



Bid Package

Furnish Replacement Rotary Screw Blowers for the Waste Water Treatment Plant

Bid Due Date: September 21, 2021 at 2:00 p.m.

**INVITATION TO BID
City of Homer, Alaska**

**Furnish Replacement Rotary Screw Blowers
for the Waste Water Treatment Plant**

Sealed bids for procurement of the "Replacement Rotary Screw Blowers" will be received by the Office of the City Clerk, 491 E. Pioneer Avenue, Homer Alaska 99603 until **2:00 P.M. Alaska time, Tuesday, September 21, 2021**, at which time they will be publicly opened. Bids received after the time fixed for receipt of the Bid shall not be considered. **All bidders must submit a City of Homer Plan Holders Registration form to be on the Plan Holders List to be considered responsive.** Plan holder registration forms and Plan and Specification are available online at <http://www.cityofhomer-ak.gov/rfps> An electronic copy of the Bid Documents and Plan Holder Registration form are available online at <https://www.cityofhomer-ak.gov/rfps>. Paper copies of the Bid Documents may be purchased at the Office of the City Clerk upon payment of \$100 per set (\$150 for priority mail delivery). All fees are non-refundable.

For Bid Plans and Specifications contact: Office of the City Clerk, City of Homer 491 E. Pioneer Avenue, Homer, Alaska 99603, (907) 235-3130

General Description of Work:

Furnish two (2) Rotary-Screw Digester Aeration Blowers, including VFDs, to replace the existing aeration blowers at the City's Waste Water Treatment Plant (WWTP). The City's WWTP personnel will take the lead in installing the equipment, with advice and consultation from the Contractor. The Contractor's scope of services includes providing all labor, materials, equipment, incidentals, and appurtenances to design, fabricate, and deliver the new blowers as well as providing advice and consultation to assist with installation, operator training, start-up, testing, and commissioning. Equipment shall be delivered to the City's property at the WWTP site in Homer, Alaska.

All technical questions regarding the Invitation to Bid should be submitted by email to: Janette Keiser, PE, Director of Public Works, JKeiser@ci.homer.ak.us

The City of Homer reserves the right to accept or reject any or all bids, and to waive irregularities or informalities in the bids.

Dated this 7th day of September, 2021.

City of Homer



Robert Dumouchel, City Manager

CONTRACT

Furnish Replacement Rotary Screw Blowers For the Waste Water Treatment Plant

This Contract, made and entered into by and between the City of Homer, Alaska, (“City”) and _____ (“Contractor”).

I. CONTRACT DOCUMENTS

The Contractor, in consideration of the sum to be paid by the City agrees to furnish all materials, tools, labor, machinery and appurtenances to perform the work set forth in the Contract Documents, including:

- a. Signed copy of the Bid;
- b. The Engineer’s Specifications;
- c. All Addenda, totaling ___;
- d. The Submittal Schedule, approved by the City.

Said Contract Documents are fully and completely incorporated as part of the Contract as if the same were fully set forth herein.

In consideration of the performance of the work as set forth in these Contract Documents, the City agrees to pay to the Contractor the amounts specified in the Contract Documents, upon the Contractor’s invoicing, as approved by the City.

II. CONTRACT COMPLETION TIME. The Contractor agrees to complete the Project in accordance with the Submittal Schedule, approved by the City.

III. CONTRACT AMOUNT

In Numbers:

In Words:

The parties do hereby affix their signatures in agreement.

CITY OF HOMER

By: _____
Robert Dumouchel, City Manager Date

CONTRACTOR

By: _____
Name: _____, Title: _____ Date

Project Schedule

Furnish Replacement Rotary Screw Blowers for the Waste Water Treatment Plant

| | | |
|---------------------------|------------------------------------|---|
| Advertise | Homer News Anchorage Daily News | September 9, September 16 September 12 |
| Bids Due | | September 21 |
| Notice of Intent to Award | | September 22 |
| Council Award | | September 27 |
| Notice to Proceed | | September 30 |
| Start Supply | | September 31 |
| Project Complete | | TBD |

INSTRUCTIONS TO BIDDERS

City of Homer, Alaska

Furnish Replacement Rotary Screw Blowers for the Waste Water Treatment Plant

The City of Homer, Alaska is requesting bids from qualified firms and individuals for the project described herein.

The following subjects are discussed herein to assist you in the preparation of your bid.

- I. Introduction
- II. Scope of Services
- III. General Bidding Requirements
- IV. The Bid Package
- V. Tentative Project Schedule
- VI. Instructions to Bidders

I. Introduction

The City of Homer requests bids to furnish two (2) Rotary-Screw Digester Aeration Blowers, including VFDs, to replace the existing aeration blowers at the City's Waste Water Treatment Plant (WWTP).

All work activity associated with the project shall be completed in accordance with the submittal schedule completed by the contractor and approved by the City.

II. Scope of Services

The Scope of Services is to furnish two (2) Rotary-Screw Digester Aeration Blowers, including VFDs.

The City's WWTP personnel will take the lead in installing the equipment, with advice and consultation from the Contractor. The Contractor's scope of services includes providing all labor, materials, equipment, incidentals, and appurtenances to design, fabricate, and deliver the new blowers as well as providing advice and consultation to assist with installation, operator training, start-up, testing, and commissioning. Equipment shall be delivered to the City's property at the WWTP site in Homer, Alaska.

III. General Bidding Requirements

The work must be performed by a Contractor skilled and regularly engaged in the type of work called for under the Contract. Bidders must have the appropriate licenses to perform the work described in the Invitation. The City's local bidder preference requirements apply to this contract.

An electronic copy of Plans and Specifications is available on the City's website <http://www.cityofhomer-ak.gov/rfps> or you may purchase hard copies at the Office of the City Clerk upon payment of \$100 per set (\$150 for overnight delivery). City of Homer Standard Construction Specifications 2011 Edition (containing general contract provisions) may also be downloaded from the city's website. All fees are non-refundable.

The City of Homer reserves the right to accept or reject any or all bids, to waive irregularities or informalities in the bids, and to award the contract to the lowest responsive, responsible bidder.

Bids must be submitted on the Bid Form and be received by 2:00 PM on September 21, 2021, at the Office of the City Clerk, City of Homer 491 E. Pioneer Avenue, Homer, Alaska, 99603.

IV. The Bid Package

The City of Homer requires a two-part Bid Package, Part A and Part B. Each portion of the Bid Package must be submitted in separate envelopes, which shall be combined into one single Bid Package, marked with the name of the project and the time/date of the bid opening.

At the bid opening, Part B is opened first and must be complete or Part A will not be opened and the bid will be rejected.

Part A of the bid contains:

- a. Bid Form

Part A must be submitted, as part of the Bid Package, in a separate envelope marked Part A.

Part B of the bid contains:

- a. Addenda Acknowledgment Form
- b. If signature on the Bid is by an agent, other than an Officer of a Corporation, or of a member of a Co-partnership, a Power of Attorney must be submitted in Part B.

Part B must be submitted, as part of the Bid Package, in a separate envelope marked Part B.

V. Tentative Project Schedule

- | | |
|-----------------------------|--------------|
| • Bids Due | September 21 |
| • Notice of Intent to Award | September 22 |
| • Award by City Council | September 27 |
| • Notice to Proceed | September 30 |
| • Start Supply | September 31 |
| • Project Completion | TBD |

VI. Instructions to Bidders

The City of Homer intends to award the contract to the lowest responsive, responsible bidder but reserves the right to accept or reject any or all proposals, to waive irregularities or informalities in the bids or bid process, and to award the contract to the bidder that best meets the criteria stated below.

A. Qualification of Bidders

It is the intention of the City of Homer to award this contract to the Bidder who furnishes satisfactory evidence they have the requisite experience, ability and sufficient capital, facilities and plant to prosecute the work successfully (and properly) and to complete it within the time allowed in the Contract at the least cost to the

City of Homer for dollars spent for value received. Bidders will be required to fill out a questionnaire attesting to their qualifications.

B. Taxes

Attention is directed to the requirements of the General Conditions regarding the payment of taxes. All taxes that are lawfully assessed against Owner or Contractor in connection with the work shall be paid by the Contractor. The Bid prices shall include all such taxes.

The City of Homer is exempt from local sales taxes. The Contractor shall not include sales tax markup in his bid. However, in order to recoup sales tax the Contractor might pay at local vendors, the Contractor must secure a Tax Exempt card from the Kenai Peninsula Borough Tax Department.

C. Familiarization with the Work

Before submitting its Bid, each prospective Bidder shall familiarize itself with the work, labor conditions and all laws, regulations and other factors affecting performance of the work. Bidders shall carefully correlate their observations with the requirements of the Contract Documents and otherwise satisfy themselves of the expense and difficulties attending performance of the work. The submission of a Bid shall constitute an acknowledgement that the Bidder has thoroughly examined and is familiar with the Contract Documents and the provisions thereof. The failure or neglect of a Bidder to receive or examine any of the Bid Documents shall in no way relieve the bidder from any obligations with the respect to their Bid or to the Contract. Misinterpretation or a reputed lack of knowledge concerning the Bid will not serve as a basis for a claim for additional compensation.

D. Interpretation of Bid Documents

All questions about the meaning or intent of the Contract Documents shall be submitted to the Office of the Director of Public Works in writing. Replies will be issued by Addenda and delivered to all parties recorded by the City Clerk's Office as having received the Bidding documents. **The City of Homer will not be held responsible for questions received less than (5) calendar days prior to the date of opening of Bids.** Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

The Bidder shall acknowledge receipt of all Addenda on the Addendum Form, which shall be properly signed by the Bidder and placed in Part B.

It shall be the Bidder's responsibility to inquire as to addenda issued. **Failure to include the Addenda Form in Part B of the Bid Package shall result in the Bid being rejected as non-responsive.**

E. Bid Bond – NOT USED

F. Return of Bid Guarantee – NOT USED

G. Contract Time

The Contract Time is an essential part of the Contract and it will be necessary for each Bidder to satisfy the City of his ability to complete the work within the time set forth in the Bid form. Provisions for delays,

liquidated damages, and extensions of time are set forth in the Standard Construction Specifications. Time is of the essence in this contract.

H. Preparation of Bids

Bids must be submitted on the forms provided by the City and completed in all respects as required by the Bid Documents. Bids shall include all information requested herein, and be manually signed by the Bidder or the Bidder's duly authorized representative, with the Bidder's address and phone number. If the signature is by an agent, other than an Officer of a Corporation, or a member of a Co-partnership, a Power of Attorney must be submitted in Part B of the Bid; otherwise, the Bid will be rejected as non-responsive. **All Bids must be regular in every respect, and no alterations shall be made to the Bid Form.**

If erasures or changes appear on the forms, each must be initialed by the person signing the Bid. No oral, telegraphic, electronic or telephone proposals will be considered.

Bid Packages, containing separate envelopes for Part A and Part B of the bid, will be received at the City Clerk's Office located at City Hall 491 East Pioneer Avenue, Homer, Alaska 99603, until the time indicated on the Invitation to Bid. Each Bid shall be submitted enclosed in a sealed, opaque envelope. **The envelope shall have the Bid title and date of Bid opening on the lower left-hand corner of the Bid Package.** The City is not responsible for the premature opening of, or failure to open, a bid not properly addressed and identified.

No consideration will be given by the City to a claim or error unless such claim is made to the City in writing within two (2) hours after the time of Bid opening. Written verification and supporting evidence of the error shall be delivered to the City Clerk within 24 hours of the Bid Opening (not including Saturday, Sunday or legal holidays) to allow consideration of the claim for error. Supporting evidence shall be original documents, including cost breakdown sheets, supplier quotes and other documents used to compute the Bid.

