



REQUEST FOR BID

RFB E17-208

HEADWORKS TEMPORARY BYPASS PIPING

Issued By: Greg Smith
Greg Smith, Contract Administrator

Date: 2/3/17

REQUEST FOR BID

Headworks Temporary Bypass Piping

RFB E17-208

The City and Borough of Juneau (CBJ) intends to engage a qualified, experienced contractor to supply and assemble a temporary bypass piping system at the Mendenhall Wastewater Treatment Plant in Juneau, Alaska.

RFB DOCUMENTS may be obtained online at:

<http://www.juneau.org/engineering ftp/contracts/Contracts.php> or from the Contracts Office, CBJ Engineering Department, 3rd Floor, Marine View Center, telephone (907) 586-0490.

QUESTIONS should be directed to Greg Smith, Contract Administrator, at (907) 586-0873 or greg.smith@juneau.org.

PRE-BID CONFERENCE. Prospective Bidders are encouraged to attend a Pre-Bid conference of the proposed WORK, which will be conducted by the OWNER, at 9:00 a.m. on February 10, 2017, at the Mendenhall Wastewater Treatment Plant, at 2009 Radcliffe Road, Juneau, AK. The object of the conference is to acquaint Bidders with the bid documents and site conditions.

PROJECT COMPLETION

The Work must be complete by May 18, 2017.

SOLICITATION DEADLINE

Sealed Bids

Sealed bids must be received by the Purchasing Division **prior to 2:00 p.m., Alaska Time on February 17 2017**, or such later time as may be announced by addendum at any time prior to the deadline. Bids will be time and date stamped by the Purchasing Division, which will establish the official time of receipt of bids. Bids will be opened immediately thereafter in the Assembly Chambers of the Municipal Building, 155 S. Seward Street, unless otherwise specified.

NOTE: Mailing/delivery times to Alaska take longer than other areas of the U.S.

Qualifications and Bid documents delivered in person or by courier service must be delivered to:

PHYSICAL LOCATION:

City and Borough of Juneau, Purchasing Division
105 Municipal Way, Room 300
Juneau, AK 99801

Qualifications and Bid documents delivered by the U.S. Postal Service must be mailed to:

MAILING ADDRESS:

City and Borough of Juneau, Purchasing Division
155 South Seward Street
Juneau, AK 99801

The CBJ Purchasing Division's phone number is (907) 586-5258 and fax number (907) 586-4561.

QUESTIONS REGARDING THIS RFB: Greg Smith, Contract Administrator, phone (907) 586-0873, fax (907) 586-4530, greg.smith@juneau.org, is the sole point of contact for all issues pertaining to this procurement.

Disadvantaged Business Enterprises are encouraged to respond.

TABLE OF CONTENTS

SECTION I – Project Description and Delivery Process

SECTION II – Instructions to Bidders

APPENDIX A – Scope of Work and System Performance Requirements

APPENDIX B – Bid Submittal

APPENDIX C – Project & Site Safety

APPENDIX D – Standard Contract

APPENDIX E – Post-Bid Forms

APPENDIX F – Hayward Gordon Pump Submittal

DRAWINGS

Page 1 of 3 Site Plan Piping Layout

Page 2 of 3 SBR Rooms Interior Piping Layout

Page 3 of 3 Manhole Pump Installation Details

***** SECTION I *****

GENERAL PROJECT DESCRIPTION AND DELIVERY PROCESS

Headworks Temporary Bypass Piping, Description

The Project shall consist of supplying and assembly a temporary bypass piping system (System) at the Mendenhall Wastewater Treatment Plant. A complete scope of work as well as an approximate materials list is included as Appendix A to this RFB.

Delivery Process, General

Bid Preparation

Qualified contractors prepare a bid according to the Bid Submittal attached as Appendix B and submit as a sealed bid to the City & Borough of Juneau Purchasing Division. Contract shall be awarded to the lowest responsive, responsible Bidder.

***** SECTION II *****

INSTRUCTIONS TO BIDDERS

1.0 INTERPRETATIONS AND ADDENDA.

- A. **INTERPRETATIONS.** All questions about the meaning or intent of the Bid Documents are to be directed to the Engineering Contracts Administrator. Interpretations or clarifications considered necessary by the Engineering Contracts Administrator in response to such questions will be issued by Addendum, mailed, faxed, or delivered to all parties recorded by the Engineering Contracts Administrator. Questions received less than seven Days prior to the Deadline for Bids may not be answered. Only questions answered by formal written Addendum will be binding. Oral and other interpretations or clarifications will be without legal effect.
- B. **ADDENDA.** Addenda may be issued to modify the Bid Documents as deemed advisable by CBJ. Addenda may be faxed or, if addendum format warrants, addenda may be posted to the CBJ Engineering Department website. In any event, notification of addendum issuance will be faxed to planholders. Hard copies are available upon request. CBJ will make all reasonable attempts to ensure that all planholders receive notification of Addenda, however, it is strongly recommended by CBJ that bidders independently confirm the contents, number, and dates of each Addendum prior to submitting a Bid.

3.0 FAIR COMPETITION. More than one Bid from an individual, firm, partnership, corporation, or association under the same or different names will not be considered. If CBJ believes that any Bidder is interested in more than one Bid for the WORK contemplated, all Bids in which such Bidder is interested will be rejected. If CBJ believes that collusion exists among the Bidders, all Bids will be rejected.

4.0 RESPONSIBLE BIDDER. Only responsive Bids from responsible Bidders will be considered. A Bid submitted by a Bidder determined to be not responsible may be rejected. A responsible Bidder is one who is considered to be capable of performing the WORK.

1. financial resources
2. ability to meet delivery standards
3. past performance record
 - a. References from others on contractor's performance
 - b. Record of performance on prior CBJ contracts
4. record of integrity
5. obligations to CBJ
 - a. Bidders must be in good standing for all amounts owed to CBJ at the time of Bid submission

- b. CBJ Finance Department, Treasury Division administers the registration and assessment of sales, business personal property and business real property taxes.
- A. Special standards for responsibility, if applicable, will be specified. These special standards establish minimum standards or experience required for a responsible Bidder on a specific contract.
- B. Before a Bid is considered for award, a Bidder may be requested to submit information documenting its ability and competency to perform the WORK, according to general standards of responsibility and any special standards which may apply. It is Bidder's responsibility to submit sufficient, relevant, and adequate information. OWNER will make its determination of responsibility and has no obligation to request clarification or supplementary information.

5.0 NON-RESPONSIVE BIDS. Only responsive Bids will be considered. Bids may be considered non-responsive and may be rejected. Some of the reasons a Bid may be rejected for being non-responsive are:

- A. If a Bid is received by the CBJ Purchasing Division after the Deadline for Bids.
- B. If the Bid is on a form other than that furnished by CBJ, or legible copies thereof; or if the form is altered or any part thereof is detached; or if the Bid is improperly signed.
- C. If there are unauthorized additions, conditional or alternate Bids, or irregularities of any kind which may tend to make the bid incomplete, indefinite, ambiguous as to its meaning, or in conflict with CBJ's Bid document.
- D. If the Bidder adds any unauthorized conditions, limitations, or provisions reserving the right to accept or reject any award, or to enter into a contract pursuant to an award. This does not exclude a Bid limiting the maximum gross amount of awards acceptable to any one Bidder at any one Bid opening, provided that any selection of awards will be made by CBJ.
- E. If the Bidder has not acknowledged receipt of each Addendum.
- F. If a Bid modification does not conform to Article 9.0 of this Section.

6.0 BIDDER'S EXAMINATION OF BID DOCUMENTS. It is the responsibility of each Bidder before submitting a Bid:

- A. To examine thoroughly the Bid Documents, and other related data identified in the Bidding documents (including "technical data" referred to below):
 - 1. To consider federal, state and local laws and regulations that may affect cost, progress, or performance of the WORK,
 - 2. To study and carefully correlate the Bidder's observations with the Bid Documents, and other related data; and

3. To notify the Engineering Contract Administrator of all conflicts, errors, or discrepancies in or between the Bid Documents and such other related data.

7.0 BID FORM.

- A. The Bid shall be made on the Bid Submittal Attached as Appendix B.
- B. All blanks on the Bid Form and Bid Schedule must be completed in ink or typed.
- C. The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid form. Failure to acknowledge Addenda may render Bid non-responsive and may cause its rejection.
- D. The address to which communications regarding the Bid are to be directed must be shown.
- E. Bidder's Preferences: "Juneau Bidder" and "Bidders with Disabilities" preferences will be treated In accordance with provisions outlined in the City Purchasing Code 53.50.010 and 53.50.050. Unless otherwise specified in this RFB, a Juneau bidder will receive a 5% bidder preference if its bid is not more than five percent higher than the lowest responsive nonresident bidder. Bidders with disabilities will receive a 10% bidder preference if its bid is not more than ten percent higher than the lowest responsive non-disabled bidder. The Purchasing Code is available from the City Purchasing Division or online at http://www.juneau.org/law/code/documents/53.50_Purchasing.pdf. All appropriate certificates must accompany this RFB.

8.0 DISCREPANCIES IN BIDS. In the event there is more than one Pay Item in a Bid Schedule, the Bidder shall furnish a price for all Pay Items in the schedule, and failure to do so may render the Bid non-responsive and cause its rejection. In the event there is more than one Pay Item in a Bid Schedule and the total indicated for the schedule does not agree with the sum of the prices Bid on the individual items, the prices Bid on the individual items shall govern and the total for the schedule will be corrected accordingly, and the Bidder shall be bound by said correction.

9.0 BID MODIFICATIONS AND UNAUTHORIZED ALTERNATIVE BIDS.

- A. Any bidder may deliver a modification to a bid in person, by mail or fax (907-586-4561), provided that such modification is received by the Purchasing Division no later than the deadline for bids. Modifications will be time and date stamped by the Purchasing Division, which will establish the official time of receipt of the modification. The modification must not reveal the bid price but should be in the form of an addition or subtraction or other modification so that the final prices will not be known until the sealed bid is opened.

