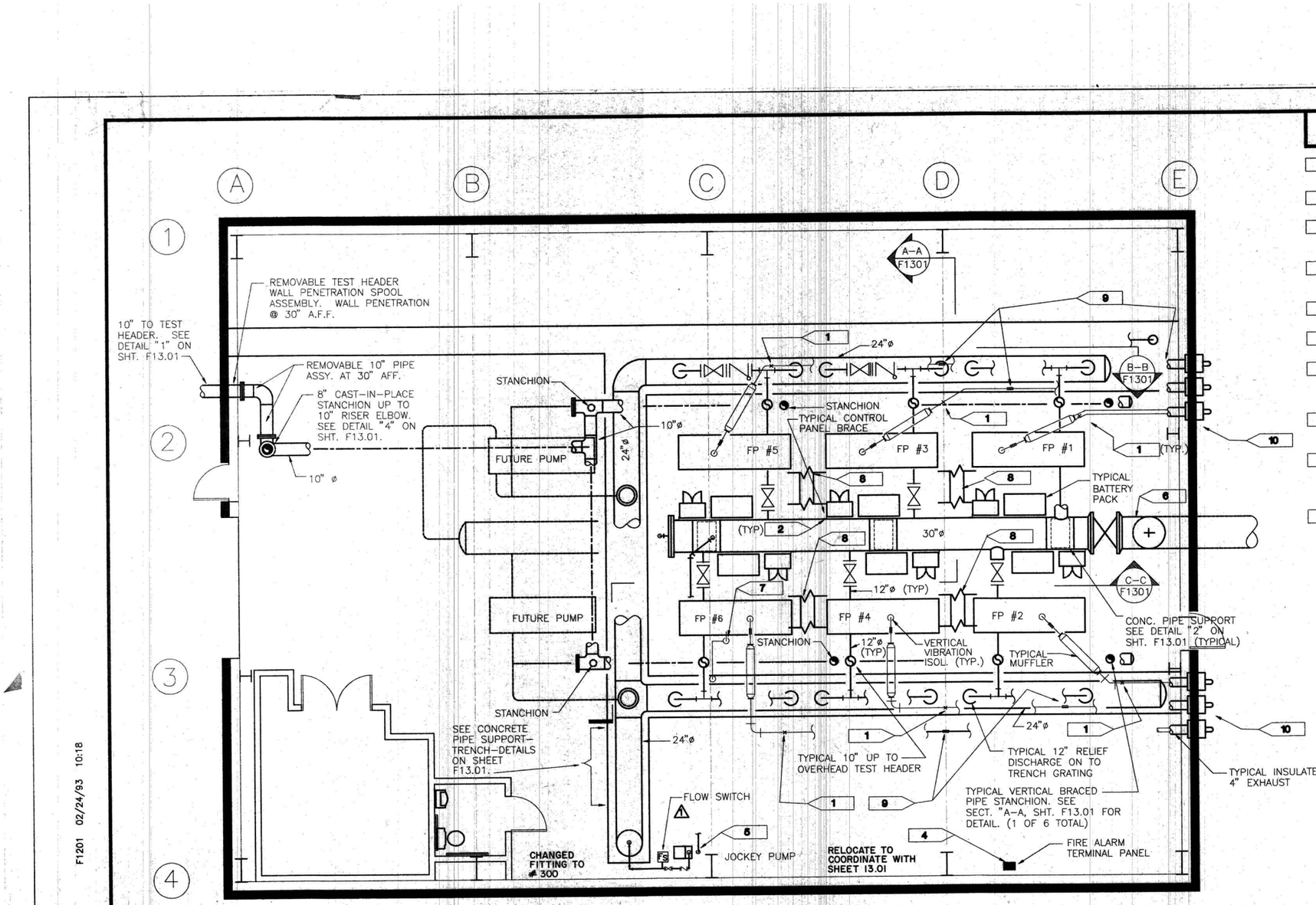
FEDEX HANGAR MECHANICAL AND ELECTRICAL UPGRADE

REVISIONS:

DRAWN BY:
CHECKED BY:
DATE: 12/18/15
JOB NUMBER: L5148
DWG FILE: L5148_EXHIBIT

DRAWING TITLE:
EXHIBIT DRAWING
PUMPHOUSE F10.01

SHEET: EX 12



NOTES:

1. MAIN LONGITUDINAL/TRANSVERSE EXHAUST ANCHOR POINT UP TO ROOF PIPE SUPPORTS.
2. CONTROL PANEL UPPER, 4" BRACING BRACKET, ANGLE 2-1/2"x2-1/2"x1/4".
3. FLOW SWITCH MINIMUM SENSATIVITY: 200 GPM FLOW THRU 24" WITH DUAL SPDT, ADJUSTABLE PNEUMATIC RETARD WITH AUTO RESET.
4. SEE ELECTRICAL PLANS FOR LOCATION OF MUNICIPAL FIRE ALARM RADIO TRANSMITTER NEAR SOUTH END OF ROOF.
5. SEE ELECTRICAL PLANS FOR JOCKEY PUMP CONTROLLER/STARTER.
6. SEE MECHANICAL PLANS FOR TANK HEATING WATER CONNECTION(S).
7. TYPICAL 2-1/2" COOLING WATER DISCHARGE LINE OVER TO TRENCH. DISCHARGE ABOVE GRATING. CUT GRATING AS REQUIRED TO REDUCE SPLASHING AT DISCHARGE.
8. SEE FUEL LINE TRENCH AND PIPING ON MECH. PLANS.
9. PROVIDE PIPE GUIDES AS REQUIRED FROM PURLIN SUPPORT SYSTEM ABOVE. SEE MECHANICAL SHEETS FOR DETAILS.
10. SEE ARCHITECTURAL END WALL ELEVATIONS FOR WALL PENETRATION LOCATIONS. PROVIED INSIDE PIPE OFFSETS AS REQUIRED. USE DOUBLE 45 DEGREE ELBOW OFFSETS DOWN WHERE POSSIBLE. ALL HORIZONTALS SHALL DRAIN TO OUTSIDE WALL PENETRATION.

FIRE PUMP ROOM FIRE PROTECTION PIPING PLAN

SCALE: 1/4"=1'-0"

NORTH

PLOTTED: 1:48 H:\AKA\AK02\MECH\ F1201 02/24/93 10:18

BY	DATE	REVISIONS
	6/94	RECORD DRAWINGS
⚠	2-8-93	CONFORMED DOCUMENT

F&SB

STATE OF ALASKA 49TH — Lissa E. Frank No. ME 8072 — REGISTERED PROFESSIONAL ENGINEER

GRAPHIC SCALE: 1/4"=1'-0" (0, 2', 4', 6', 8', 12')

DATE: 11/2/92
R&M NO.: 251814
DESIGN: JK
DRAWN: CSO
CHECK: JK
APPROVED: LF

ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY

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ENGINEERS GEOLOGISTS PLANNERS SURVEYORS COMPUTER SERVICES TESTLAB
9101 VANGUARD DRIVE, ANCHORAGE, ALASKA 99507
PH: (907) 522-1707, FAX: (907) 522-3409

AFFF FIRE SUPPRESSION SYSTEM

FIRE PROTECTION FLOOR PLAN

KEY PLAN

SHEET NUMBER F12.01

SHEET 71 OF 72

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FEDEX HANGAR MECHANICAL AND ELECTRICAL UPGRADE

REVISIONS:

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DRAWING TITLE: EXHIBIT DRAWING PUMPHOUSE F12.01

SHEET: EX 13