It is the bidder's responsibility to see that Bid Packages are deposited at the time and place set forth for the public opening of Bids. Bids not received by the time will not be considered responsive and shall not be considered.

BID FORM

**Furnish Replacement Rotary Screw Blowers
For the Waste Water Treatment Plant**

| <u>Item</u> | <u>Unit</u> | <u>QTY</u> | <u>Lump Sum</u> <u>Unit Price</u> | <u>Extended Total Price</u> |
|---|-------------|------------|--------------------------------------|-----------------------------|
| Rotary-Screw Aeration Blower, including VFD | Each | 2 | \$ | |

Name of Bidding Company_____

Address of Bidding Company_____

Signature of Company Representative _____ Date _____

Printed Name of Company Representative_____

Phone#/Email_____

SUBMITTAL SCHEDULE

Following Bid Opening, the City will identify the Bidder who is the Apparent Low Bidder and notify said Bidder of that status. The Apparent Low Bidder will be required to submit a SUBMITTAL SCHEDULE before Contract Award, for the City's review and approval. Once approved, the SUBMITTAL SCHEDULE will become part of the Contract Documents.

| <u>ITEM NO.</u> | <u>DESCRIPTION OF TASK</u> | <u>DATE METER STARTS RUNNING FOR THE TASK</u> | <u>DAYS AFTER METER STARTS RUNNING THAT TASK WILL BE COMPLETE</u> |
|-----------------|--|--|---|
| 1 | Special Design Engineering Services (Shop Drawing Submittal) | Notice of Award | _____ days |
| 2 | Installation Manuals | Notice of Award | _____ days |
| 3 | Delivery of Goods | Notice of Award | _____ days |
| 4 | Commissioning | Time Period after City installs equipment | _____ days |
| 5 | Operator Training | Time Period after City installs equipment | _____ days |
| 6 | Preliminary O&M Manual | Notice of Award | _____ days |
| 7 | Acceptance Testing | Number of days Contractor has to start Testing after City has completed punch list of items that affect operation of blowers | _____ days |
| 8 | Final O&M Manual | Notice of Award | _____ days |
| 9 | Correction Period | After completion of the Acceptance Testing Period | _____ days |
| 10 | Final Completion | After completion of the Correction Period | _____ days |

SPECIFICATIONS

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Definition of various types of Submittals.
 - 2. Coordination requirements for Submittals.
 - 3. General provisions concerning Submittals.
 - 4. Contractor's preparation of Submittals, including:
 - a. Numbering.
 - b. Marking.
 - c. Organization and content.
 - d. Electronic Documents Submittals.
 - e. Buyer's review and approval of each Submittal.
 - f. Resubmittals.
 - 5. Contractor's transmittal of Submittals, including transmittal letters, transmittal and delivery method, and delivery of Samples, Closeout Submittals, and Maintenance Materials Submittals.
- B. Scope:
 - 1. Contractor shall provide all labor, materials, equipment, tools, services, incidentals, and other effort necessary to furnish Shop Drawings, product data Submittals, Samples, and other Submittals in accordance with the Contract Documents.
 - 2. Engineer and City have the right to rely on Contractors's representations and certifications made regarding each Submittal.

1.2 REFERENCES

- A. References – Introduction:
 - 1. This Article presents definitions and terminology used in this Section and throughout the Contract Documents.
 - 2. Applicability of the Term "Submittals": Where reference is made to Shop Drawings, product data Submittals, Samples, or other Submittals in this Section and elsewhere in the Contract Documents, the term "Submittals", as defined in the Contract Documents, is intended. The foregoing applies regardless of whether such term is indicated with an initial capital letter, unless context of the subject provision clearly indicates otherwise.
 - 3. Types of Submittals:

- a. Submittal types are classified as follows: (1) Action Submittals, (2) Informational Submittals, (3) Closeout Submittals, and (4) Maintenance Materials Submittals.
- b. Type of each required Submittal is indicated in the associated Specifications section. When Submittal type is not clearly indicated in the associated Specifications section, Submittal will be classified as indicated in this Article. Submit request for interpretation when Contractor is uncertain of required Submittal type.

B. Action Submittals:

1. Action Submittals require an explicit, written approval or other appropriate action by City before Contractor may release the associated item(s) for raw materials procurement, fabrication, production, and shipping.
2. Unless otherwise indicated in the Contract Documents, Action Submittals include the following:
 - a. Shop Drawings.
 - b. Product data.
 - c. Samples.
 - d. Testing plans for quality control activities required by the Contract Documents.

C. Informational Submittals:

1. Informational Submittals are so indicated in the Contract Documents. Unless otherwise indicated, Informational Submittals include certifications, evaluation reports, results of source quality control activities, results of field quality control activities, Supplier instructions, reports of Suppliers' visits to the Site, sustainable design Submittals (that are not Closeout Submittals), delegated design Submittals that are not "instruments of service" Submittals, qualifications statements, and others.
2. Informational Submittals, when submitted in accordance with the Contract and indicating full compliance with the Contract Documents, do not require explicit response from the City or Engineer.
3. When Informational Submittal does not indicate full compliance with the Contract Documents, City will indicate the non-compliance in a written response to Contractor.

D. Closeout Submittals:

1. Closeout Submittals are so indicated in the Contract Documents and are, in general, required before the associated Work is completed, unless earlier submittal is required by the Contract Documents.

2. Unless indicated otherwise in the Contract Documents, Closeout Submittals include maintenance contracts, operation and maintenance data, warranties, bonds (other than performance and payment bonds required prior to the start of construction), record documents, sustainable design closeout Submittals, software, keys, and others.
 3. Closeout Submittals are processed in the same manner as described above for Informational Submittals.
- E. Maintenance Materials Submittals:
1. Maintenance materials include spare parts, extra materials, tools, and similar items required to be furnished in accordance with the Contract Documents.
 2. Furnish required physical maintenance materials, delivered to City at the location(s) indicated in the Contract Documents, for the corresponding required Maintenance Materials Submittals.
 3. Maintenance Materials Submittals are documentation of delivery to City's or facility manager, and their acceptance of, required physical maintenance materials.
 4. Maintenance Materials Submittals are processed in the same manner as described above for Informational Submittals.
- F. Additional Terms:
1. The following terms have the meanings indicated below, regardless of whether such terms are indicated using initial capital letters, and apply to singular and plural of each:
 - a. "Product data" means illustrations, standard schedules, performance charts, published instructions, brochures, diagrams, and other information furnished by Contractor to illustrate or describe materials or equipment for some portion of the Work. In general, product data are manufacturers' pre-published information on the items proposed to be incorporated into the Work. Product data includes manufacturer's catalog pages and similar documents with contractor-made markings and indications of proposed products and proposed options.
 - b. The term "Shop Drawings" is defined by the following: Shop Drawings include: (1) fabrication and assembly drawings, usually having a title block, or (2) schedules, prepared specifically for the Project. Here, "schedules" means a Project-specific summary of systems and components, such as a schedule of HVAC equipment, schedules of doors and door hardware, or windows, or a schedule of paint systems by room and surface, or other, similar Project information in a tabular format. In contrast, construction Progress Schedules, Schedules of Submittals, and Schedules of Values are not Shop Drawings.
 - c. "Engineer" refers to the design Engineer of the project.

- d. "City" refers to the City of Homer or the designated representative of the City of Homer.

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 1. Furnish Submittals well in advance of need for the associated material or equipment, or procedure (as applicable), in the Work and with ample time necessary for delivery of materials and equipment and to implement procedures following City's approval or acceptance of the associated Submittal.
 2. Work covered by a Submittal will not be included in payments by City until approval or acceptance (as applicable) of related Submittals has been obtained in accordance with the Contract Documents.

1.4 SCHEDULE OF SUBMITTALS

- A. Informational Submittals: Submit the following:
 1. Schedule of Submittals:
 - a. Timing:
 - 1) Furnish Schedule of Submittals within 10 days of receiving notice to proceed. Updates shall be provided as necessary.
 - b. Content: Identify on Schedule of Submittals all Submittals required in the Contract Documents. Updates of Schedule of Submittals shall show scheduled dates and actual dates for completed tasks. Clearly indicate Submittals that are on the Project's critical path. Indicate the following for each Submittal:
 - 1) Date by which Submittal will be received by City.
 - 2) Whether Submittal will be for a substitution or "or-equal".
 - 3) Date by which City's response is required. Allow not less than 14 days for review, starting on City's actual receipt of each Submittal. Allow increased time for large or complex Submittals.
 - 4) For Submittals for materials or equipment, date by which material or equipment must be at the Site to avoid delaying the Work and to avoid delaying the work of others (if any).
 - c. Coordinate Schedule of Submittals with the Progress Schedule.
 - d. In preparing Schedule of Submittals:
 - 1) Considering the nature and complexity of each Submittal, allow sufficient time for reviews and revisions.
 - 2) Allow reasonable time for: Review and processing of Submittals, for Submittals to be revised and resubmitted, and for returning Submittals to Contractor.
 - 3) Identify and accordingly schedule Submittals that are expected to have long anticipated review times.

1.5 PREPARATION OF SUBMITTALS

- A. Submittal Identification:
 - 1. Submittal Number: Shall be a unique number assigned to each individual Submittal.
- B. Marking of Submittals:
 - 1. Mark on each page of each Submittal and each individual component submitted with Submittal number and applicable Specifications paragraph.
 - 2. Mark each page of each Submittal with the Submittal page number.
 - 3. Each Shop Drawing sheet shall have title block with complete identifying information satisfactory to the City and Engineer.
 - 4. For product data Submittals, operation and maintenance data Submittals, and other Submittals:
 - a. Mark options to be furnished using broad, dark arrows or “clouds” clearly drawn around the relevant text or diagrams. Do not use highlighter for indicating options and features.
 - b. Indicate options and features not furnished using clear strikeouts through the text or diagrams.
- C. Submittal Organization and Content – General:
 - 1. Page or Sheet Size; Furnish Submittals with one or more of the following page or sheet sizes: (a) 8.5 IN by 11 IN; (b) 11 IN by 17 IN; (c) 22 IN by 34 IN; unless another sheet size is acceptable to the City.
 - 2. Language: All parts of each Submittal shall be in the English language.
 - 3. Units of Measurement: Clearly indicate units of measurement on Shop Drawings, product data Submittals, record documentation, and operation and maintenance data Submittals.
 - 4. Organize each Submittal logically to facilitate ease of understanding and review.
 - 5. To the extent practicable, arrange Submittal information in same order as requirements are written in the associated Specifications section.
 - 6. To the extent practicable, package together Submittals for the same Specifications section. Do not furnish required information piecemeal.
 - 7. For large or complex Submittals, include a title page and table of contents.
 - 8. Include appropriately labeled fly sheets to separate distinct parts of each Submittal.
 - 9. Ensure legibility of all pages in each Submittal.
 - 10. Contractor’s, Subcontractor’s, and Supplier’s written comments on Shop Drawings and product data diagrams shall be colored green
- D. Electronic Documents Submittals:

1. Format: Electronic Documents Submittals shall be “portable document format” (.PDF) files unless expressly required otherwise by applicable provisions of the Contract Documents.
 2. Electronic Documents Submittals must be electronically searchable when delivered to City and other recipients.
 3. Organization and Content:
 - a. Each Electronic Documents Submittal shall be one file; do not divide individual Submittals into multiple Electronic Documents files unless file size will exceed [20] MB.
 - b. When Submittal is large or contains multiple parts, furnish PDF file with suitably titled electronic bookmark for each section of the Submittal.
 - c. Content shall be identical to paper or other original Submittal. First page of each Electronic Documents Submittal shall be Contractor’s transmittal letter.
 4. Quality and Legibility: Electronic Documents Submittal files shall be made from the original and shall be clear and legible. Markings applied by Contractor, Subcontractor, or Supplier shall be clear, distinct, and readily apparent. Electronic Documents file shall be full size of original documents. Properly orient all pages for convenient reading on a computer display; do not furnish pages sideways or upside-down..
- E. Proposed “Or-Equals”, Substitutes, and Deviations from Contract Requirements:
1. “Or-Equals”:
 - a. Expressly indicates, “Proposed Or-Equal” on the associated Action Submittals when Submittal is for an “or-equal”.
 - b. Submittals requesting approval of an “or-equal” but not accompanied by the required, supplemental information will be deemed incomplete by City and returned to Contractor without approval.
 2. Substitutes:
 - a. Contractor’s request for approval of substitute is separate from the associated Action Submittal(s). Action Submittals that request approval of a substitute when a separate, formal substitution request (furnished in accordance with the Contract Documents) was not previously furnished to the City, followed by formal approval in via an appropriate contract modification (typically either a Field Order or Change Order), will be deemed by the City as non-compliant with the Contract Documents and will be returned to Contractor without approval.
 - b. Contractor is solely responsible for delays incurred due to substitutes proposed via Submittals that have not been previously duly approved via an appropriate Contract modification.