The Bid modifications shall be provided on the **Bid Modification Form** located at the end of this Section. Submittal of any other form by the vendor may deem the modification unacceptable by CBJ. **A mail or fax modification should not reveal the Bid price but should provide the addition or subtraction or other modification so that the final prices will not be known by the City and**

Borough until the sealed Bid is opened. Submitted Modification forms shall include the modification to the lump sum amount of each pay item modified.

FAX DISCLAIMER: It is the responsibility of the bidder to submit modifications in a timely manner. Bidders' use of a fax machine to modify their bid shall be at bidders' sole risk. The Purchasing Division will attempt to keep the fax machine in good working order but will not be responsible for bid modifications that are late due to mechanical failure, a busy fax machine, or any other cause arising from bidder's use of a fax machine, even if bidder submits a transmission report or provides other confirmation indicating that the bidder transmitted a bid modification prior to the deadline. The City will not be responsible for its failure to receive the modification whether such failure is caused by equipment or human error, or otherwise. Bidders are therefore strongly encouraged to confirm receipt of their bid modification with the Purchasing Division (907-586-5258) prior to deadline.

- B. Conditioned bids, limitations, or provisos attached to the Bid or bid modification will render it unauthorized and cause its rejection as being non-responsive. The completed Bid forms shall be without interlineations, alterations, or erasures in the printed text. All changes shall be initialed by the person signing the Bid. Alternative Bids will not be considered unless called for.

10.0 WITHDRAWAL OF BID. Prior to the Deadline for Bids, the Bid may be withdrawn by the Bidder by means of a written request, signed by the Bidder or its properly authorized representative. Such written request must be delivered to the place stipulated in the Notice Inviting Bids for receipt of Bids.

11.0 AWARD OF CONTRACT. Award of a contract, if it is awarded, will be made to the lowest responsive, responsible Bidder whose Bid complies with all the requirements prescribed.

12.0 EXECUTION OF CONTRACT. Failure or refusal to enter into the contract as herein provided or to conform to any of the stipulated requirements in connection therewith shall be just cause for annulment of the award. If the lowest responsive, responsible Bidder refuses or fails to execute the contract, CBJ may award the contract to the second lowest responsive, responsible Bidder. If the second lowest responsive, responsible Bidder refuses or fails to execute the contract, CBJ may award the contract to the third lowest responsive, responsible Bidder.

13.0 FILING A PROTEST.

- A. A Bidder may protest the proposed award of a competitive sealed Bid by the City and Borough of Juneau. The protest shall be executed in accordance with CBJ Ordinance 53.50.062 PROTESTS and CBJ Ordinance 53.50.080 ADMINISTRATION OF PROTEST. The entire text of the CBJ Purchasing Ordinance can be accessed at the CBJ website, <http://www.juneau.org/law/code/Purchasing.pdf>, or call the CBJ Purchasing Division at (907) 586-5258 for a copy of the ordinance.
- B. Late protests shall not be considered by the CBJ Purchasing Officer.

14.0 PERFORMANCE, PAYMENT, AND OTHER BONDS. The Contractor shall furnish Performance and Payment Bonds in the amount of 100% of the Bid.

- 15.0 JUNEAU BUSINESS SALES AND PERSONAL PROPERTY TAX:** Vendors/merchants conducting business within the City are required by law to register with, and periodically report to, the City for sales and property taxes. CONTRACTORS and Subcontractors must be in good standing with the City prior to award, and prior to any contract renewals, and in any event no later than **ten Days (calendar)** following notification by the City of intent to award. **Good standing** means: all amounts owed to the City are paid in full, including Confession of Judgments; and vendor/merchant is current in reporting (sales tax filings, business personal property declarations). Failure to meet these requirements, if so subject, may be cause for rejection of your bid. To determine if your business is in good standing, or for further information, contact the City Finance Department's Sales Tax Division, at (907) 586-5265, concerning sales tax and/or Treasury Division, at (907) 586-5268, concerning business personal property and real property tax.
- 16.0 PERMITS AND LICENSES.** The CONTRACTOR is responsible for all WORK associated with meeting any local, state, and/or federal permit and licensing requirements.

CITY AND BOROUGH OF JUNEAU
PURCHASING DIVISION
FAX NO. 907-586-4561

BID MODIFICATION FORM

Modification Number: _____

Note: All modifications shall be made to the original bid amount(s). If more than one Modification form is submitted by any one bidder, changes from all Modification forms submitted will be combined and applied to the original bid. Changes to the modified Bid amounts will be calculated by CBJ.

BID ITEM NO.	BID ITEM DESCRIPTION	MODIFICATIONS TO LUMP SUM (<i>indicate +/-</i>)

Total Increase or Decrease: \$ _____

Name of Bidding Firm

Responsible Party Signature

Printed Name (must be an authorized signatory for Bidding Firm)

APPENDIX A – SCOPE OF WORK

Headworks Temporary Bypass Piping RFB E17-208

Scope of Work:

The work for this project will include supplying and assembling a temporary bypass piping system at the Mendenhall Wastewater Treatment Plant. The temporary piping will run from two manholes (SSMH-5 and SSMH-6) outside and adjacent to the SBR Building to the SBR tanks on the second floor (~17' above outside ground) of the SBR Building. The work includes providing all piping, fittings, valves and other associated materials to complete the project. The work also includes installing two (2) owner supplied submersible pump assemblies into the two manholes identified on the plans. The electrical and control work to make the pumps operational will be completed by others.

The piping work shall be accomplished by butt fusion of the HDPE into pipe segments no greater than 30' for outside the building or 10' segments for inside the building. All pipe segments and fittings shall be connected with flange (FL) fittings to facilitate future removal and redeployment. The pipe will be run above the ground and up the outside of the SBR Building to each set of SBR Basins and fastened to the outside of the SBR building. The work will include neatly demolishing a properly sized penetration for piping to each set of SBR basins and fastening the standpipes to the exterior of the building.

Butt fusion of the pipe and fittings shall be performed in accordance with the manufacturer's recommendations as to equipment and technique. The fusion operation shall be performed by an individual who has demonstrated the ability to fuse polyethylene pipe in a manner recommended by the pipe supplier. The individual performing the fusing procedure must hold a current certification for fusing HDPE as stated in Title 49.1 DOT Certification.

The pump installation will require the contractor to supply a steel plate to fit into each manhole fabricated to fit as shown and mount the pump discharge assembly onto the steel plate. The plate shall be installed level, through the use leveling nuts on the Hilti expansion anchors installed into the benches in each of the manholes. The pump discharge fitting shall be bolted directly to the steel plate without the use of shims or leveling nuts. The Contractor shall verify the required length of expansion anchors to facilitate installing each plate level and as close to top of bench elevation as possible.

The pump and discharge assembly installation shall be completed per the details provided in the plans and following the instructions from the *Hayward Gordon ULD Pump Submittal* attached to this document. The electrical connections and control work for the pumps will be completed by others upon completion of the work under this contract.

The Work in SSMH-6 will require coordination with CBJ Wastewater Staff to turn off the Maier Drive Pump Station which discharges into this manhole. The Maier Drive Pump Station can be turned off during normal work hours each day. Contractor shall coordinate with Wastewater Staff to complete this work during normal working hours (M-F 8:00-4:30 pm)

The Contractor shall coordinate site access and security with CBJ Wastewater Staff. The allowable working hours for this project are Monday – Saturday, 7:00 AM to 5:00 PM.

The Completion date for the work will be May 18, 2017. Liquidated damages of \$500 per day will be assessed per day after the completion date.

The contractor shall provide all materials required to complete the work unless specifically identified in this contract. The contractor shall complete their own material take off to ensure the correct materials are provided for the project. An approximate materials list is provided on the next page for reference. The only materials being supplied by the Owner are the following:

- Pump and Discharge elbow
- Intermediate guide rail support assembly
- Upper guide rail brackets

MWWTP BYPASS APPROXIMATE MATERIALS LIST

<u>APPROX QUAN</u>	<u>PIPE</u>
400 FEET	16" IPS DR17 HDPE PIPE
100 FEET	12" IPS DR17 HDPE PIPE
	<u>REDUCERS</u>
3 EA	16" X 12" REDUCER - FLANGED - DI OR DR17 HDPE 100PSI MIN
2 EA	12" X 8" ECCENTRIC REDUCER FOR PUMP DISCHARGE- FLANGED - DI
	<u>WYES / TEES - DI OR DR17 HDPE MIN RATING 100 PSI UNLESS SPECIFIED OTHERWISE</u>
1 EA	16" X 12" X 16" WYE - FLANGED
1 EA	16" X 10" X 16" TEE - FLANGED WITH 8" MALE CAMLOCK ON 10" BRANCH
1 EA	16" X 16" X 16" TEE - FLANGED
2 EA	12" X 12" X 12" TEE - DI - FLANGED
2 EA	16" X 12" CROSS - DI - FLANGED
	<u>HDPE FLANGE ADAPTERS, BACKER RINGS, GASKETS AND HARDWARE (FOR STRAIGHT PIPE RUNS ONLY)</u>
43 EA	16"
10 EA	12"
	<u>FLANGED END ELBOWS - DI OR DR17 HDPE, MIN RATING 100PSI</u>
1 EA	12" x 30 ELBOW
2 EA	12" X 90 ELBOW
8 EA	12" X 45 ELBOW
2 EA	16" X 45 ELBOW
5 EA	16" X 90 ELBOW
	<u>VALVES - FLANGED ENDS</u>
8 EA	12" MILLIKEN PLUG VALVE 601N1, 125#, FLANGED ENDS, DI PLUB,ENCAPSULATED, GEAR OPERATED W/ HANDWHEEL OR EQUAL
2 EA	12" MILLIKEN 8001 SWING CHECK VALVE, 125# FLANGED ENDS, CI BODY, DI DISC W BUNA O-RING, LEVER AND SPRING OR EQUAL
	<u>MISC MATERIALS</u>
1 EA	6" x 6" x 3/4" structural steel angle
2 EA	3'x5'x1" T-1 Steel plate
14 EA	Hilti Kwik Bolts 3 - 316 SS - Contractor to determine length
80 FEET	2" Sch 40 Galvanized Pipe rails (4@~17')
6 EA	Pipe clamp Brackets and wall connections for 16" HDPE standpipes going up walls to SBR Room - 3 per standpipe
2 EA	12" pipe clamps (7/8" dia u-bolts or approved equal) for holding pump discharge piping to 6x6 angle.
2 EA	Misc blocking for check valve and piping support leaving each manhole
AS REQ'D	Misc Nuts and Bolts

THE CONTRACTOR SHALL COMPLETE THEIR OWN MATERIAL TAKE OFF AND BE RESPONSIBLE FOR THE MATERIALS ORDER. THIS MATERIAL LIST IS PROVIDED AS AN AID TO SHOW THE INTENT OF THE WORK AND MAY NOT BE INCLUSIVE OF ALL MATERIALS NEEDED TO COMPLETE THE WORK

APPENDIX B – BID SUBMITTAL
RFB E17-208
HEADWORKS TEMPORARY BYPASS PIPING

Dated: _____ Bidder: _____
(Company Name)

By: _____
(Signature)

Printed Name: _____

Title: _____

Telephone No.: _____ Address: _____
(Street or P.O. Box)

Fax No.: _____
(City/State and Zip Code)

The Contractor shall provide all labor, equipment, materials and perform all Work as described in the Scope of Work.