- c. Action Submittals for items or procedures approved via an appropriate Contract modification shall include a copy of the Contract modification in which the substitute was approved.
- 3. Submittals with Proposed Deviations from Contract Requirements:
 - a. When Submittal proposes deviations from requirements of the Contract Documents, the Submittal shall clearly and expressly indicate each proposed deviation.
 - b. Comply with requirements of the Contract regarding substitutes and “or-equals”.
 - c. When deviation is proposed, also appropriately revise text of Contractor’s approval, from that required below in this Article.
 - d. When Submittal includes deviations from Contract requirements and either the Submittal itself, Contractor’s transmittal letter, or both, do not comply fully with Contract requirements for indicating deviations in Submittals and giving separate written notice thereof, the City’s approval of such deviations will be deemed null and void unless the City’s written response to the Submittal has expressly acknowledged such deviation and indicated approval thereof.
 - e. Contractor is solely responsible for delays and costs incurred due to any and all Submittals with deviations from Contract requirements that were not properly, expressly indicated and approved in accordance with the Contract Documents. Deviations not duly approved in accordance with the Contract Documents may be deemed defective Work. Contractor is solely responsible for remedying defective Work and all associated cost and time impacts.
- F. Contractor’s Approval of Submittals:
 - 1. Contractor’s Review: Before transmitting Submittals to the City, review each Submittal to:
 - a. Ensure proper coordination of the Work.
 - b. Determine that each Submittal is in accordance with Contractor’s desires.
 - c. Verify that Submittal contains sufficient information for City to determine compliance with the Contract Documents.
 - 2. Incomplete or inadequate Submittals will be returned without detailed review by the City.
 - 3. Contractor’s Approval Stamp and Signature:
 - a. Each Submittal furnished shall bear Contractor’s approval stamp (or facsimile thereof) and signature, as evidence that the Submittal has been reviewed and approved by Contractor and verified as complete and in accordance with the Contract Documents.
 - b. Submittals without Contractor’s approval and signature (as required by the contract Documents) will be returned to Contractor without further review by the City and deemed incomplete.

- c. The City reserves the right to reject as incomplete Submittals where Contractor's approval signature appears computer-generated or reproduced without the active involvement or review of Contractor's signatory.
- d. Contractor's approval shall contain the following text:

Project Name: _____
 Contractor's Name: _____
 Contract Designation: _____
 Date: _____

----- Reference -----

Submittal Title: _____
 Specifications:
 Section: _____
 Page No.: _____
 Paragraph No.: _____
 Drawing No.: _____ of _____
 Location of Work: _____

Submittal No. and Review Cycle: _____
 Coordinated by Contractor with Submittal Nos.: _____

I hereby certify that Contractor has satisfied Contractor's obligations under the Contract Documents relative to Contractor's review and approval of this Submittal, including: (1) reviewed and coordinated the Submittal with other Submittals and with the requirements of the Work and the Contract Documents; (2) determined and verified all: field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect to the Submittal, (b) the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work, and (c) all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto; (3) confirmed the Submittal is complete with respect to all related data included in the Submittal; and (4) clearly and expressly indicated all proposed deviations (if any) from the requirements of the Contract Documents both in the Submittal itself and in the Submittal's

transmittal letter. Accordingly, this Submittal is hereby approved for Contractor by:

Approved for Contractor by: _____

G. Resubmittals:

1. Contractor shall furnish Submittals with such completeness, accuracy, and compliance with the Contract Documents to obtain the City's approval or acceptance, as applicable, without the total quantity of Submittals furnished, including all initial Submittals and all resubmittals, exceeding [125] [150] PCT of the number of Submittals indicated on the Schedule of Submittals initially accepted by the City, plus a corresponding percentage of the quantity of Submittals required by Change Orders, Work Change Directives, and Field Orders.
2. Do not increase the scope of prior review cycle of the same Submittal.
3. Indicate on Contractor's transmittal letter how Submittal was revised from previous review cycle of the Submittal and where the revisions or corrections are located within the resubmittal.
4. Expressly address and provide response for all components previously transmitted by the City on prior review cycles of the subject Submittal. Where resubmittal lacks complete response to the City's prior comments, the City may deem such resubmittal as incomplete and return it to Contractor without further review.
5. Indicate, "Not Yet Resolved—To Be Resubmitted at a Later Date" for any items not approved in prior review cycle of the Submittal for items not included in the subject resubmittal. The City reserves the right to deem incomplete Submittals "Not Approvable" or "Revise and Resubmit". Furnishing incomplete or partial resubmittals is discouraged.
6. Resubmittal of Previously Approved or Accepted Items:
 - a. Do not resubmit on a given item previously approved or accepted, as applicable, by the City, without the City's advance consent.
 - b. Destroy or conspicuously mark "SUPERSEDED" on all documents having previously received the City's approval or acceptance, as applicable that are superseded by a resubmittal.

1.6 TRANSMITTAL OF SUBMITTALS BY CONTRACTOR

A. Submittal Delivery Method:

1. This provision presents general requirements for delivery or all Submittals unless otherwise required elsewhere in the Contract Documents.
2. Furnish Submittals to the City and each other entity indicated in the Contract Documents as receiving a Submittal directly from Contractor.
 - a. Submittals will be delivered to the City Engineer by email at the following email address:

Janette Keiser, P.E.
jkeiser@ci.homer.ak.us

- B. Closeout Submittals –Transmittal and Delivery:
1. Furnish the following Closeout Submittals in accordance with general requirements for transmitting and delivering Submittals, indicated above in this Article: maintenance contracts; warranty bonds (when required) and other bonds required for specific materials, equipment, or systems; warranty documentation; and sustainable design closeout documentation (when required). On documents such as maintenance contracts and bonds, include on each document furnished original (“wet”) signature of entity issuing said document. When original “wet” signatures are required, furnish such Submittals to the City both on original paper and as Electronic Documents, and to other entities furnish as indicated above in this Article for general requirements for Submittals.
 2. Operations and Maintenance Manuals: Submit in accordance with Section 01 33 04 - Operation and Maintenance Manuals.
 3. Software: In addition to software installed on City’s computer system, furnish number of copies of software required in the Specifications section where the software is specified. Preferred means of transmittal is via secure file transfer directly to City (or facility manager, if other than City) via secure file transfer method mutually acceptable to software developer and the receiving entity. When secure file transfer is used, submit to the City documentation signed or electronically acknowledged by the City that the files were received. Where such software is available only on the software developer’s portable media, furnish such software on software developer’s original, portable media, sealed in software developer’s original, unopened, clearly labeled packaging.

1.7 REVIEW OF SUBMITTALS

- A. This Article applies to review of all Submittals by City.
1. All submittals will be reviewed by the City Engineer, who will deliver a submittal review letter giving approval or disapproval of the submittal, and any comments on the submittal, by email in a timely manner. The City Engineer may provide additional instructions, in the submittal review letter, upon which approval of the submittal is contingent.

END OF SECTION

SECTION 01 33 04
OPERATION AND MAINTENANCE MANUALS

PART 2 - GENERAL

2.1 SUMMARY

A. Section Includes:

1. Administration of the submittal process for Operation and Maintenance Manuals.
 2. Content requirements for Operation and Maintenance Manuals.
- B. Related Specification Sections include but are not necessarily limited to:
1. General submittal requirements are specified in Specification Section 01 33 00 - Submittals.
 2. Technical Specification Sections identifying required Operation and Maintenance Manual submittals.

2.2 DEFINITIONS

- A. Equipment Operation and Maintenance Manuals:
1. Contain the technical information required for proper installation, operation and maintenance of process, electrical and mechanical equipment and systems.
- B. Building Materials and Finishes Operation and Maintenance Manuals:
1. Contain the information required for proper installation and maintenance of building materials and finishes.

2.3 SUBMITTALS

- A. The contractor must submit an Operations and Maintenance Manual.

2.4 SUBMITTAL SCHEDULE

- A. Draft Operation and Maintenance Manuals:
1. Submit approvable draft manuals in electronic format (PDF) within [30] days following notice to proceed.
 - a. Include placeholders or fly sheet pages where information is not final or is missing from the draft manual.
 2. All Draft Operation and Maintenance Manuals shall be received by no later than [50] PCT project completion.
- B. Final Operation and Maintenance Manuals:
1. Final approval of Operation and Maintenance Manuals in electronic format (PDF) must be obtained no later than [90] PCT project completion.
 2. Issue addenda to Final Approved Operation and Maintenance Manual to include:
 - a. Equipment data that requires collection after start-up, for example but not limited to HVAC balancing reports, electrical switchgear, automatic transfer switch and circuit breaker settings.
 - b. Equipment field testing data.
 - c. Equipment start-up reports.

2.5 PREPARATION OF SUBMITTALS

- A. General:

1. All pages of the Operation and Maintenance Manual submittal shall be legible.
 - a. Submittals which, in the City Engineer's sole opinion, are illegible will be rejected without review.
 2. Identify each equipment item in a manner consistent with names and identification numbers used in the Contract Documents, not the manufacturer's catalog numbers.
 3. Neatly type any data not furnished in printed form.
 4. Operation and Maintenance Manuals are provided for the City's use, to be reproduced and distributed as training and reference materials within the City's organization.
 - a. This requirement is:
 - 1) Applicable to both paper copy and electronic files.
 - 2) Applicable to materials containing copyright notice as well as those with no copyright notice.
 5. Final electronic submittals:
 - a. Submit Electronic Documents (in portable document format, PDF files) by email to the City Engineer.
 - b. Labeling:
 - 1) Provide the following printed labeling on all electronic media:
 - a) Project name.
 - b) Equipment names and summary of tag(s) covered.
 - c) Manufacturer name.
 - d) Date (month, year).
- B. National Fire Protection Association 70 (National Electrical Code) Documentation:
1. Assemble documented calculations of Arc-Fault Current, Equipment Available Fault Current and Short Circuit Current Rating (SCCR) provided as part of equipment submittals into one O&M manual volume.

2.6 TRANSMITTAL OF SUBMITTALS

- A. Operation and Maintenance Manuals.
1. Transmit all submittals to:
 - a. [The address specified in Specification Section 01 33 00 - SUBMITTALS].
 2. Submit Operation and Maintenance Manual in electronic format (PDF) to the City. The Operation and Maintenance Manual must be approved by the City before it can be considered finalized.