COMPLETION TIME FOR THE WORK. The Contractor shall have until May 18, 2017, to complete all Work as described.

TO BE CONSIDERED, ALL BIDDERS MUST COMPLETE AND INCLUDE THE FOLLOWING AT THE DATE AND TIME BIDS ARE DUE:

- **Signed Bid and Signature Page**
- **Completed Bid Schedule**
- **Completed Bid Bond**

The apparent low Bidder is required to complete and submit the following documents by 4:30 p.m. on the **fifth business day** following the date of the Posting Notice.

- Subcontractor Report

The apparent low Bidder who fails to submit a completed Subcontractor Report within the time specified may be found to be not a responsible Bidder and may be required to forfeit the Bid security. The OWNER may then consider the next lowest Bidder for award of the contract.

The successful Bidder will be required to submit, **within ten days (calendar)** after the date of the "Notice of Intent to Award" letter, the following executed documents:

- Contract
- Performance Bond
- Payment Bond
- Certificates of Insurance, (CONTRACTOR)

Addenda No.	Date Issued	Addenda No.	Date Issued

APPENDIX B – BID SUBMITTAL
RFB E17-208
HEADWORKS TEMPORARY BYPASS PIPING

KNOW ALL PERSONS BY THESE PRESENTS, that _____ as
Principal, and _____ as Surety, are held and
firmly bound unto **THE CITY AND BOROUGH OF JUNEAU** hereinafter called "OWNER," in the
sum of _____ dollars,
(not less than five percent of the total amount of the Bid) for the payment of which sum, well and
truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns,
jointly and severally, firmly by these presents.

WHEREAS, said Principal has submitted a Bid to said OWNER to perform the WORK
required under the Bid Schedule of the OWNER's Contract Documents entitled

HEADWORKS TEMPORARY BYPASS PIPING

CBJ Contract No. RFB E 17-208

NOW THEREFORE, if said Principal is awarded a contract by said OWNER and, within the
time and in the manner required in the "Notice Inviting Bids" and the "Instructions to Bidders" enters
into a written Agreement on the form of Agreement bound with said Contract Documents, furnishes
the required certificates of insurance, and furnishes the required Performance Bond and Payment
Bond, then this obligation shall be null and void, otherwise it shall remain in full force and effect. In
the event suit is brought upon this bond by said OWNER and OWNER prevails, said Surety shall
pay all costs incurred by said OWNER in such suit, including a reasonable attorney's fee to be fixed
by the court.

SIGNED AND SEALED, this _____ day of _____, 20_____.

(SEAL) _____
(Principal)

By: _____
(Signature)

(SEAL) _____
(Surety)

By: _____
(Signature)

APPENDIX C – PROJECT & SITE SAFETY

PART 1 – GENERAL

1.1 SAFETY PROGRAM

A. General:

1. The safety of bidders, the CONTRACTOR, their work forces in total, the Agency's personnel, and the public, is a major concern of the Project Manager. To ensure Project safety the CONTRACTOR shall carefully adhere to the following requirements.
2. CONTRACTOR shall employ a safety program to insure that CONTRACTOR's personnel and all personnel of the Subcontractors, Suppliers, Installers and material workers are trained in safety requirements. In addition to the safety requirements enforced by code or jurisdictional entities, the CONTRACTOR's safety program shall also address, fire safety and deployment plans for the Project site, response to accidental release of hazardous materials, breach of infection containment barriers, and general emergency response.
3. CONTRACTOR's safety program will be provided to the Project Manager, in writing, prior to commencement of WORK. Plans shall be periodically revised in response to issues that may arise during the course of construction. Such revisions shall be provided promptly to the Project Manager.

B. The CONTRACTOR shall:

1. Abide by all applicable safety practices and requirements, irrespective of their origins.
2. Attend safety related meetings as required by the Project Manager.
3. CONTRACTOR shall employ a safety program to insure that CONTRACTOR's personnel and all personnel of the Subcontractors, Suppliers, Installers and material workers are trained and kept abreast of safety requirements. Maintain program throughout construction period until Final Completion.

1.2 SAFETY STANDARDS

- A. Applicable safety related standards promulgated by safety or code enforcement agencies, such as but not limited to: AK-DEC, OSHA, Building Officials and Fire Marshal's Office representatives.
- B. Safety requirements required by the Contract Documents.

1.3 SAFETY PROCEDURES

- A. As determined by the Project Manager, and where conditions necessitate the construction of temporary exit routes, the CONTRACTOR shall construct such routes to the standards of the Contract Documents, or the enforcement agency. Such routes shall be Approved by the Project Manager prior to putting them into use.

APPENDIX C – PROJECT & SITE SAFETY

1.4 RESTRICTIONS WITHIN ACTIVE CONSTRUCTION AREAS

- A. The CONTRACTOR shall restrict entry of persons and vehicles into the active construction areas as appropriate. Allow entry only to authorized persons with proper identification.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)



**APPENDIX D - STANDARD CONTRACT
SERVICES CONTRACT
HEADWORKS TEMPORARY BYPASS PIPING
Contract No. RFB E17-208**

This Agreement is entered into by and between the City and Borough of Juneau, Alaska ("City"), and _____, whose address is _____, phone _____, cell _____, and fax _____, ("Contractor").

Witnesseth:

Whereas, the City desires to engage the Contractor for the purpose of rendering certain professional services, and

Whereas, the Contractor represents that it is in all respects licensed and qualified to perform such services;

Now, Therefore, the parties agree as follows:

1. CONTRACTUAL RELATIONSHIP. The parties intend that an independent Contractor/City relationship will be created by this Contract. City is interested only in the results to be achieved, and the conduct and control of the work will lie solely with the Contractor. Contractor is not considered to be an agent or employee of City for any purpose, and the employees of Contractor are not entitled to any benefits that City provides for City's employees. It is understood that the City does not agree to use the Contractor exclusively. It is further understood that the Contractor is free to contract for similar services to be performed for others while it is under contract with the City.

2. SCOPE OF SERVICE. The Contractor shall carry out in a professional and prudent manner all of the services required by the Contract. These services include all of the services described in Appendix A. Contractor will diligently proceed with the Scope of Services, and will provide such services in a timely manner.

3. PERSONNEL, EQUIPMENT, SUPPLIES, AND LICENSES.

- (A) Except as noted in Appendix A, the Contractor represents that it has or will secure at its own expense all personnel, equipment, and supplies required in performing the services under this Contract.
- (B) All of the services required hereunder will be performed by the Contractor or under its supervision.
- (C) None of the work or services covered by this Contract shall be subcontracted without prior written approval of the Contract Administrator.
- (D) Contractor warrants that it is fully licensed under all applicable local, state, and federal laws to perform the services to be provided hereunder.

4. TIME OF PERFORMANCE. The services performed under this term contract shall commence after execution of any Project Agreement and issuance of Notice to Proceed. Amendments to this Contract or any Project Agreement may be made upon mutual, written agreement prior to the stated expiration date.

5. REPORTING. Except as authorized within Appendix A, the City's primary representative for this Contract shall be John Bohan, P.E. The City Manager shall be an alternate representative. The City shall not be liable for Contractor's expenses incurred in reliance on directions received from any other municipal officer or employee. The Contractor's representative shall be _____.

6. COMPENSATION. The City agrees to pay the Contractor according to the schedule attached as Appendix B. The Contractor's estimated fee schedule is attached to Appendix B.

7. TERMINATION OF CONTRACT FOR CAUSE. If, through any cause, except causes beyond the control of the Contractor, the Contractor shall fail to fulfill in a timely and proper manner its obligations under this Contract; or if the Contractor shall violate any of the covenants, agreements, or stipulations of this Contract, the City shall have the right to terminate this Contract by giving written notice to the Contractor of such termination and specifying the effective date thereof, at least ten days before the effective date of such termination. In that event, all finished or unfinished documents, or other data, in whatever form, prepared by the Contractor under this Contract shall, at the option of the City, become its property, and the Contractor shall be entitled to receive just and equitable compensation for any satisfactory work completed on such documents and materials, not to exceed the Contract amount.

8. TERMINATION FOR CONVENIENCE OF CITY. The City may terminate this Contract at any time by giving written notice to the Contractor of such termination and specifying the effective date thereof, at least thirty days before the effective day of such termination. In that event, all finished or unfinished documents and other materials as described in paragraph 7 above shall, at the option of the City become its property, and the Contractor will be paid an amount not to exceed the sum set forth in Appendix B for work satisfactorily completed on or before the date of termination, less payments of compensation previously made.

9. CONTRACT AGREEMENT. All parties mutually agreed to the terms of this Contract. The Contract should not be construed in favor of or against any party. This Contract contains the entire agreement between the parties; there are no other promises, terms, conditions, or obligations other than those contained herein; and this Contract shall supersede all previous communications, representations or agreements, either oral or written, between the parties.

10. CHANGES. The City may, from time to time, require changes in the scope of services to be performed under this Contract. Such changes, including any increase or decrease in the amount of the Contractor's compensation, must be mutually agreed upon in writing before they will be regarded as part of this Contract.