2.7 CITY'S REVIEW ACTION

- A. Operation and Maintenance Manual Submittals:

1. All submittals will be reviewed by the City Engineer, who will deliver a submittal review letter giving approval or disapproval of the submittal, and any comments on the submittal, by email in a timely manner. The City Engineer may provide additional instructions, in the submittal review letter, upon which approval of the submittal is contingent.

PART 3 - PRODUCTS - (NOT USED)

PART 4 - EXECUTION - (NOT USED)

SECTION 01 65 00

PRODUCT DELIVERY REQUIREMENTS

PART 5 - GENERAL

5.1 SUMMARY

- A. Section Includes:
 1. General requirements for:
 - a. Coordination of deliveries.

- b. Preparing materials and equipment for shipping from the production or fabrication facility, including packaging.
 - c. Shipment.
 - d. Delivery of materials and equipment to the Site.
 - e. Inspection upon delivery and remedy of damaged, deteriorated, or otherwise defective items, and remedy of missing or lost items.
- B. Scope:
- 1. Contractor shall make all arrangements for packaging, shipping, delivering, inspecting upon delivery, and unloading upon delivery materials and equipment necessary and required for the Work.
 - 2. Contractor shall provide all labor, materials, equipment, tools, incidentals, and services necessary to have materials and equipment properly packaged, shipped, and delivered to the Site, and all related Work required by the Contract Documents.
- C. Related Requirements: Include but are not limited to:
- 1. Section 01 29 76 - Progress Payment Procedures.
 - 2. Section 01 35 43.13 - Environmental Procedures for Hazardous Materials.
 - 3. Section 01 66 00 - Product Storage and Handling Requirements.

5.2 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
- 1. To extent practicable, coordinate shipping and delivery of materials and equipment with anticipated shipping requirements, such as allowing sufficient time for customs inspections on international shipments, availability of shipping services and facilities, and seasonal concerns (such as shipments that may be influenced by major tropical storms and predictable, typical weather).
 - 2. Coordinate shipping and delivery of materials and equipment to the Site and other locations where such items may be stored prior to delivery to the Site. Coordinate such shipments and deliveries with the progress of the Work and status of adequate facilities, whether temporary storage or permanent installation locations, necessary to properly store and safeguard materials and equipment to be incorporated into the Work.
 - 3. Where possible, deliver to the Site materials and equipment as close as possible to when such items will be incorporated into appropriately protected, permanent installation location.

5.3 PREPARATION FOR SHIPMENT

- A. Factory Assembly:
- 1. When practical, factory-assemble materials and equipment. Mark or tag separate parts and assemblies to facilitate field assembly.
- B. Temporary Protection:

1. Appropriately cover, with strippable, protective coating or other material, machined parts and unpainted, uncoated, or unprotected surfaces subject to damage or deterioration caused by weather elements or environment,
 2. To extent practical, strippable, removable, disposable protective materials shall be recyclable.
 3. To extent practical, avoid strippable, removable, and disposable protective items shall be type resulting in minimum waste and cleanup upon removal.
 4. Protection of Electrical Equipment, Instrumentation and Controls, Items with Computer Chips Solid-State Devices, and Other Electronics:
 - a. Provide appropriate temporary protection of electrical equipment, microprocessors, and other electronics from humidity, moisture, and corrosion by appropriate packaging, protection, desiccants, and volatile corrosion inhibitor (VCI) blocks.
 - b. Immediately prior to shipment, provide new, fresh desiccants and ensure integrity of other protective materials.
- C. Packaging:
1. Package materials and equipment to facilitate handling, and protect materials and equipment from damage during shipping, handling, and storage.
 2. Mark, label, or tag, on outside of each package, crate, and container, to indicate associated:
 - a. Purchase order number.
 - b. Bill of lading number.
 - c. Delivery address (including facility name, where applicable).
 - d. City's contract designation or Project name.
 - e. City's name.
 - f. Contents by name and designation within the Work (for example, "Influent Pump No. 1"),
 - g. Approximate weight of container, crate, package, including packaging.
 - h. Special instructions for handling and protection during shipment and unloading.
 3. The Site may be listed as the "ship to" or "delivery" address; but City or facility manager shall not be listed as recipient of shipment unless otherwise directed in writing by the City.
 4. Truthfully and accurately mark, label, or tag items for shipment and delivery.
 5. Include complete packing lists and bills of materials with each shipment.
 6. Protect materials and equipment with appropriate, temporary packaging or protection when such items may rotate or move during shipment.

7. Protect materials and equipment from exposure to weather elements, adverse environments, and keep thoroughly dry and dust-free. Protect painted surfaces against impact, abrasion, discoloration, and other damage and deterioration.
8. Lubricate bearings and other items requiring lubrication, in accordance with manufacturer's written instructions.

5.4 SHIPPING

- A. Notification of Shipments:
 1. Keep City informed of delivery of all materials and equipment to be incorporated into the Work.
 2. Upon receipt of Supplier's advance notice of shipment, not less than days prior to delivery of materials and equipment at the Site or Contractor's storage location, furnish written notice of anticipated delivery date and specific location (at the Site or Contractor's storage location, as applicable) of the following:
- B. Do not ship materials and equipment until:
 1. Related Shop Drawings, product data, Samples, shop testing plan Submittals, and other Submittals required by the Contract Documents are approved by the City, including, but not necessarily limited to, all Action Submittals associated with the materials and equipment being delivered.
 2. Manufacturer's written instructions for handling, storing, and installing the associated materials and equipment have been submitted to and accepted by the City, in accordance with the Specifications.
 3. Results of source quality control activities (factory testing and inspections), when required by the Contract Documents for the subject materials or equipment, have been submitted to and accepted by the City.
 4. Facilities required for handling materials and equipment, in accordance with the Contract Documents and manufacturer's instructions, are in place and available at the delivery location.
 5. Required storage facilities and protection measures have been provided.
- C. Loss or Damage During Shipment:
 1. Unless otherwise indicated in the Contract Documents (whether expressly or in provisions regarding builder's risk insurance), Contractor is responsible for all loss, damage, and deterioration to materials and equipment incurred during shipment.
 2. Contractor is not eligible for additional Contract Times or increase in the Contract Price due to delays or costs incurred due to loss, damage, or deterioration during shipment, unless City was responsible for shipping the subject materials or equipment to the Site or other delivery location.

5.5 DELIVERY

- A. Scheduling and Timing of Deliveries:
 - 1. Arrange deliveries of materials and equipment in accordance with the Progress Schedule accepted by the City and in ample time to facilitate inspection and observation prior to installation.
 - 2. Schedule deliveries to minimize space required for, and duration of, storage of materials and equipment at the Site or other delivery location, as applicable.
 - 3. Deliver materials and equipment to the Site during regular working hours.
 - 4. Deliver materials and equipment to avoid delaying the Work and the Project.
- B. Deliveries:
 - 1. Arrange for deliveries while City's personnel are at the Site. City shall receive and coordinate shipments upon delivery. Shipments delivered to the Site when City is not present will be refused by City [or facility manager], and Contractor shall be responsible for the associated delays and costs, including demurrage.
 - 2. Comply with Section 01 35 43.13 – Environmental Procedures for Hazardous Materials, as applicable.
- C. Containers and Marking:
 - 1. Have materials and equipment delivered in manufacturer's original, unopened, labeled containers.
 - 2. Clearly mark partial deliveries of component parts of materials and equipment to identify materials and equipment, to allow easy accumulation of parts, and to facilitate assembly.

PART 6 - PRODUCTS - (NOT USED)

PART 7 - EXECUTION - (NOT USED)

END OF SECTION

SECTION 01 66 00

PRODUCT STORAGE AND HANDLING REQUIREMENTS

PART 8 - GENERAL

8.1 SUMMARY

- A. Section Includes:
 - 1. General requirements for:
 - a. Handling of materials and equipment.

8.2 HANDLING

- A. Handling of Materials and Equipment – General:
 - 1. Handle materials and equipment to be incorporated into the Work in accordance with the Contract Documents and manufacturer’s written instructions.
 - 2. During handling and assembling materials and equipment:
 - a. Maintain validity of manufacturers’ warranties.
 - b. Comply with:
 - 1) Section 01 65 00 - Product Delivery Requirements.
 - c. Do not drop, drag (without appropriate rollers or skids), or scrape materials and equipment.
 - d. Use proper construction equipment and machinery, and tools, operated by sufficient number of qualified personnel.
 - e. Maintain materials and equipment in neutral position.
 - f. Do not exert undue stress on materials and equipment.
 - g. Do not deform, bend, or damage materials and equipment.
 - h. Do not deform or mar shafts, bearings, or other parts.
- B. Additional Requirements for Hoisting and Lifting:
 - 1. When lifting or hoisting, support materials and equipment from appropriate lifting points using proper hooks and suitable nylon lifting straps, chains, and cables. Do not mar or scrape surfaces of materials and equipment during handling.
 - 2. Do not support rigging from building or structure without written approval of the City and Engineer.
 - 3. Contractor is responsible for and shall remedy damage to building, structure, [and existing hoisting equipment and elevators,] resulting from Contractor’s operations, in accordance with Section 01 71 33 - Protection of the Work and Property.

PART 9 - PRODUCTS - (NOT USED)

PART 10 - EXECUTION

10.1 MAINTENANCE OF STORAGE

END OF SECTION

SECTION 43 11 33
AERATION BLOWER EQUIPMENT

PART 11 - GENERAL

11.1 SUMMARY

- A. Provide screw blower package with integrated controls including accessories as specified herein:
 - 1. Quantity: Two (2) blowers.
 - 2. Blower Application: Aerobic Digesters with piped intake.
 - 3. Equipment Numbers: BLR101, BLR201.
 - 4. All equipment specified in this section shall be designed and furnished by the blower manufacturer, who shall be responsible for the suitability and compatibility of all included equipment per this section.

- B. The entire package and its components shall comply with all applicable safety and environmental regulations.
- C. Section Includes:
 - 1. Two (2) Rotary screw type aeration blower packages including:
 - a. Integral inlet filter/silencer & individual exterior intake filter
 - b. Discharge silencer
 - c. Flexible connectors.
 - d. Check valves
 - e. Pressure safety valve
 - f. Acoustical sound enclosure
 - g. Instrumentation
 - h. Pressure and temperature monitoring devices.
 - i. Integral local control panel for each blower
 - j. Integral VFD
 - k. Integral pressure relief valve
 - l. Valves for backflow prevention, and inlet isolation.
 - m. Spare parts
- D. Related Sections include but are not necessarily limited to:
 - 1. Division 0 - Bidding Requirements, Contract Forms, and Conditions of the Contract.
 - 2. Division 1 - General Requirements.
 - 3. Section 01 61 03 - Equipment: Basic Requirements

11.2 SYSTEM DESCRIPTION

- A. CONTRACTOR to provide two package blowers to supply process air to the plant's two aerobic digesters. The blowers shall be arranged in a one duty and one standby arrangement. Provide blower, driver, VFD, and accessories through single manufacturer for a complete functional blower system.
- B. CITY or third-party contractor to provide all EXTERNAL piping, pipe supports, wiring, instrumentation, conduit, and appurtenances not provided by the blower manufacturer

11.3 ENVIRONMENTAL CONDITIONS

- A. This project is located at an elevation of approximately 35 feet above sea level. Manufacturers shall acknowledge the unique environmental conditions present at the project location, which includes but is not limited to, lower atmospheric pressure and cold winter conditions. All equipment shall be designed for optimal performance given the environmental conditions present at the project location to satisfy design criteria specified.

11.4 DEFINITIONS

- A. SCFM (Standard Cubic Feet per Minute): Flow of air at standard conditions defined by the American Society of Mechanical Engineers (ASME). With quantity expressed at 68 DegF, 14.7 psi absolute pressure and 36 percent relative humidity.
- B. DO is an abbreviation for Dissolved Oxygen.

11.5 SUBMITTALS

- A. General:
 - 1. See Section 01 33 00 for requirements for the mechanics and administration of the submittal process.
 - 2. All documents required for submittal under this section shall be furnished in one complete package.
 - 3. All submittal dimensions, calculations and other information shall be in USA English units of measure.
- B. Product Data:
 - 1. Acknowledgement that products submitted meet requirements of standards referenced.
 - 2. Manufacturer's installation instructions.
 - 3. Blower characteristics, specifications, and performance.
 - a. Descriptive brochures and blower data.
 - b. Factory certified performance curves indicating speed, capacity, horsepower, and efficiency over the range of operation.
 - c. SCFM and ICFM at discharge pressure.
 - d. Brake horsepowers at identified points.
 - e. Material list and catalog information showing the details of blower construction.
 - f. Outline installation drawings for each unit.
 - g. Blower weight and weights of each separate item of equipment.
 - h. Complete bill of materials of all components and equipment supplied.
 - 4. Motor characteristics, specifications, and performance.
 - a. Descriptive bulletins.
 - b. Outline drawings with dimensions.
 - c. Cut-away and exploded view drawings.
 - d. Parts list with material designations.
 - e. Nameplate data.
 - f. Description of insulation system.
 - g. Service factor.
 - h. Efficiency at $\frac{1}{2}$, $\frac{3}{4}$, and full load.
 - i. Power factor at $\frac{1}{2}$, $\frac{3}{4}$, and full load.
 - 5. Furnish a detailed identification of couplings, supports, and accessories. Identify valves and instrumentation with designated tag numbers.
 - 6. Test reports:

- a. Certified acoustical test results for each blower package.
 - b. Certified and guaranteed wire to air power test results.
 - c. Certified report of dynamic balancing and maximum vibration amplitude.
 - d. Certified Factory Blower Testing:
 - 1) Submit a detailed test plan with complete piping and instrumentation configuration diagram per ASME PTC-13.
 - 2) The location, type, and quantity of all major instruments necessary for performance data, including those on air, water, and lube oil with corresponding distances from reference points, shall be identified per ASME PTC-13 requirements.
 - 3) As a minimum, the detailed test plan shall include:
 - a) Quality control procedures.
 - b) Air-end/gearbox ASME PTC-13 test procedure and method of calculating results.
 - c) Functional testing of entire assembled blower package, including instrumentation, ancillary components, and LCP. Submit the actual ASME PTC-13 test report with the blower system O&M manuals.
 - 7. Provide equipment anchorage calculations as specified in Section 01 61 03 demonstrating compliance with the applicable requirements of Section 01 61 03.
 - 8. Copies of software for all control panels.
 - 9. Complete description of all controls and control panels, including complete wiring diagrams, elementary or control schematics, and panel outline drawings.
 - 10. A list of manufacturer's recommended spare parts.
- C. Shop Drawings:
- 1. Unloading, handling, storage, and maintenance requirements.
 - 2. Certified dimensional drawings of the blower unit, including cutaway views.
 - 3. Mechanical drawings with general arrangement showing blower base dimensions, floor mounting, piping, overall weights, and weights of largest components requiring removal for maintenance.
 - 4. Instrumentation and control system schematics and wiring diagrams for electrical and control components furnished.
 - 5. Any necessary dimensional drawings to coordinate piping layout with structural, architectural, electrical, and/or mechanical work.
 - 6. Certified dimensional drawings of the blower unit, including cutaway views.
 - 7. Instrumentation and control system schematics and wiring diagrams for electrical and control components furnished.

8. Any necessary dimensional drawings to coordinate piping layout with structural, architectural, electrical, and/or mechanical work.
- D. Operation and Maintenance Manuals:
1. See Section 01 33 00 and 01 33 04 for requirements for:
 - a. The mechanics and administration of the submittal process.
 - b. The content of Operation and Maintenance Manuals.
 2. Operation and maintenance manual will include the following:
 - a. All dimensions, calculations and other information to be in USA English units of measure.
 - b. Provide a list of components and catalog cuts fully describing all items:
 - 1) Mechanical and structural components.
 - 2) Instruments.
 - 3) Operator Interface/machine monitors.
 - 4) Electrical components. Provide as left configuration settings and copies of any associated software in O&M Manual.
 - c. General description of blower with all performance data, blower curves, and model.
 - d. Provide detailed information on structural, mechanical, electrical, or other changes or modifications necessary to adapt non-specified materials to the arrangement or details shown. Include the actual ASME PTC 13 test report.
 - e. Mechanical drawings with general arrangement showing enclosure dimensions, overall weights, weights of largest components requiring removal for maintenance, and clearances required around unit for maintenance access. Indicate surface preparation and paint specifications.

11.6 DELIVERY, STORAGE, AND HANDLING

- A. All equipment shall be skid mounted and crated to protect against damage during shipment. All parts shall be properly protected so that no damage or deterioration will occur during a prolonged delay from the time of shipment until installation is completed, and the units and equipment are ready for operation.
- B. Finished surfaces of all exposed flanges shall be protected by fiberboard blank flanges strongly built and securely bolted thereto.
- C. Shipment is not to be made until the Manufacturer coordinates shipment to the jobsite with the Contractor, assuring that the equipment will be properly received and stored.
- D. Upon receipt, store equipment in strict accordance with the Manufacturer's instructions and any other protective devices, as required.

11.7 WARRANTY

- A. The manufacturer shall warrant against any defects in materials or workmanship to the blowers for a period of twenty four (24) months from successful completion of Acceptance Testing, not to exceed thirty (30) months from date of shipment from the manufacturer of the blowers. All other package components shall be warranted for a period of twelve (12) months from date of startup, not to exceed eighteen (18) months from the date of shipment.
- B. The manufacturer shall repair or replace any equipment found to be defective in workmanship or materials during the warranty period and provide written notice of the defect's cause and manufacturer's remedy.

PART 12 - PRODUCTS

12.1 GENERAL

- A. Blowers shall be rotary screw compressor design.
- B. The Manufacturer shall supply, coordinate, start-up, and calibrate all items specified in this section.
- C. Acceptable blower Manufacturer's shall include the following.
 - 1. Aerzen
 - 2. Kaeser
 - 3. Or approved equal
- D. Requests for approved equals must be made prior to submitting a bid. The City reserves the right to exercise its sole discretion in approving or rejecting any such request(s).
- E. Blowers shall be CSA/UL/TUV certified, with certification label shown on nameplate, at point of manufacturing.
- F. After reaching operational speed, noise emission from the blower package shall not exceed guaranteed dBa and in no case will a machine be considered acceptable that exceeds 80dBa.
- G. Blower casing shall have a maximum continuous duty design temperature of 400 degrees Fahrenheit, and a pressure of 15 psig.
- H. Manufacturer shall guarantee that the blower shall provide oil-free operation and be certified to ISO 8573-1 Class Zero.

12.2 DESIGN CONDITIONS

- A. Inlet conditions are defined as the conditions that exist at the inlet flange of the blower. The discharge conditions are defined as the conditions that exist at the discharge flange of the blower or the discharge cone. The blower shall be designed to handle filtered air for the following rated conditions:

1. Elevation: 35 ft.
 2. Maximum Pressure loss in inlet filter/silencer: 0.30 psi.
 3. Discharge Pressure: 6 psig.
 4. Operating Temperature Range: -25 to 100 DegF
 5. Operating Relative Humidity: Up to 100%
 6. Total volumetric flowrates of air required (corrected to 14.7 psia, 68 degrees Fahrenheit, and 36 percent RH).
 - a. Maximum: 1,235 SCFM (blower at full speed)
 - b. Minimum: 530 SCFM (with blower at maximum turndown)
 7. Blower Package Controlled by VFD: Yes
- B. The electrical power draw (stated as horsepower) for the total blower package including all accessories and controls shall not exceed 50 HP under any of the above stated operating conditions.
- C. The blowers shall not have a footprint exceeding 80 inches in length and 52 inches in width.
- D. The blowers shall be capable of operating continuously and satisfactorily at any point between the minimum and the maximum flows without surge, vibration, hunting, or excessive heating of the bearings.

12.3 ENCLOSURES

- A. The standard enclosure shall also act as a sound enclosure and must be designed for easy inspection and maintenance of all blower package components. Hinged doors shall provide easy and quick access for routine maintenance of the blower and the package components. Doors shall use a frame, reinforcements and supporting elements as required.

12.4 BLOWERS

- A. General:
1. Compressor casing shall be of one-piece construction, with separate sideplates that are bolted and pinned to the housing. Materials shall be close-grained cast iron ASTM A48 suitably ribbed to prevent distortion under the specified operating conditions. Inlet and outlet shall be flanged connections, not threaded.
 2. Each rotor (male and female) shall be of the “stiff” design with first lateral critical speed at least 120% of the maximum allowable operating speed. The rotors shall operate without rubbing nor shall they require lubrication. Rotors shall be drop forged in one single piece of AISI 1043 or equivalent. Open rotors are not acceptable. Rotors shall be statically and dynamically balanced per ISO1940/ANSI S2.19 G2.5.

3. The impellers shall be timed by a pair of single helical gears with quality equivalent to AGMA 12. Gears shall have hardened and ground teeth and a minimum AGMA service factor of 1.70. Gears shall be mounted via hydraulic expansion onto the shafts with a tapered interference fit, and secured by a locknut.
4. Seals shall be designed to prevent lubricant from leaking into the air stream as well as to prevent oil from leaking out of the machine. The seal shall consist of two rotary slip rings mounted in a retainer with an atmospheric air gap in the center. The rotor shaft shall be protected by a shaft sleeve. A non-contact labyrinth seal on the rotor input end with no wearing parts shall be provided under the shaft sleeve to prevent oil migration along the shaft into the air conveying chamber.
5. Each rotor/shaft shall be supported by anti-friction bearings, and fixed to control the axial location of the rotor/shaft in the unit. Regardless of theoretical bearing life calculations, the bearings shall be sized for a minimum expected life of 5 years between overhauls. The applied design conditions shall yield a bearing load and minimal L-10 bearing life calculation of 300,000 hrs.
6. The timing gears and the bearings shall be oil lubricated. Grease lubrication shall be not acceptable. An oil sight glass shall be provided on the exterior of the noise enclosure so the operator can easily view the oil level. Sight glasses inside the enclosure or that cannot be easily viewed by the operator shall not be acceptable

12.5 MOTORS

- A. Each blower shall be supplied with an inverter duty premium efficiency motor for operation on 480 Volts, 3 Phase, 60 Hertz supply, totally enclosed, fan cooled with a service factor of 1.15.
 1. The maximum allowable motor horsepower shall be 50 HP.
 2. The motor shall be able to start under the starting conditions required.
 3. The Manufacturer shall be responsible for coordinating the starting torque requirement of the blower and the motor.
 4. The motor shall be capable of continuous operation at full load and rated frequency with a voltage variance of +/- 10 percent of the nameplate voltage.
 5. The motor shall be capable of operation at the rated voltage with a variance of +/- 5 percent of the nameplate frequency.
 6. Motor Accessories:
 - a. The motor and controls shall not require any space heaters.