11. EQUAL EMPLOYMENT OPPORTUNITY. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin.

12. CONFLICTS OF INTEREST. Contractor agrees that no employee of the City who has exercised or will exercise any authority over the specifications, procurement, supervision or payment for this Contract, and no member of the employee's immediate family, has had or will have any direct or indirect financial interest in this Contract. If the Contractor learns of any such interest, the Contractor shall without delay inform the City Attorney or one of the officers specified in Paragraph 5.

13. ETHICS. Contractor shall discharge its duties fairly, impartially and maintain a standard of conduct that competently serves the City and the interests of the City. Contractor shall at all times exercise unbiased judgment when performing its duties under this contract.

14. PUBLIC RELATIONS. Contractor shall issue press releases, respond to press inquiries, make public speeches, appear on broadcast media or otherwise engage in public relations regarding the project only with the specific approval of the CBJ Project Manager.

15. ELECTED OFFICIALS. The Contractor shall respond to project-related inquiries from elected officials by providing impartial, factual information, but shall not initiate contact or attempt to persuade an elected official to agree with any viewpoint or to take any official action. The Contractor will promptly notify the Project manager of any request by an elected official for project-related information.

16. ASSIGNABILITY. The Contractor shall not assign any interest in this Contract and shall not transfer any interest in the same without the prior written consent of the City; however, claims for money due or to become due to the Contractor from the City under this Contract may be assigned to a bank, trust company, or other financial institution without approval. Notice of any such assignment or transfer shall be furnished promptly to the City.

17. RECORDS. During performance and after termination of this Contract, each party shall make available to the other party for inspection and copying, all records, whether external or internal, having any relevance to this Contract.

18. INSURANCE REQUIREMENTS. The Contractor has secured and shall maintain insurance for the risks and in the amounts specified in Appendix C. The Contractor and its insurance carrier waive subrogation against the City.

19. INDEMNIFICATION. Contractor agrees to defend, indemnify, and hold harmless City, its employees, volunteers, Contractors, and insurers, with respect to any action, claim or lawsuit arising out of this contract, without limitation as to the amount of fees, and without limitation as to any damages resulting from settlement, judgment, or verdict, and includes the award of any attorneys fees even if in excess of Alaska Civil Rule 82, but only to the extent such action, claim, or lawsuit is caused or alleged to have been caused by Contractor's negligence. "Contractor" includes the Contractor's employees, its agents, and its subcontractors. The Contractor shall not be required to indemnify City for a claim of, or liability for, the independent negligence of City. "Independent negligence" is negligence other than in the City's selection, administration, monitoring, or controlling of the Contractor and in approving or accepting the Contractor's work. If there is a claim of, or liability for, the joint negligent error or omission of the City and Contractor, the indemnification and hold harmless obligation shall be apportioned on a comparative fault basis. City shall notify Contractor in a timely manner of the need for indemnification, but such notice is not a condition precedent to Contractor's obligations and may be waived where the Contractor has actual notice.

20. CHOICE OF LAW; JURISDICTION. This Contract shall be governed by the laws of the State of Alaska. Jurisdiction shall be in the State of Alaska, First Judicial District.

21. SUCCESSORS. This Contract shall be binding upon the successors and assigns of the parties.

22. PRECEDENCE OF DOCUMENTS. In the event of a conflict between the provisions of this document and its appendices, the order of precedence shall be this document, Appendix A, Appendix B and Appendix C.

23. TERMS AND CONDITIONS.

Defective Work: The Contractor, at its own expense, must remedy and correct any defect in its work or in articles, materials or services which it provides in connection with the work when said defects are brought to its attention within one year of completion of the work. The CBJ has the right to withhold 10% percent of the payment until the project is completed and accepted by the Project Manager. The Contractor must, without additional expense to the City, be responsible and make whole all injury, loss or damages to persons or property which may result from the use of any equipment, materials or workmanship which is inferior, defective or not in conformance with the terms or conditions, as specified in this bid.

If the Contractor fails to correct any defective work within a reasonable time frame set by the City, the City may, at its sole option, terminate the contract and/or obtain the necessary contract services from another source. The City may hold the original Contractor responsible for any excess costs the City has incurred in order to correct the deficiencies.

Permits, Laws and Taxes: The Contractor must obtain all required permits (including building permits, if needed), licenses and bonds to comply with applicable municipal, state and federal laws.

Compliance: The Contractor must comply with all applicable federal and state labor, wage, hour and safety laws. To determine compliance, the City reserves the right to inspect and audit the Contractor's records and to inspect the Contractor's premises and job sites.

Contract Amendments: Any requested changes or alterations to the contract must be approved in writing by the Project Manager and City Manager. Any changes or work performed without such approval, will not be binding.

Impossibility to Perform: The Contractor will not be liable for default or breach of contract resulting from impossibility to perform when caused by "Acts of God" or as otherwise provided by the law.

Performance of Contract: If the Contractor is not performing according to the conditions stated in the contract, City staff will list the nonconformance issues and notify the Engineering Contract Administrator in writing and copy the Contractor. If, for some reason, these complaints are not resolved and/or the same type of complaint is being demonstrated over and over and the "good faith effort" in correcting differences appears to be ignored, the Engineering Contract Administrator will consider the contract "in breach" and terminate immediately. In the event the City finds it mandatory to obtain services of another Contractor, the original Contractor may be held ultimately responsible. For any additional costs which may be incurred by the City.

Alaska Statute 36 (Little Davis-Bacon) Requirements

The following applies to the System installation portion of the contract.

Title 36 AS (Little Davis-Bacon) requires that prevailing rates of pay be paid for work performed on any public works project which exceeds \$2,000.00 (contained in pamphlet number 600 and 400, copies available from the Alaska Department of Labor (ADOL), P.O. Box 020630, Juneau, Alaska 99802, or call 465-4842 or 465-4839).

AS 36.05.035 requires that the contracting agencies notify ADOL of the award of public contracts, as well as the name of the Contractors and subcontractors.

AS 36.05.040 requires the weekly filing of certified payrolls directly with the Wage and Hour Administration. It also requires any other information which ADOL may request. One specific requirement is that all Contractors and subcontractors notify ADOL as to the identity of all subcontractors they may have.

Contractors and contracting agencies are required to keep the ADOL notified of all subcontractors. This requirement is two-fold; one is to ensure proper Contractor licensing of all subcontractors and two, to enable the ADOL to notify subcontractors of their legal obligations under Title 36. If a subcontractor fails to respond to its legal requirements, ADOL may hold the Contractor responsible.

- The contracting agency and the Contractors must notify the ADOL of all Contractors and subcontractors on the project on a continuing basis.
- Certified payrolls must be sent weekly to the address below by each Contractor and subcontractor on the project.
- Failure to comply may result in the ADOL withholding progress payments to obtain compliance and/or debarment of the Contractor or subcontractor found to be in non-compliance.

Correspondence regarding Title 36 requirements may be submitted electronically or paper copies can be submitted by mail. To submit Title 36 documents electronically, go to <https://myalaska.state.ak.us/home/app>. If filing electronically, submit certified payrolls to ADOL at the website above and email a copy of all certified payrolls to Jennifer Mannix at the email address listed below. If Contractor elects to submit paper copies, they should be submitted to the addresses below.

Wage and Hour Section and
State of Alaska
Department of Labor and Workforce Development
Labor Standards and Safety Division
Wage and Hour Administration
P.O. Box 11149
Juneau, AK 99811-1149
907-465-4842

Greg Smith
Contract Administrator
City and Borough of Juneau
155 S. Seward Street
Juneau, AK 99801
(907) 586-0873
greg.smith@juneau.org

If you need additional information, contact the Alaska Department of Labor at 465-5011.

Contract Closeout: Prior to final payment, the Contractor shall provide the following documents to the Contract Administrator:

- Alaska Department of Labor (DOL) documents (Notice of Completion of Public Works and Employment Security Clearance for prime and any subcontractors).
- Compliance Certificate and Release form signed by the CONTRACTOR and all subcontractors shall be submitted to the Engineering Contract Administrator (blank attached to this Section.)

In Witness Whereof the parties have affixed their signatures the date first above set out:

CITY AND BOROUGH OF JUNEAU

Duncan Rorie Watt Date
City Manager

Contractor company name

Name Date
rank
email

Approved as to form:

Greg Smith Date
Contract Administrator
greg.smith@juneau.org

519760501-5690

APPENDIX A: SCOPE OF WORK
Headworks Temporary Bypass Piping
Contract No. RFB E17-208

Scope of Work is described in Appendix A – Scope of Work of RFB E17-208.

STANDARD CONTRACT

APPENDIX B: INSURANCE REQUIREMENTS
Headworks Temporary Bypass Piping
Contract No. RFB E17-208

The Consultant must provide certification of proper insurance coverage and amendatory endorsements or copies of the applicable policy language affecting coverage required in this agreement to the City and Borough of Juneau. Failure of the City to demand such certificate or other evidence of full compliance with these insurance requirements or failure of the City to identify a deficiency from evidence that is provided shall not be construed as a waiver of the obligation of the Consultant to maintain the insurance required by this contract.

Contractor agrees to maintain insurance as follows at all times while the contract is in effect, including during any periods of renewal.

Commercial General Liability Insurance. The Consultant must maintain Commercial General Liability Insurance in an amount it deems reasonably sufficient to cover any suit that may be brought against the Consultant. This amount must be at least one million dollars (\$1,000,000.00) per occurrence, and two million dollars (\$2,000,000.00) aggregate.

This insurance policy is to contain, or be endorsed to contain, additional insured status for the CBJ, its officers, officials, employees, and volunteers, for any and all work performed for the City & Borough of Juneau. If Additional insured status is provided in the form of an endorsement to the Contractor's insurance, the endorsement shall be at least as broad as ISO Form CG 20 10 11 85 or **both** CG 20 10, CG 20 26, CG 20 33, or CG 20 38; **and** CG 20 37 forms (if later revisions used).

Professional Liability Insurance. The Consultant must maintain Professional Liability Insurance in an amount not less than one million dollars (\$1,000,000.00) aggregate to protect the Consultant from any claims or damages for any error, omission, or negligent act of the Consultant, the Consultant's firm and employees. This requirement applies to the Consultant's firm, the Consultant's subcontractors and assignees, and anyone directly or indirectly employed to perform work under this contract.

Workers Compensation Insurance. The Consultant must maintain Workers Compensation Insurance to protect the Consultant from any claims or damages for any personal injury or death which may arise from services performed under this contract. This requirement applies to the Consultant's firm, the Consultant's subcontractors and assignees, and anyone directly or indirectly employed to perform work under this contract. The Consultant must notify the City as well as the State Division of Workers Compensation immediately when changes in the Consultant's business operation affect the Consultant's insurance status. Statutory limits apply to Workers Compensation Insurance. The policy must include employer's liability coverage of one hundred thousand dollars (\$100,000.00) per injury, and five hundred thousand dollars (\$500,000.00) policy limits. **If the Consultant is exempt from Alaska Statutory Requirements, the Consultant will provide written confirmation of this status in order for the City to waive this requirement. The policy shall be endorsed to waive subrogation rights against the City.**

Commercial Automobile Liability: The coverage shall include all owned, hired, and non-owned vehicles.

Combined Single Limit, Bodily Injury and Property Damage \$1,000,000.00

This insurance policy is to contain, or be endorsed to contain, additional insured status for the CBJ, its officers, officials, employees, and volunteers The CONTRACTOR shall require each Subcontractor similarly to provide Commercial Automobile Liability Insurance for all of the latter's employees to be engaged in such WORK unless such employees are covered by the protection afforded by the CONTRACTOR's Commercial Automobile Liability Insurance.

STANDARD CONTRACT

APPENDIX E HEADWORKS TEMPORARY BYPASS PIPING

RFB E17-208

POST-BID FORMS

- Subcontractor Report
- Performance Bond
- Payment Bond
- Compliance Certificate

SUBCONTRACTOR REPORT

LIST OF SUBCONTRACTORS (AS 36.30.115)

The apparent low Bidder must submit a list of Subcontractors that the Bidder proposes to use in the performance of this contract ***on the fifth business day*** following the Posting Notice of Bids. If the fifth day falls on a weekend or holiday, the report is due by close of business on the next business Day following the weekend or holiday. The Subcontractor Report list must include each Subcontractor's name, address, location, evidence of valid Alaska Business License, and valid Alaska Contractor's Registration under AS 08.18. ***If no Subcontractors are to be utilized in the performance of the WORK, write in ink or type "NONE" on line (1) below***

<u>SUBCONTRACTOR</u>	¹ AK Contractor <u>License No.</u>	¹ <u>Contact Name</u>	<u>Type of</u>	<u>Contract</u>	✓ if
<u>ADDRESS</u>	² AK Business <u>License No.</u>	² <u>Phone No.</u>	<u>Work</u>	<u>Amount</u>	<u>DBE</u>
1. _____ _____ _____	¹ _____ ² _____	_____ _____	_____ _____	\$ _____	<input type="checkbox"/>
2. _____ _____ _____	¹ _____ ² _____	_____ _____	_____ _____	\$ _____	<input type="checkbox"/>
3. _____ _____ _____	¹ _____ ² _____	_____ _____	_____ _____	\$ _____	<input type="checkbox"/>
4. _____ _____ _____	¹ _____ ² _____	_____ _____	_____ _____	\$ _____	<input type="checkbox"/>

I certify that the above listed Alaska Business License(s) and CONTRACTOR Registration(s), if applicable, were valid at the time Bids were opened for this Project.

CONTRACTOR, Authorized Signature

CONTRACTOR, Printed Name

COMPANY
HEADWORKS TEMPORARY BYPASS PIPING
CBJ Contract No. RFB E17-208

SUBCONTRACTOR REPORT
Page 1

SECTION 00360 - SUBCONTRACTOR REPORT

- A. A Bidder may replace a listed Subcontractor if the Subcontractor:
1. fails to comply with AS 08.18;
 2. files for bankruptcy or becomes insolvent;
 3. fails to execute a contract with the Bidder involving performance of the WORK for which the Subcontractor was listed and the Bidder acted in good faith;
 4. fails to obtain bonding;
 5. fails to obtain insurance acceptable to the OWNER;
 6. fails to perform the contract with the Bidder involving work for which the Subcontractor was listed;
 7. must be substituted in order for the CONTRACTOR to satisfy required state and federal affirmative action requirements;
 8. refuses to agree or abide with the Bidder's labor agreement; or
 9. is determined by the OWNER not to be responsible.
10. is not in "Good Standing" with the OWNER as required in Article 21.0 in Section 00100 – Instructions to Bidders.
- B. If a Bidder fails to list a Subcontractor or lists more than one Subcontractor for the same portion of WORK, the Bidder shall be considered to have agreed to perform that portion of WORK without the use of a Subcontractor and to have represented the Bidder to be qualified to perform that WORK.
- C. A Bidder who attempts to circumvent the requirements of this section by listing as a Subcontractor another contractor who, in turn, sublets the majority of the WORK required under the contract violates this section.
- D. If a contract is awarded to a Bidder who violates this section, the OWNER may:
1. cancel the contract; or
 2. after notice and a hearing, assess a penalty on the Bidder in an amount that does not exceed 10 percent of the value of the subcontract at issue.
- E. On the Subcontractor Report, the apparent low Bidder must list any Subcontractors anticipated to perform WORK with a value of greater than one-half of one percent of the intended award amount, or \$2,000, whichever is less.
- F. An apparent low Bidder who fails to submit a completed Subcontractor Report within the time specified in this section may be found to be not a responsible Bidder and may be required to forfeit the Bid security. The OWNER will then consider the next lowest Bidder for award of the contract.

END OF SECTION

PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS: That we _____
(Name of CONTRACTOR)
a _____
(Corporation, Partnership, Individual)
hereinafter called "Principal" and _____
(Surety)
of _____, State of _____ hereinafter called the "Surety", are held
and firmly bound
to the CITY AND BOROUGH of JUNEAU, ALASKA hereinafter called "OWNER", for the penal
sum _____
(Owner) (City and State)
of _____ dollars (\$ _____)
in lawful money of the United States, for the payment of which sum well and truly to be made, we
bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly
by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the CONTRACTOR has
entered into a certain contract with the OWNER, the effective date of which is (CBJ Contracts Office
to fill in effective date) _____, a copy of which is hereto attached and made a part
hereof for the construction of:

HEADWORKS TEMPORARY BYPASS PIPING CBJ Contract No. RFB E17-208

NOW, THEREFORE, if the Principal shall truly and faithfully perform its duties, all the
undertakings, covenants, terms, conditions, and agreements of said contract during the original
term thereof, and any extensions thereof, which may be granted by the OWNER, with or without
notice to the Surety, and if it shall satisfy all claims and demands incurred under such contract, and
shall fully indemnify and save harmless the OWNER from all costs and damages which it may
suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and
expense which the OWNER may incur in making good any default, then this obligation shall be
void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and
agrees that no change, extension of time, alteration or addition to the terms of the contract or to the
WORK to be performed thereunder or the specifications accompanying the same shall in any wise
affect its obligation on this bond, and it does hereby waive notice of any such change, extension of
time, alteration or addition to the terms of the contract or to the WORK or to the Specifications.

PROVIDED, FURTHER, that no final settlement between the OWNER and the Principal
shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

**HEADWORKS TEMPORARY BYPASS PIPING
CBJ Contract No. RFB E17-208**

IN WITNESS WHEREOF, this instrument is issued in two (2) identical counterparts, each one of which shall be deemed an original.

CONTRACTOR:

By: _____
(Signature)

(Printed Name)

(Company Name)

(Mailing Address)

(City, State, Zip Code)

SURETY:

By: _____
(Signature of Attorney-in-Fact)

Date Issued: _____

(Printed Name)

(Company Name)

(Mailing Address)

(City, State, Zip Code)

(Affix SURETY'S SEAL)

NOTE: If CONTRACTOR is Partnership, all Partners must execute bond.

PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS: That we _____
(Name of
CONTRACTOR)

_____ a _____
(Corporation, Partnership, Individual)

hereinafter called "Principal" and _____
(Surety)

of _____, State of _____ hereinafter called the "Surety," are held
and

firmly bound to the CITY AND BOROUGH of JUNEAU, ALASKA hereinafter called "OWNER,"
for the _____ (Owner) _____ (City and State)

penal _____ sum _____ of
Dollars (\$ _____) in lawful money of the United States, for the payment
of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators
and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that Whereas, the CONTRACTOR
has entered into a certain contract with the OWNER, the effective date of which is (CBJ
Contracts Office to fill in effective date) _____, a copy of which is hereto
attached and made a part hereof for the construction of:

HEADWORKS TEMPORARY BYPASS PIPING CBJ Contract No. RFB E17-208

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms,
Subcontractors, and corporations furnishing materials for, or performing labor in the prosecution
of the WORK provided for in such contract, and any authorized extension or modification
thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs
on machinery, equipment and tools, consumed or used in connection with the construction of
such WORK, and all insurance premiums on said work, and for all labor performed in such
WORK, whether by Subcontractor or otherwise, then this obligation shall be void; otherwise to
remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and
agrees that no change, extension of time, alteration or addition to the terms of the contract or to
the WORK to be performed thereunder or the specifications accompanying the same shall in
any wise affect its obligation on this bond, and it does hereby waive notice of any such change,
extension of time, alteration or addition to the terms of the contract or to the WORK or to the
Specifications.

PROVIDED, FURTHER, that no final settlement between the OWNER and the Principal
shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

**HEADWORKS TEMPORARY BYPASS PIPING
CBJ Contract No. RFB E17-208**

IN WITNESS WHEREOF, this instrument is issued in two (2) identical counterparts, each one of which shall be deemed an original.

CONTRACTOR:

By: _____
(Signature)

(Printed Name)

(Company Name)

(Mailing Address)

(City, State, Zip Code)

SURETY:

By: _____
(Signature of Attorney-in-Fact)

Date Issued: _____

(Printed Name)

(Company Name)

(Mailing Address)

(City, State, Zip Code)

(Affix SURETY'S SEAL)

NOTE: If CONTRACTOR is Partnership, all Partners must execute bond.