12.6 V-BELT DRIVE

- A. Each package shall be supplied with a V-belt drive that shall be of the high capacity type, oil and heat resistant. Drive shall be designed for a minimum service factor of 1.4 times operating power (bHp), or 1.1 times the motor nameplate Hp, whichever is larger to allow a minimum of 1.4-service factor based on the maximum blower bHp. Belt tensioning shall be automatic without the use of any spring devices or interaction on the part of the operator. Slide rails shall not be used as a tensioning device. Sheaves shall be dynamically balanced regardless of the operating speed and hydraulically mounted on the compressor drive shaft.
- B. The belt drive shall be guarded in compliance with OSHA regulations. Portions of the guard shall be easily removable allowing for belt inspection and replacement.

12.7 INTEGRAL INLET FILTER

- A. The filter media associated with the integral inlet filter of each blower shall have an efficiency of 90 percent by weight per ASHRAE52-76 with synthetic dust equivalent to separation > 95 percent @ 10 microns.
- B. Maximum clean pressure loss across the filter shall be less than 0.12 PSIG.

12.8 OUTDOOR INTAKE FILTER SCREEN

- A. Provide a minimum of one outdoor intake screen per unit.
- B. The outdoor intake screen units shall be finished with baked-on enamel and shall be equipped with an epoxy coated wire mesh element for the purpose of preventing debris and wildlife from entering the inlet pipe connection.

12.9 INTAKE PIPING

- A. The intake piping (contractor supplied) will be upsized to eight inches in diameter.
- B. Intake pipe routing will follow the routing existing intakes from the outdoor inlet to the blowers

12.10 DISCHARGE SILENCER

- A. Provide discharge silencer, if required, to meet noise attenuation requirements described in this Section.
- B. Type 304 stainless steel body and flanges, size as recommended by blower manufacturer.
- C. For given operating conditions, maximum pressure loss shall not exceed 0.02 psig at 1,235 CFM.
- D. Noise attenuation:

| | | | | | | | | |
|---------------------|----|-----|-----|-----|------|------|------|------|
| Octave band, Hz | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| Insertion Loss, dBA | 29 | 33 | 31 | 30 | 28 | 26 | 25 | 24 |

12.11 FLEXIBLE CONNECTOR

- A. Provide blower with a stainless-steel bellow expansion joints on the suction and discharge capable of withstanding the vacuum, pressure, and temperature under all operating conditions. The expansion joint shall be included with stainless steel control rods and flanges drilled for ASME/ANSI B16 Inch, Class 150 bolt pattern.
- B. Flexible connectors shall prevent the transmission of noise and vibrations from the blower package into the piping.

12.12 CHECK VALVES

- A. Provide each blower package with discharge check valve rated for temperatures up to 300 degrees Fahrenheit. Check valves shall be specially designed and suitable for use with positive displacement blowers and shall retain positive sealing capability at 300 degrees Fahrenheit.
- B. Each blower shall be supplied with one check valve that shall be installed on the discharge line. The check valve shall be a dual-plate, metal hinged, wafer-style check valve. Seal shall be designed flat, full-contact seals to maintain positive shutoff at low working pressures. Valve body, plate, springs and trim shall be 316 stainless steel. The seal shall be silicone. The valve shall be easily removable without disturbing the piping.
- C. Pressure losses produced by the check valve shall be included in the entire package performance calculation.
- D. Acceptable manufacturers:
 - 1. Techno 5050, by US valve LLC.
 - 2. Or approved equal.

12.13 PRESSURE SAFETY VALVE:

- A. Each package shall be supplied with a single pressure safety valve on the discharge side of the blower mounted downstream of the discharge silencer and upstream of the check valve.
- B. The safety valve shall be set to protect the machine from exceeding its maximum pressure rating, and shall be sized to pass 100% of the design flow. The valve shall be field adjustable, spring loaded.
- C. The pressure safety valve shall be housed inside and attenuated by the sound enclosure. The safety valve shall relieve hot air into a segmented and sealed section of the sound enclosure so that the hot air cannot reenter the inlet of the machine.

12.14 ACOUSTICAL SOUND ENCLOSURE:

- A. Each package shall be supplied with a sound enclosure covering the entire blower package.
- B. The enclosure shall be designed so as to be able to install them side-by-side with all maintenance done from the front or back of the package.
- C. The enclosure and the blower package shall both be mounted on a skid / oil-drip pan designed for meeting environment protection standards and for easy transportation and installation.
- D. A grounding strap shall be installed between the blower base and the package skid to bypass any vibration isolating mounts for grounding continuity.
- E. Quick release panels, each less than 50 lb (as mandated by OSHA) must provide easy and quick access for routine maintenance of the blower and the package components.
- F. Enclosure Cooling / Ventilation Fan:
 - 1. Ventilation fan shall be provided for the sound enclosure.
 - 2. The fan shall be sized for sufficient heat removal from the sound enclosure.
 - 3. The cooling fan shall be driven separately by a 460V, 3Ph, 60Hz electric motor powered by the same 480 VAC electric feed as the local control panel.
- G. To prevent possible operator damage, electrical components, instrumentation and instrument connections shall not be mounted on or interface with removable panels of the sound enclosure.
- H. Both blower oil sumps shall be piped to a common fill and drain, located at the front of the package for easy maintenance. An oil level indicator shall be mounted on the outside of the enclosure, which gives an accurate oil level indication while the blower is in operation. All oil lines shall be industrial-quality hydraulic hose and fittings.

12.15 INSTRUMENTATION

- A. The Manufacturer shall provide the blower instrumentation described in this section. . These components shall be mounted within the enclosure except as noted.
- B. The blower manufacturer shall provide the blower instrumentation described in this section. Instruments shall be the blower manufacturer's standard equipment. These components shall be mounted within the enclosure except as noted.

- C. The controls shall be designed such that the blower cannot operate unless the controls are energized and functional. All controls and instruments shall fail into a safe condition.
- D. Each Blower shall be supplied with an integral LCP which shall control and monitor the blower operation and communicate to plant's PLC/SCADA system using Ethernet data link. All LCP controls, alarms and monitoring shall be accessible through a touch screen control panel.
- E. Instrumentation for each blower shall include, as a minimum:
 - 1. Inlet air temperature gauge field supplied or within blower enclosure.
 - 2. Inlet air temperature transmitter 4-20 mA.
 - 3. Inlet air filter differential pressure transmitter 4-20 mA.
 - 4. Discharge temperature transmitter, 4-20 mA
 - 5. Blower air flow rate reading.
 - 6. A high temperature (as determined by the blower manufacturer) shuts down the blower and generates an alarm. The alarm/shutdown shall be displayed until reset.
- F. Local Control Panel (LCP):
 - 1. Each blower shall be equipped with an integral manufacturer standard microprocessor based LCP control system.
 - a. Each package shall be supplied with the following control functions and features:
 - b. Display, monitoring, alarm, and shutdown of inlet pressure, discharge pressure, discharge temperature, enclosure cooling fan thermal overload, main drive motor thermal overload, oil temperature and oil pressure.
 - c. Display run hours
 - d. Log errors and first out indication
 - e. Track and log maintenance
 - f. E-Stop button mounted on front of blower enclosure
 - g. Operation of enclosure cooling fan motor starter and oil demister
 - h. The local control panel shall be provided with the necessary inputs and outputs.
 - i. Control Enclosure
 - 1) IP54 suitable for indoor/outdoor installation
 - 2) Factory installed, integral sound enclosure
 - j. Control Supply Power
 - 1) 480 VAC, 3 phase, 10 Amp feeder.
 - k. Monitoring Sensors per manufacturer's standard configuration.
 - 2. The LCP shall contain controls for blower start-up, operation, monitoring, and shutdown.
 - 3. All LCP controls, alarms and monitoring shall be accessible through a touch screen control panel or a keypad/display screen combination.

12.16 SURFACE PREPARATION AND SHOP PRIMING

- A. All carbon steel or iron surfaces shall be prepared, shop primed, and finish painted with two finish coats of epoxy paint system or powder coated.
- B. Machine surfaces that are not painted shall be protected by coating with a corrosive protective compound.

12.17 SOURCE QUALITY CONTROL

- A. Upon completion of assembly, the blower package shall be functionally tested at the place of assembly. City or City's representative may elect to witness this test at the expense of the City.
- B. At a minimum, the blower system shall be factory tested for a duration of not less than 8 hours at maximum load and maximum temperature. Additionally, the blower system shall be factory tested for a duration of not less than 8 hours at minimum airflow to confirm the machine is being properly lubricated.
- C. The blower shall be performance tested in accordance with the ASME PTC-13. A calibrated wattmeter or other measuring means shall measure the electrical power input to the blower drive including all auxiliary systems. Measured power shall include wire-to-air and include all losses associated with electrical power, including, but not limited to the motor, inverter, and cooling system, if used.
- D. Noise Level
 - 1. The Manufacturer shall include all necessary provisions for reducing noise to meet the maximum sound pressure level requirements of this section (excluding piping noise).
 - 2. The maximum sound pressure level at any point at a distance of 3 feet or more from any blower/motor surface shall not exceed 80 dBA with the blower running at any speed:
 - 3. The specified maximum sound pressure level of 80 dBA includes the noise emitted from the blower package including but not limited to, the noise from the motor; the blower; fittings, valves and silencers.
 - 4. The sound pressure level for each blower shall be measured by the manufacturer during the factory testing with one blower running.
 - 5. If it is found that the actual sound pressure level 3 feet away from the blower exceeds the maximum specified sound pressure level, the Manufacturer shall make such modifications and additions as are necessary to limit the noise to less than 80 dBA.
- E. The manufacturer shall sign each copy of the test data log sheet certifying that the required tests were performed in strict accordance with these specifications and the ASME PTC-13 Codes:

1. The capacity of the blower shall be defined by the appropriate sections of the test codes. Air flow shall be measured on the discharge side of the blower.
 2. All test equipment shall be calibrated and certified by an independent test agency no more than 12 months prior to the test date. Certificates shall show the stability of calibration over a period of at least one year per ISO 9001, Paragraph 4.11.
- F. The blower test report shall present computations in exact accordance with the appropriate section or testing codes with performance curves showing capacity, pressure, and horsepower inputs.
- G. Test results of the blower shall be included in the Operations & Maintenance Manual.

12.18 MAINTENANCE AND SPARE PARTS

- A. Furnish all special tools and appliances necessary to disassemble, service, repair, and adjust the blower equipment and appurtenances. In addition to manufacturer's recommendations, the following spare parts shall be furnished for each blower:
1. Two (2) filter elements for integral inlet silencer
 2. Lubrication for first year of operation
 3. Two (2) sets of fuses.
 4. One (1) complete set of matched V-belts.
 5. Two (2) filter mats for blower control cabinet
 6. One (1) oil filter element (if necessary)
- B. All spare parts shall be suitably packaged and clearly identified with indelible marking on the containers. Tools and spare parts (except for the air filters) shall be supplied in a tool chest for long-term storage and marked with manufacturer's name, along with a complete description on contents.

PART 13 - EXECUTION

13.1 INSTALLATION

- A. Comply with Section 01 61 03.
- B. (CITY or Third-Party Contractor installation, NOT included in this bid). The blower system and appurtenances shall be installed in accordance with the instructions of the Manufacturer. All piping shall be supported so as to preclude the possibility of exerting undue forces and movements on the blower flanges. Each blower unit shall be mounted on a flat and level concrete pad ($\pm 1/4$ IN) across the entire pad in accordance with the recommendations of the Manufacturer and contract documents, whichever is more stringent.

- C. (CITY or Third-Party Contractor installation, NOT included in this bid). The Contractor shall furnish the required piping, pipe supports, flange gaskets, bolts, nuts, oil, and grease for initial operation in accordance with the Manufacturer's recommendations.

13.2 FIELD QUALITY CONTROL

- A. Manufacturer's representative will be present for field testing.
- B. Demonstrate operation of the blower at all points along the operating range listed in Section 2 of this specification.
- C. At a minimum, each blower package shall be field tested for duration of not less than 8 hours at maximum load.