COMPLIANCE CERTIFICATE AND RELEASE FORM

PROJECT: HEADWORKS TEMPORARY BYPASS PIPING
CONTRACT NO: RFB E17-208

The **CONTRACTOR** must complete and submit this to the Contract Administrator with respect to the entire contract.

Completed forms may be submitted upon completion of the Project. All requirements and submittals must be met before final payment will be made to the CONTRACTOR.

I certify that the following and any referenced attachments are true:

- All WORK has been performed, materials supplied, and requirements met in accordance with the applicable Drawings, Specifications, and Contract Documents.
- All Suppliers and Subcontractors have been paid in full with no claims for labor, materials or other services outstanding. If all Subcontractors and suppliers are not paid in full, please explain on a separate sheet.
- All employees have been paid not less than the current prevailing wage rates set by the State of Alaska (or U.S. Department of Labor, as applicable).
- All equal employment opportunity, certified payroll and other reports have been filed in accordance with the prime contract.
- The attached list of Subcontractors is complete (required from CONTRACTOR). The City Engineer was advised and approved of all Subcontractors before WORK was performed and has approved any substitutions of Subcontractors.
- All DBE firms listed as a precondition of the prime contract award must have performed a commercially useful function in order for the WORK to count to a DBE goal. All DBE firms performed the WORK stated and have received at least the amount claimed for credit in the Contract Documents.
- All DBE Subcontractors must attach a signed statement of the payment amount received, the nature of WORK performed, whether any balance is outstanding, and indicate that no rebates are involved.
- If the amount paid is less than the amount originally claimed for DBE credit, the CONTRACTOR has attached approval from the City Engineer for underutilization.

I understand it is unlawful to misrepresent information in order to receive a payment which would otherwise be withheld if these conditions were not met. I am an authorized agent of this firm and sign this freely and voluntarily. The foregoing statements are true and apply to the following project contractor.

Firm Name

Capacity: CONTRACTOR

Signed

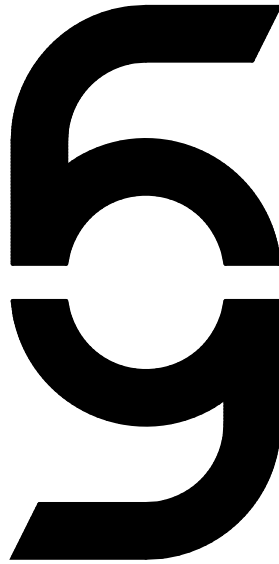
Printed Name and Title

Date

Return completed form to: Engineering Contracts Division, City and Borough of Juneau, 155 South Seward Street, Juneau, AK 99801. Call (907) 586-0873 if we can be of further assistance or if you have any questions.

APPENDIX F

HAYWARD GORDON



CHOPX SUBMERSIBLE CHOPPER PUMPS

TECHNICAL SUBMITTAL

PROJECT City and Borough of Juneau

EQUIPMENT Submersible Chopper pumps
Bid 17-116, Mendenhall WWTP.

DATE November 1, 2016

HAYWARD GORDON ULC
5 BRIGDEN GATE
HALTON HILLS, ONTARIO, L7G 0A3 CANADA
Telephone (905) 693-8595

PREFACE

The following TECHNICAL SUBMITTAL has been compiled with the sole intent of providing our client with a sufficiently detailed account of the technical aspects of the equipment proposed in order that they may be satisfied that the units meet the requirements of the referenced applications.

Specific reference to the COMMERCIAL TERMS applicable to the supply of this equipment will be dealt with under a separate cover. In the absence of a specific response from our firm all commercial terms pertinent to the supply of this equipment shall be in accordance with the Hayward Gordon Standard Terms and Conditions of Sale.

CONTENTS

Exceptions
Warranty
Engineering Specifications
Installation Instructions
Motor wiring diagram/information
Pump construction sheet
Pump Performance Curve
General Arrangement Drawing 338188G
Pump Sectional Drawing 026-20098
Parts List 026-10039
Relay cut sheets

COMMENTS AND EXCEPTIONS TO CONTRACT SPECIFICATIONS

Variances

- ASTM A48 is classified as a gray cast iron (not ductile iron). (refers to material for casing and motor housing).
- the shaft is 416 stainless steel. (Grade 329 stainless is specified in RFQ).
- Casing impeller and wear rings are not used on chopper pump design.
- Motor is listed with UL instead of FM.

Items excluded from scope of work:

Control panels, hoists, level controls, guide rail pipes, anchor bolts

General Comments

1. All anchor bolts, pressure gauges, valves, drainage piping, starters, and control equipment are not within Hayward Gordon's scope of supply and are to be supplied by others.
2. This proposal does not include installation, wiring, field painting, seismic calculations, seismic restraints, or any other items except as specifically described in this submittal.
3. Every effort has been made to note all deviations from the contract specifications. Although we have attempted to meet the intent of the specifications, we cannot be responsible for the acceptance of our equipment by the engineers.

WARRANTY

HAYWARD GORDON ULC endeavours to supply equipment of the highest quality both in materials and workmanship. However, within one year from date of startup or eighteen (18) months from date of shipment (whichever comes first) if any part of the equipment manufactured by HAYWARD GORDON ULC is proven to have been defective in material or workmanship, HAYWARD GORDON ULC shall have the right and obligation to promptly repair or replace such part F.O.B its works. Pumps or parts to be considered for warranty repair or replacement must be returned freight prepaid to Hayward Gordon's factory at Halton Hills, ON. We reserve the right to require the return of defective parts before any claim is recognized.

Materials are certified to be of the specified composition, however, the materials are not guaranteed against chemical attack or wear.

No other warranty or condition, whether statutory or otherwise, is made, intended or to be implied and, except for its obligation to repair or replace defective parts as provided for above, HAYWARD GORDON ULC will not be responsible for any costs or damages, direct or indirect, which may result to the Purchaser from any defect in the equipment (whether of workmanship, material, design or otherwise) or from any breakage or stoppage thereof. Such costs specifically include, but are not limited to, equipment removal, re-installation, and freight. In any event, the liability of HAYWARD GORDON ULC arising through the supply of defective equipment shall not exceed the purchase price of the equipment.

For equipment included in this unit but manufactured by others, HAYWARD GORDON ULC will endeavour to assign to the purchaser, the guarantee extended by such manufacturers to HAYWARD GORDON ULC.

No modifications to this guarantee may be extended without the written authorization of a signing officer of HAYWARD GORDON ULC.

ENGINEERING SPECIFICATIONS

GENERAL

Pumps will be a centrifugal chopper design of heavy duty construction intended for services requiring a combined chopping and pumping action on fluids with entrained solids. The integral pump/motor units shall be designed to operate at a continuous full load duty completely submerged in liquid without the need for external cooling.

PUMP PERFORMANCE

The design performance of the pump will be:

<u>Model</u>	<u>Duty point</u>	<u>trim</u>	<u>Pump speed</u>	<u>Efficiency</u>
Chopx8RB-S	2100 gpm/64 ft.	14.875"	1150 rpm	68%

The performance characteristics of the pump unit(s) shall be as detailed on the attached Performance Curves.

A submersible pump/motor functional test is performed per HIS 11.6.

Tests are not an external hold point. If acceptable pumps will ship after test.

PUMP CONSTRUCTION

Stainless steel fasteners are used where exposed to sump fluid.

CASING:

The pump casing and inspection cover will be constructed of ASTM A48 Class 30 Cast Iron. Flanged suction and discharge connections shall conform to the requirements of ANSI B16.1, class 125.

The casing back plate will have spiral cutting groove on the surface that is in close clearance to the rear flange of the impeller.

IMPELLER:

The pump impeller is a semi-open type with sharpened vane edges incorporated into the rear shroud to prevent fouling behind the impeller. Primary chopping/conditioning of materials is accomplished by the action of the sharpened leading edges of the impeller blades moving across the cutter bar at the intake openings with a set clearance between the impeller and cutter bar of .010" to .015". Impeller is constructed of CD4MCU stainless steel, and will be statically and dynamically balanced.

The impeller is keyed to the shaft and the axial clearance at the front and rear of the impeller is externally adjustable.

CUTTER BAR:

The casing will be fitted with a replaceable, externally-adjustable suction plate with cutter bars constructed of 316 stainless steel. The surface of the suction plate facing the impeller has multiple radial cutting slots to prevent binding of material between it and the impeller vanes.

UPPER CUTTER:

The area behind the impeller is protected from fouling by the cutting and expulsion action of serrated and sharpened teeth in the rear impeller shroud sweeping across spiral grooves in the casing back plate.

DEFLECTOR NUT

The impeller shall be secured to the shaft using a deflector nut made from 410 Stainless Steel hardened to 400 BHN, designed protrude in front of the cutter bars and deflect stringy materials and prevent binding.

SHAFT

The motor/pump shaft shall be one-piece and shall be constructed of 416 stainless steel.

BEARINGS

Bearings are capable of taking thrust in both directions and are rated for a minimum L_{10} life of 100,000 hours at 50% of the best efficiency flow. Bearings shall be permanently lubricated with a premium moisture resistant grease containing rust inhibitors and shall be suitable for operation over a temperature range of -25°C to $+120^{\circ}\text{C}$.

SHAFT SEALS

Two independent, tandem mounted, mechanical face type seals shall be provided to isolate and protect the air-filled motor from the pumped media. The inner and outer seal shall be separated by an oil filled chamber. The oil chamber shall act as a barrier to trap moisture and provide sufficient time for a planned shutdown. Oil chamber is equipped with a drain and inspection plug. Plug shall have a positive antileak seal and is accessible from the outside of motor casing.

The inner mechanical seal shall be constructed of carbon vs. ceramic faces.

The outer mechanical seal shall be constructed of tungsten carbide vs tungsten carbide seal faces.

MOTOR :

Each unit will be provided complete with a Submersible motor, UL Listed for Class 1, Groups C and D. Rated for continuous operation at full load when submerged in liquid. Rated for 15 minutes operation in air.. Motor has temperature switches and moisture detectors provided.

Motor Performance Data

HP	60
Volts	460
RPM:	1165
F.L. Amps	76.9
L.R. Amps	409
Locked rotor KVA code	F
Efficiency	76.9
(efficiency includes mechanical seal losses).	

MOISTURE PROTECTION SYSTEM

A dual (2) probe sensing system for moisture detection will be provided to detect the presence of moisture at any time within the motor enclosure, including lower seal and stator housing.

The system shall provide an early warning signal to a control panel warning indicator when moisture has been detected. Initial detection shall provide sufficient time for inspection / repair without causing additional damage to the unit.

System requires the installation of a moisture relay. Relay provided is B/W controls model 1500-G-L1-S9 Pump relays are supplied by others and installed by others in pump control panels

CABLE ENTRY SYSTEM

The power cable and cap assembly shall be designed to eliminate moisture from wicking through the cable assembly even when the cable jacket has been punctured. Cable entry shall be epoxy encapsulated for positive moisture sealing, prior to the terminal lead connection chamber. A cable entry grommet shall be provided in addition to the epoxy sealed leads. All cable shall be type SEOW-A and U.L. listed for the intended submersible service.

Cable length is 50 feet.

GUIDE BRACKET & RAIL SYSTEM:

A guide system is provided to allow easy removal without entering the wet well. The main base fixture shall be bolted to the floor and includes a 90 degree cast iron elbow and mounts for two rails of standard schedule 40 pipe. The base fixture is designed to receive the connecting pump slide bracket without the need for bolts, nuts, or clamps. The pump discharge will connect to a slide bracket that seals against the base fixture by weight of the pump.

The guide rail system will be non-sparking.

35 feet of lift chain is provided for each pump.

PAINTING PROCEDURES :

SCOPE:

All exterior surfaces are painted with the following exceptions:

- Non-corrodible surfaces
- Corrodible finished machined surfaces

PROCEDURE:

- All nameplates and tags are to be masked before painting and masking tape removed prior to shipping.
- All corrodible non-painted carbon steel and cast iron surfaces will be given a liberal coating of easily removable rust preventative such as Rust Veto Spray or equivalent.
- Metals shall be finish painted with fast dry epoxy, Amercoat 370 - Safety Blue. All surfaces in accordance with paint manufacturer's recommendations will be clean and dry and free from dirt and scale before painting. Cleaning will be accomplished by detergent cleaning or wire brushing as necessary. Minimum coating thickness to be approximately 4 - 6 mils DFT. Paint will be allowed a minimum of ten (10) hours drying time before handling.

INSTALLATION INSTRUCTIONS

CAUTION!

Before putting pump into service carefully study and adhere to all sections of this manual, as this is necessary for safe and satisfactory operation of your new Hayward Gordon Pump.

This pump has components with sharp edges and pinch areas that can cause cuts. Always wear protective gloves when working on or around the pump.

Always disconnect electrical power and lock out the motor starter before performing any work on the pump/motor unit. On duplex pumps with alternating relays, both starters must be locked out regardless of which pump is being worked on.

IMPORTANT!

Prior to installation, lift pump so that it is in the vertical position and rotate the impeller by hand, by reaching in through the suction opening. This will help to ensure that the mechanical seals are seated properly.

Unloading

Care must be taken when unloading pump.

CAUTION!

An adequately sized crane or hoist must be used to lift unit.

All lifting equipment (i.e.. chains, hooks and eyes) must be in accordance with local, or federal safety codes.

Failure to use approved lifting equipment may result in serious injury.

Inspection

Inspection should be performed immediately after unloading pump. Examine equipment for broken, cracked, bent or missing parts. Carefully check:

1. Pump Casing
2. Pedestal
3. Motor

Report all damage or loss to the transportation company and Hayward Gordon.

Storage

IMPORTANT!

If the equipment is not to be immediately installed and operated, THE FOLLOWING INSTRUCTIONS MUST BE ADHERED TO AS A MINIMUM.

Consider a unit in storage when:

1. It has been delivered to the jobsite and is awaiting installation.
2. It has been installed but operation has been delayed pending completion of plant construction.
3. There are long periods (30 days or more) between operation cycles.
4. The plant is shut down.

*NOTE: Improper storage could result in product failures or restoration **not** covered by warranty.*

If not operated immediately, store pump vertically in a dry, well ventilated indoor location that is not subject to rapid or wide variations in temperature. Protect from moisture, dirt, dust and pests.

Rotate motor shaft several revolutions every four weeks to prevent corrosion of bearing and seal components.

Keep ends of power cables clean and dry; do not submerge in water or sewage. Doing so will result in permanent damage.

Cleaning

Clean surfaces of suction and discharge flanges before installation.

Location

Allow ample space for installation, maintenance and inspection. Locate pump base directly below sump opening edge to simplify mounting of guide rail bracket.

Foundation

Using a Certified Hayward Gordon Ltd. Dimensional General Assembly Drawing, check pump dimensions against foundation and piping dimensions to assure fit.

Install four anchors and make sure that they are long enough to accommodate all necessary grouting/leveling nuts etc. **Do not** grout until guide rails connections are made and alignment established.

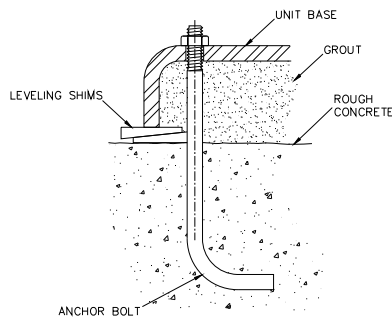


Figure I-1: Typical Anchor Bolt Detail

Mounting

Make sure that pump base is mounted in a horizontal plane. Guide pipes must be vertical and parallel and their top ends held in place with a bracket.

Grouting

Use of leveling wedges is recommended over leveling nuts. Place wedges as close to foundation bolts as possible and raise unit to desired elevation. Align the unit to the piping. Pack grout from all sides of the base plate until the entire space is filled solid. Allow 48 hours for grout to set. Recheck alignment. Tighten foundation bolts securely if alignment is correct.

Piping

Connecting of piping is done only after grout has set.

1. Remove all foreign objects and debris from the piping (i.e. tools, materials, rags or slag).
2. Independent piping supports should be near the pump to eliminate loads being transferred.

CAUTION!

Do not use the pump, discharge elbow or base to support the piping and contents.

3. Wait until the grout has fully set before connecting the piping.
4. Never draw piping into place by use of force at the flanged suction or discharge connections. The suction and discharge lines should begin at the pump – ending the piping lines at the pump will cause distortion.
5. Provide expansion joints, bends or loops and hangers when handling hot liquids to prevent nozzle loads. A change in temperature of 50 °F will result in a movement of 3/8" in 100 feet of line. Locate discharge side expansion joints after the first pipe anchor to prevent excessive reaction loads on the pump.

Discharge Piping

Select the size of the discharge pipe so the frictional loss, plus static discharge head, plus working suction lift, does not exceed the total dynamic head on nameplate. Failure to consider the frictional losses will result in power wastage.

Start the discharge pipe at the pump, ending at the final discharge point. Avoid abrupt pipe size changes and use only concentric taper increasers.

Recheck the pump alignment after all the piping is connected.

Motor & Wiring

CAUTION!

Submersible pump motors are equipped with moisture detection devices. Failure to properly connect or utilize this system voids the motor warranty.

SUBMERSIBLE MOTOR WIRING DIAGRAMS

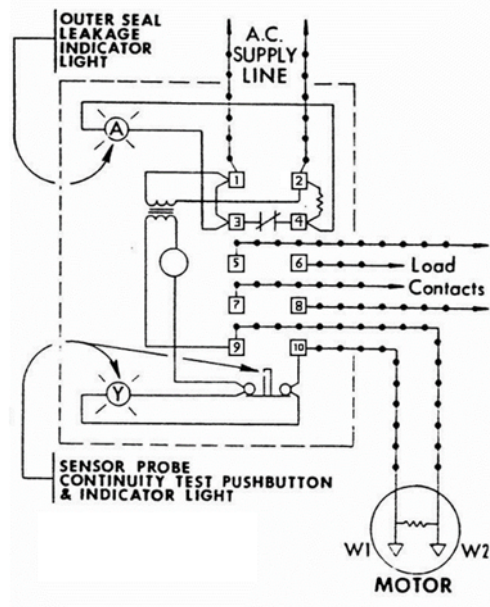
LEAD COLOR CODING

		BLACK LEAD	WHITE LEAD	RED LEAD	ORANGE LEAD	GREEN LEAD
Power Cable	Polyphase	T ₁	T ₂	T ₃	—	Ground
	Single Phase	T ₁	T ₄	T _A	—	Ground
Control Cable	All	P ₁	P ₂	W ₁	W ₂	Ground

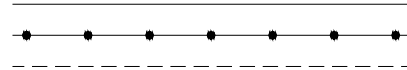
Moisture Protection System

Important: Failure to properly connect or utilize this system voids motor warranty.

Moisture sensing probes, leads marked W1 and W2, must be used in conjunction with an induction relay (supplied by others). This device will detect moisture entering the oil chamber due to failure of the outer seal and, when properly connected to a warning device, will provide notification of needed maintenance. Integrity of the system requires periodic test. A control and signal device (not supplied by Hayward Gordon) must be installed at the job site to complete the moisture detection system.



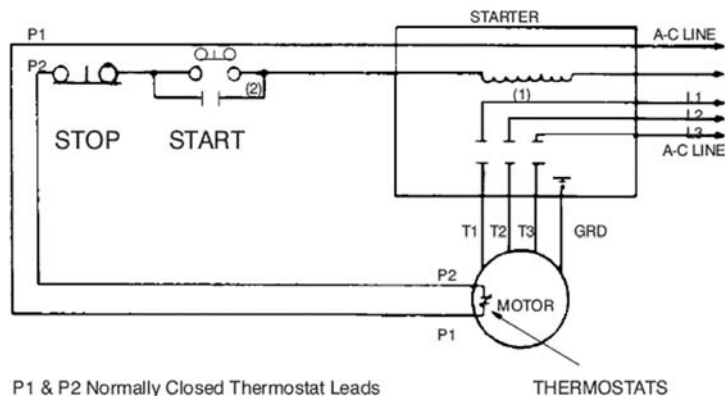
Wiring by Warrick
Wiring by Others
Control Enclosure



Thermal Protection System

Thermostat leads marked P1 & P2 must be connected in series with the stop button of the 3-wire pilot circuit of the magnetic motor controller, so that the thermostat will open the circuit before dangerous temperatures are reached. If current through the thermostat will exceed the values listed in the table below, an intermediate control circuit relay must be used to reduce the current or the thermostat will not work properly.