13.3 MANUFACTURER'S FIELD SERVICES

- A. The Manufacturer shall have an already developed Service Network in North America to support the operation of the blower; providing responses to technical inquiries within eight (8) to twenty-four (24) hours and typical parts replacement and within Forty-eight (48) hours.
- B. Prior to scheduling startup, installer must have submitted all pre-start checklists to Manufacturer, ensuring that the blowers are ready for startup.

13.4 FIELD PERFORMANCE

- A. Performance Test:
 - 1. Tests shall be performed by representative of manufacturer in presence of City.
 - 2. Run test over continuous 4 HR period.
 - 3. Results from test will be used to verify compliance with design requirements in PART 2 of this Section and shall be submitted in report form to City.
 - 4. Air flow rate, CFM, shall be measured and recorded at least every 15 minutes.
 - 5. Power feed to blower shall be measured and recorded with a recording watt meter.
 - 6. Test shall be run at design conditions as defined in PART 2.
 - a. Measured values will be averaged for each condition specified in Article 2.2 and the results compared to the guaranteed values.
 - b. Power input shall be measured by calibrated watt meter.
 - c. Air flow shall be measured by temporary mass air flow meter provided by manufacturer to be located on intake pipe.
 - 7. Perform power failure testing and demonstrate operational recovery after restoration of power.
- B. Training:
 - 1. Instruct City's personnel with formal training sessions at jobsite with minimum service as follows:

- a. Jobsite over one (1) day: 8 HRS on-site.
- b. Instruction time shall be separate from the field services time.
- c. Training shall include specific session on electrical and instrumentation, HMI, and PLC programming.

END OF SECTION

ADDITIONAL PROVISIONS

The supply contract for this project will be administered in accordance with the engineer's specifications for this project written by HDR INC.

ADDITIONS TO ENGINEER'S SPECIFICATIONS

AP – 1: Definitions

Addenda (Addendum) - “Addenda” shall mean written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the Contract Documents.

Assembly - “Assembly” shall mean the Common Council of the City of Homer.

Bid - The offer or proposal of a bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

Bidder - Any individual, firm, partnership, corporation, or combination thereof formally submitting a Bid for the work contemplated, or any portion thereof, acting directly or through an authorized representative.

Bidding Documents - The Invitation to Bid, Bid Guarantee, Provisions, Specifications, Forms, Schedules, Bidders Checklist, proposed Contract Documents, and all Addenda.

Bid Guarantee - The security furnished by the Bidder as a guarantee to enter into a Contract for the Work contemplated if the Bidder is awarded the Contract.

Bonds - Performance and Payment bonds and other instruments of security.

Contract - The written agreement executed by the City and the Contractor covering the performance of the work.

Contractor - The individual, firm or corporation undertaking the execution of the work under the terms of the contract and acting directly or through its agents or employees.

Contract Completion Date - The calendar date specified in the proposal for the full completion of all Work required by the Contract Documents, except as otherwise provided in the Contract.

If a number of calendar days is specified in the proposal for the completion of the Contract, the Contract Completion Date will be those specified number of days after the effective date of the Notice to Proceed, including authorized time extensions.

Contract Documents – The specifications, agreements, performance and payment bond, including all agreed modifications thereof incorporated in the documents before their execution and all agreements of a supplemental nature that may be entered into during the progress of the work.

Change Order – Any written agreement entered into between the Contractor and the Owner to supplement or clarify or alter the specifications, or contract, or to otherwise provide for extra work, contingencies, alterations in specifications, and other matters not contemplated by or adequately described in the specifications.

Date of Substantial Completion – For all construction contracts, the term “date of substantial completion of work” shall mean that date upon which the improvements which are the subject matter of the Contract, are accepted as essentially completed and available for Owner’s beneficial use for the purposes and in a manner intended by the Owner.

Days –

a. Calendar

Unless otherwise designated in the SPECIAL PROVISIONS, days as used in the Contract Documents will be understood to mean calendar days.

b. Working

A working day is defined as any day on which the Contractor is required to work by the Contract Documents or any other day not otherwise defined herein as a non-working day.

c. Non-Working

A non-working day is defined as Saturday, Sunday, a recognized holiday, a day on which the Contractor is specifically required by the Special Provisions to suspend construction operations, or a day on which a suspension order is in effect. Recognized holidays shall be: New Year’s Day, Washington’s Birthday, Memorial Day, Independence Day, Labor Day, Veteran’s Day, Thanksgiving Day, and Christmas Day

Design Engineer.- Shall mean the Engineering Consultant under contract to the City to prepare the specifications.

Engineer – Shall mean the City’s designated representative.

Owner – City of Homer, Alaska, acting through its legally constituted officials, officers, employees, or agents.

Additional Provisions – That portion of the Specifications entitled ADDITIONAL PROVISIONS containing specific clauses setting forth conditions or requirements peculiar to the work and supplementary to the Engineer’s Specifications.

Specifications – The directions, requirement, explanation, terms and provisions created by the Design Engineer, which in a supply contract, are used instead of the Standard Specifications.

AP – 2: Method of Clarifications

Any bidder in doubt as to the nature of the true meaning of any part of the specifications or other documents must submit to the City and to the Project Engineer a written request for an interpretation thereof. The Bidder submitting the request will be responsible for its prompt delivery not less than seven (7) days prior to the date set for opening Bids. Replies will be issued by Addenda mailed or delivered to all parties recorded by the City as having received the Bidding Documents. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications are not binding.

AP – 3: Preparation of Bids

a. Preparation and submission

Preparation of Bids shall be submitted on forms contained in the Contract Documents. A completed Bid consists of two fully executed but separate parts:

PART A and PART B.

1. **PART A** consists of:
 - a) The Bid Form with the required price information
 - b) The Submittal Schedule Form

2. **PART B** consists of:
 - a) The Addenda Acknowledgement

PART A and PART B shall each be submitted in separate, opaque, sealed envelopes marked with the project name and address of the Bidder.

b. Form

The Bid will provide for a quotation of a price, or prices, for one or more items, which may be lump sum bids, alternate prices, scheduled items resulting in a Bid on a unit of construction or a combination thereof. All blank spaces in the Bid form shall be filled. A Bid Price shall be indicated for each item listed therein, or the words “No Bid”, “No Charge”, or other appropriate phrase shall be entered. Bids received without all such items completed will be considered non-responsive. If erasure or other changes appear on the forms, each such erasure or change must be initialed by the person signing the Bid.

Bid forms must be completed in ink or typewriter. The Bid price of each item on the form must be stated in words and numerals; in case of a conflict, words will take precedence. In case of discrepancy between unit price and totals, unit prices will prevail. The City reserves the right to waive any defects or irregularities under this subparagraph.

c. Alternate Bids

Alternate Bids will not be considered unless specifically requested.

d. Qualified Bids

Qualified Bids will not be allowed.

e. Acknowledge Addenda

Bid packet “B” shall contain an acknowledgement or receipt of Addenda.

Failure to include the acknowledgement of Addenda shall result in the Bid being rejected as non-responsive.

f. Bid Form Error

No consideration will be given by the City to a claim of error unless such claim is made to the City in writing within two (2) hours after the time of Bid Opening. Written notification shall consist of a letter delivered to the City Clerk supporting evidence of the error, within 24 hours after time of Bid Opening (excluding Saturday, Sunday and legal holiday), to allow consideration of the claim for error. Supporting evidence shall be original documents used to compute the Bids. The City shall be the sole judge of a claim of Bid Error.

AP – 4: Bid Guarantee

Bids must be accompanied by a certified check, or cashier’s check drawn on a bank in good standing, or a Bid Bond issued by a Surety authorized to issue such bonds in the State where the work is located in the amount of five percent (5%) of the total amount of the Bid submitted.

This Bid Security shall be given as a guarantee that the Bidder will not withdraw his Bid for a period of thirty (30) days after the Bid Opening and if awarded the Contract, the successful Bidder will execute the attached Contract, and furnish a properly executed Performance and Payment Bond as specified in these instructions. The Bid Guarantee shall name the City of Homer as payee or beneficiary.

The Attorney-in-Fact (Resident Agent) who executes this bond on behalf of the Surety must attach a notarized copy of his power-of-attorney as evidence of his authority to bind the Surety on the date of execution of the bond.

Bids submitted without a Bid Bond will be considered non-responsive and will not be publicly read or considered.

AP – 5: Receipt and Opening Bids

a. Time of Opening

Bids shall be submitted prior to the time specified in the Invitation to Bid and the exact date and hour of receipt of Bids will be recorded. Late Bids will not be considered, but will be held unopened until the time of award and then returned to the Bidder, unless other disposition is requested or agreed to by the Bidder.

The official time shall be shown in the Invitation to Bid.

b. Oral, Telephonic, and Facsimile Bids

Oral, telephonic, and facsimile Bids will not be considered. Modification by facsimile, of Bids already submitted, will be considered if received prior to the time fixed in the Invitation to Bid. Facsimile modifications shall indicate the amount of the revised Bid and shall be signed by a properly authorized agent, officer, or partner.

c. City's Responsibility

No responsibility will be attached to any officer or employee of the City for the premature opening of, or the failure to open, a Bid or facsimile modification not properly addressed and identified.

d. Opening of PART A and PART B

PART B of the Bid will be opened first and if found complete and responsive, PART A will be opened. If PART B is found to be incomplete, the bid will be non-responsive and PART A will not be opened and the Bid will not be considered.

AP – 6: Withdrawal of Bids

Bids may be withdrawn on written or facsimile request received from bidders, prior to the time specified for opening. Withdrawn Bids may be resubmitted up to the time designated for the receipt of Bids provided that they are then fully in conformance with the Instructions to Bidders.

AP – 7: Multiple Bids

Multiple bids offered by a single Bidder shall result in the rejection of all bids by that bidder.

AP – 8: Bidders Present

At the time and place specified for the opening Bids, contents of the bids will be made public for the information of Bidders and others properly interested, who may be present either in person or by representation.

AP – 9: Action on Bids

The City reserves the right to reject any or all Bids, and to waive any informalities and irregularities in Bidding or award of Contract. In accordance with the City of Homer Procurement Regulations, the following provisions shall apply:

- a.** When the Bidding documents contain a basic bid and alternates, only the total of the basic bid and the alternates to be awarded shall be used to determine the low Bidder.

When the Bidding documents contain a basic bid and additive alternates, the low bidder will be determined by the lowest combination of the basic bid and as many additive alternates as may be chosen in the order listed in the Bid. However, the City of Homer may bypass any additive alternate whose selection would cause the Contract to exceed the funds available.

When the Bidding documents contain deductive alternates, the low Bidder will be determined by the lowest basic bid. If the lowest basic bid exceeds the funds available, the low bidder will be determined by eliminating deductive alternates in the order listed in the Bid until the award can be made within the available funds. The City of Homer may bypass any deductive alternate to maximize the use of available funds.

- b.** The City reserves the right to reject any Bid which exceeds the Fair Cost Estimate by more than fifteen percent (15%).
- c.** Any bids found to have arithmetic errors or other pricing ambiguities which affect the total Bid price may be rejected. In evaluating Bids, the City will consider the

qualifications of the Bidders, whether or not the Bids comply with the prescribed requirements, alternatives, and unit prices if requested in the Bid forms. The City may consider the qualifications and experience of subcontractors, and may reject the Bid of any Bidder or Subcontractor who does not pass any such evaluation to City's satisfaction.

AP – 10: Award of Contract

a. Notice of Award

The acceptance of the Bid will be written Notice of Award, mailed or delivered to the location designated in the Bid. In the event of failure of the lowest responsible Bidder to sign and return the Contract with acceptable Performance and Payment Bonds and Certificate of Insurance as prescribed herein, the City may award the Contract to the next lowest responsible Bidder.

b. Execution of Contract

1) By Contractor: The Bidder whose bid is accepted shall execute the Contract and furnish the required bonding, Insurance Certificates, and Department of Labor's Notice of Work within ten (10) days after receiving the Notice of Award. The Notice of Work submittal shall be date stamped from the Department of Labor. The date the Contract is executed by the Owner is the Contract date. The rights and obligations provided for in the Contract shall become effective and binding upon the parties as of the Contract date. Failure or neglect to execute the Contract within the time specified shall constitute a breach of the agreement effected by the acceptance of the Bid

The amount of the bid guarantee of the successful Bidder who fails or neglects to execute the Contract after proper Notification of the acceptance of the Bid, shall be retained by the Owner as liquidated damages for such breach.

2) By Owner: Upon receipt of at least two copies signed by the Contractor, the properly authorized Owner representatives will execute the documents within ten (10) working days. The Notice to Proceed will also be issued within (10) days of complete execution of the Contract unless otherwise specified in the Special Provisions. The Engineer, or authorized representative, and his address shall be designated in the Notice to Proceed. The Contract shall be deemed to be completely executed when at least two (2) copies thereof, accompanied by the required bonds, liability, and other necessary insurance, and signed by the contractor, are executed by the Owner. The rights and obligations, provided for in the contract shall become effective and binding upon the parties only after its formal execution on behalf of the Owner.

AP – 11: Compliance with Law

Contractors and Subcontractors shall comply with all applicable statutes, ordinances, federal, state, or local laws of any government entity having jurisdiction in the project area.

AP – 12: Intent of the Specifications

The true intent of the specifications is to provide for the execution and completion in every detail of the work described in the Contract Documents. Except as otherwise specifically provided, the Contractor shall furnish all labor, tools, implements, machinery, supplies, materials, and incidentals, and shall do all things necessary to perform and to complete, according to the specifications, the work to be done under the Contract.

AP – 13: Authority of the Engineer

The Engineer shall be the City’s representative and shall observe the Work in progress on behalf of the City and will be identified at the time of the Notice to Proceed. Visits and observations made by the Engineer shall not relieve the Contractor of his obligation to conduct comprehensive inspections of the work and to furnish materials and perform acceptable work, and to provide adequate safety precautions, in conformance with the intent of the Contract. The Work will not be considered completed until approved by the Engineer and accepted by the City. The Contractor shall at all times carry out and fulfill the written instructions and written directions of the Engineer regarding the Contract Documents.

The Engineer shall, in all cases, make determinations on any and all questions which may arise concerning the quality, quantity, and acceptability of materials furnished and work performed; the manner and rate of progress of the performance of all work; the interpretation of specifications, and contract documents.

In the case of the termination of the employment of the Engineer, the Owner shall appoint a capable and reputable Engineer whose status under the Contract shall be that of the former Engineer. The Owner shall give the Contractor notice of such appointment in writing.

AP – 14: Interpretation of Contract, Specifications

The specifications, additional provisions, and all supplementary documents are essential parts of the Contract, and a requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work.

In case of conflict in the requirements and provisions as set out by the Contract, the specifications, such conflict shall be resolved by the acceptance of the following order of

precedence for the various Contract Documents: **1)** Change orders; **2)** the Contract bearing the signature of the City and the Contractor; **3)** addenda; **4)** the written Bid of the Contractor; **5)** Additional Provisions; **6)** The Engineer's Specifications; **7)** Instructions to Bidders. Figure dimensions on the drawings will be used in preference to scaling the drawings. If dimensions are omitted, operations shall not be started on that part of the construction until the necessary dimensions have been obtained from the Engineer in an Engineer's Instruction or on a Contract Drawing.

The apparent silence of the specifications as to any detail or the apparent omission from them of a detailed description concerning any point, shall be regarded as meaning that only the best general practice is to prevail and that only approved materials are to be used.

The Contractor shall take no advantage of any errors or omissions in the specifications or of any discrepancies in or between same. Work knowingly performed by the Contractor as a result of an error or omission in the specifications where such error or omission is not called to the attention of the Engineer shall be at the Contractor's risk.

AP - 15: Notice to Contractors

Any written notice to the Contractor which may be required by law or by the provision of the specifications may be served on said Contractor or his representative, either personally or by mailing to the address given in the Contract.

AP - 16: Notice by Contractors

Wherever in the specifications the Contractor is required to notify the Engineer concerning the work, or concerning any complaint which he may have to make, or for any reason, it shall be understood that such notification is to be made in writing, delivered to the Engineer or his representative in person, or mailed to the office of the Engineer at the address given in the official "Notice to Proceed."

AP - 17: Time of Completion of Work and Extension of Time Limit

Time is of the essence in the Contract. Therefore, the work to be done under the contract shall be completed in its entirety within the time specified in the bid; provided however, that the Engineer may at his discretion recommend that the City extend the time for completion of the work without invalidating any of the provisions of the Contract and without releasing the surety.

Extensions of time, when recommended by the Engineer, will be based upon the effect of delays to the project as a whole and will not be recommended for non-controlling delays to minor portions of the work unless it can be shown that such delays were the direct cause of the delay in the progress of the project as a whole. Governmental regulations, priorities, labor

disputes, strikes, fires, and required "Extra Work" may constitute such a delay; in addition, Federal government restrictions arising out of the National Defense or War Program and resulting in inability to obtain materials, equipment, or labor may constitute such a delay.

Delay caused by failure of the City or its representatives to act promptly in the carrying out of its obligations and duties under the Contract will be considered cause for extension of time only when and to such extent as such failure actually prevents completion of the work within the specified time.

Time extensions requested by the Contractor shall be made to the Engineer in writing within ten (10) days of the date on which the alleged delay is said to have occurred and any claim for extension of time shall state explicitly the reasons therefor.

Should the Contractor fail to file such written claim for extension of time within the period provided therefor, he thereby shall have abandoned any claim therefor.

In naming the prices for completion of the work within the time specified it shall be understood and agreed the work shall be completed within that time. If, however, said work is not completed within the time named in the Contract, as extended to cover the total days of delay allowed in the paragraphs above, the City may deduct and retain as liquidated damages out of any sum then due the Contractor at time of such delinquency, or later, the sum of \$350/day unless otherwise specified in the Contract for each and every calendar day that the date of final completion of each Contract is delayed. In submitting a bid and signing the Contract, the Contractor thereby shall have agreed to these provisions and, furthermore, that the sum deducted and retained is not a penalty but a reimbursement to the City for damages which the city will have sustained by reason of such delayed completion. Damages so liquidated are understood to include the additional cost to the City for engineering supervision, interest charges, overhead, and other indirect costs.

The amount due the City from the Contractor under the foregoing provisions shall be deducted from any monies then due or to become due said Contractor under the Contract, and such deductions shall not in any degree release the Contractor from further obligations in respect to the fulfillment of the entire Contract, nor any right which the City may have to claim, sue for, and recover compensation and damages for nonperformance or breach of Contract.

AP – 18: Patented Devices, Materials and Processes

The Contractor assumes the responsibility of defending any and all suits or actions brought for the infringement of any patent claimed to be infringed by any material, device, plan, method or process to be incorporated in the work and/or required to be used in connection with the work to be done under the Contract, including all attorney's fees and court costs, and he shall

indemnify and save harmless the City, the officers, employees, and agents (including the Engineer) of the City from all claims of and suits or actions for infringement of patents.

AP – 19: Payment of Bills by Contractor

The Contractor shall promptly make full payment for labor, material supplies and provisions, at such times as they become due and payable, to all persons supplying said Contractor or his Subcontractor with labor, services, materials, supplies or provisions for the prosecution of the work provided for in the Contract, and he shall not permit any lien or claim to be filed or prosecuted against the City for or on account of any labor, services, material, supplies or provisions furnished.

In the event that said Contractor fails, neglects, or refuses to make prompt and full payment of any claim for labor, services, materials, supplies or provisions furnished by any person in connection with the Contract as said claim becomes due, whether said labor, services, materials, supplies or provisions to be performed or furnished for said Contractor or for his Subcontractor, then, and in such event, the City may withhold the amount of such claim by the person or persons furnishing such labor, services, materials, supplies, or provisions and deduct the amount thereof from funds, due or to become due said Contractor by the City as provided herein. The deduction for any such amounts because of claims in the manner herein authorized will not, however, relieve the Contractor or his surety from his or its obligations with respect to any unpaid claims. Sums withheld for the purpose named herein will be paid to the Contractor upon certifications that said claims have been paid. The City may, at its sole election and without liability to the Contractor or any third party, deposit any sums withheld pursuant to this Additional Provision 21 with the Clerk or Court for the Third Judicial District for resolution of the Contractor and his Subcontractor's competing claim to said sums. In no case shall the City make payment on any claim directly to the Subcontractor or supplier

AP – 20: Suits of Law Concerning the Work

Should a suit of law be entered into either by the Contractor or his Surety against the City or by the City against the Contractor or his Surety, the suit of law shall be tried in the judicial district of the state in which the work was or is to be performed.

If one of the questions at issue is the satisfactory performance of the work by the Contractor and should the appropriate court of law judge the work of the contractor to be unsatisfactory, the Contractor or his Surety shall reimburse the City for all legal and all other expenses (as may be allowed and set by the court) incurred by the City because of the suit of law and, further, it is agreed that the City may deduct such expense from any sum or sums then or that may become due the Contractor under the Contract.

If any clause or condition of the Contract is held as a matter of law to be unenforceable or unconscionable, the remainder of the Contract shall be enforceable without such clause.

AP – 21 Scope of Payment

The contract price shall constitute full compensation for furnishing all plant, labor, equipment and materials, and performing all operations required to complete the Work as specified and shown on the specifications or otherwise directed. Notwithstanding the omission or mention of any incident or incidental work, the contract price and payment shall also constitute full compensation for all work incident or incidental to completion of the items. In the event any work is required by the specifications or by the bidding schedule, and is not directly incident or incidental to the completion of any such items, the contract price or prices for all enumerated items shall also constitute full compensation of such work.

AP – 22: Suspension of Payments

No partial or final payment shall be made as long as any order made by the Engineer to the Contractor in accordance with the specifications remains in noncompliance.

AP – 23: Payments

Payments under the Contract shall be paid in cash by the City.



City of Homer WWTP



Furnish Replacement Rotary Screw Blowers - Responsibility Matrix

| Task | City | Blower Manufacturer | Engineer | Comments |
|-------------------------------------|------|---------------------|----------|--|
| Factory Performance Test | | X | | Per ASME PTC-13 Test procedure |
| Fabricate, Package and Ship Blowers | | X | | Per 43 11 33 Section 1.6 |
| Receive Shipment | X | | | |
| Blower Installation | X | | | Installation by utility staff with support of local contractors. |
| Blower Controls | X | | | S&B Inc. to set up VFD control via DO probe output |
| On-Call Installation Assistance | | X | X | |
| Field Performance Test | | X | X | Per 43 11 33 Section 3.4A, in presence of owner |
| Training | | X | | Per 43 11 33 Section 3.4B |

ADDENDA ACKNOWLEDGMENT

Project Name: **Furnish Replacement Rotary Screw Blowers for the Waste Water Treatment Plant**

I hereby acknowledge addenda numbers:

| | |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

Name of Firm: _____

Signature of Bidder: _____

Date: _____

This Acknowledgement must be included in the Bid/Proposal for the project if any Addenda are issued or the Bid/Proposal could be considered non-responsive.