Volts	continuous Amperes	Inrush Amperes
110-120	3.0	30
220-240	1.5	15
440-480	0.75	7.5
550-600	0.6	6.0



P1 & P2 Normally Closed Thermostat Leads
(normally open thermostats are not acceptable to UL)
(1) Starter Holding Coil
(2) Holding Coil Contacts - N.O.

Warning: A MANUAL, MOMENTARY START SWITCH IS REQUIRED TO PREVENT AUTOMATIC RESTART OF MOTOR WHEN THERMOSTAT RESETS.

Make sure that power supply to control panel is the same as on the motor nameplate.

*Power and control cable must be continuous run from motor to control panel outside the sump to prevent damage to the motor. **DO NOT** splice or use junction box.*

Electrical Connections

CAUTION!

Make sure that power supply to control panel is the same as on the motor nameplate.

*Power and control cable must be continuous run from motor to control panel outside the sump to prevent damage to the motor. **DO NOT** splice or use junction box.*

CONTROL PANEL

To assure non-voidance of warranty and proper protection of the motor, the control panel must, as a minimum, contain the following components:

- Thermal Protection System – see Motor Manual
- Moisture Detection System – see Motor Manual

In addition to the above, the control panel shall contain the following components:

- Isolation Switch, lockable one preferred.
- Slow Trip Fuses or Circuit Breakers in each incoming phase.
- Lightning Arrestor on each incoming phase, if any possibility of lightning damage exists.
- Start Switch.
- Seal Failure Alarm Light.

Follow motor Wiring Diagram and Instructions for proper component selection and connections.

- Level Switches – for high-level alarm a floating ball type is recommended as most reliable switch.
- Level Control – “ON” and “OFF” levels to be set in such a manner as to avoid switching pump on more than 10 times per hour to prevent any possible damage to motor.

Recommended additional controls:

- Alarm system for high sump level, preferably on separate power supply.
- Hand-off automatic switch.
- Terminals for level switches.
- Single phase protection.

Motor Cable

Make sure there is sufficient length of motor cable to accommodate total pump/motor travel from engaged, sump bottom position to service/maintenance position above top sump opening.

Suspend motor cable in a manner preventing it from any possibility of damage or strain during operation, removal or service of pump.

**HAYWARD GORDON**

Solids Handling Pumps

5 Brigden Gate, Halton Hills, Ontario L7G 0A3

Tel: (905) 693-8595 • Fax: (905) 693-1452 • www.haywardgordon.com**CHOPX Chopper Pumps
Submersible/Immersible**

Construction Specification WorkSheet - Submersible/Immersible

Project :	Juneau		Qty :	5	Flow :	2100 gpm	Head :	64 feet
Pump Model:	Chopx8RB		Tag:		Application :			
Date :	Sept 23, 2016		Ref :	Q6-37903	Completed By :			
VOLUTE	Cast Iron (STD)							
IMPELLER	CD4MCU							
CUTTER BAR	316SS							
CUTTER BAR HOLDER (CHOPX 8B, 10B, 12B)	Cast Iron (STD)							
OTHER HARDWARE	Impeller bolt/key/washer		316SS (STD)					
	Volute / Suction Cone Carriage Bolts		304SS (STD)					
O-RINGS (wetted)	BUNA-N (STD)							
MOTOR MAKE AND RATING	<u>Submersible, 15 min in Air:</u> Reliance UL listed (TENV-XP)							
MOTOR SPECIFICATION	HP: 60 RPM: 1200 VOLT: 460 HZ: 60 PH: 3 Frame Size: 320TY Dual Voltage: No Inverter Duty: Yes (10:1 Variable Torque with T2A temperature code) / No (T3C Temperature Code) Insulation : Class F Insulation, 40 C ambient (standard)							
MECHANICAL SEALS	UPPER:		CARBON/CERAMIC (STD)					
	LOWER:		TC vs. TC					
POWER CABLE LENGTH	50 FEET							
BASE TYPE:	QUICK DISCONNECT c/w base elbow non-sparking C.I. / STEEL (STD)							
MATERIAL:								
TOP GUIDERAIL BKT.	316 Stainless Steel							
INT. GUIDERAIL BKT.	Required (if guiderail length exceeds 20 ft): Yes Discharge Pipe Dia: <u> 12 </u> Quantity : <u> 1 </u> Material : 316 Stainless Steel							
LIFTING CHAIN	CHAIN LENGTH: <u> 35 </u> FEET 316 SS							
MOISTURE RELAY	Model : <u> Ametek, no enclosure </u> PART NUMBER: <u> </u>							
PAINTING	Std Epoxy Proc. 1740							
PUMP TESTING	Hydrostatic Proc. 1534 Std Run Proc. 1541 Witnessed: N							

Company: Alaska Roteq
 Name: Juneau Mendenhall
 Date: 5/24/2016



Pump:

Size: CHOPX8-RB
 Type: CHOPX
 Synch speed: 1200 rpm
 Curve: 005-10733
 Specific Speeds:
 Dimensions:
 Speed: 1150 rpm
 Dia: 14.875 in
 Impeller:
 Ns: ---
 Nss: ---
 Suction: 10 in
 Discharge: 8 in

Search Criteria:

Flow: 2100 US gpm Head: 64 ft

Fluid:

Water
 SG: 1
 Viscosity: 1.105 cP
 NPSHa: ---
 Temperature: 60 °F
 Vapor pressure: 0.2563 psi a
 Atm pressure: 14.7 psi a

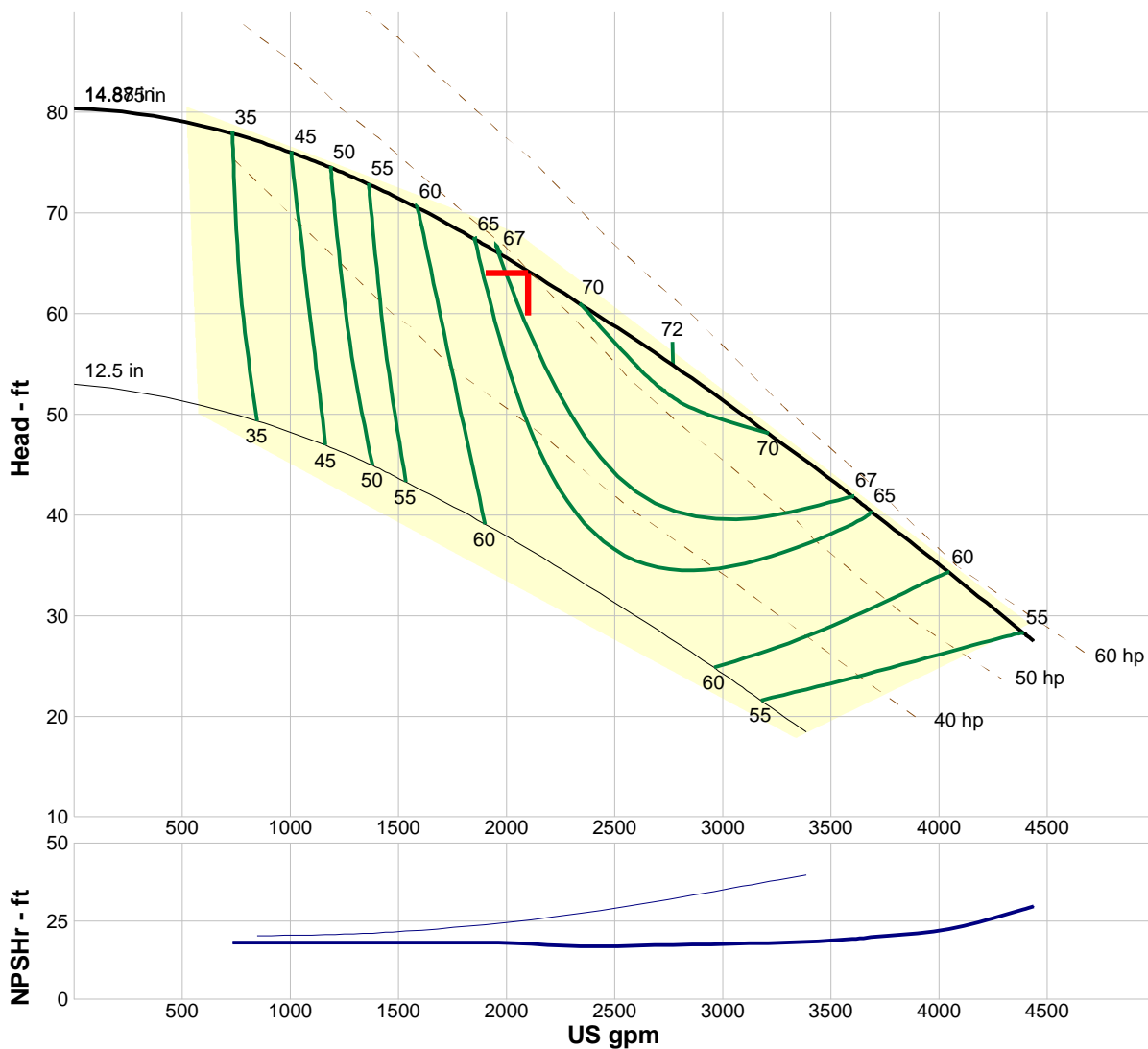
Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 60 hp
 Speed: 1200
 Frame: 404T

Pump Limits:

Temperature: ---
 Pressure: ---
 Sphere size: 2.5 in
 Power: ---
 Eye area: ---

---- Data Point ----	
Flow:	2100 US gpm
Head:	64.2 ft
Eff:	68.1%
Power:	49.8 hp
NPSHr:	17.8 ft
---- Design Curve ----	
Shutoff head:	80.4 ft
Shutoff dP:	34.8 psi
Min flow:	---
BEP:	72% @ 2769 US gpm
NOL power:	58.4 hp @ 4044 US gpm
-- Max Curve --	
Max power:	58.4 hp @ 4046 US gpm

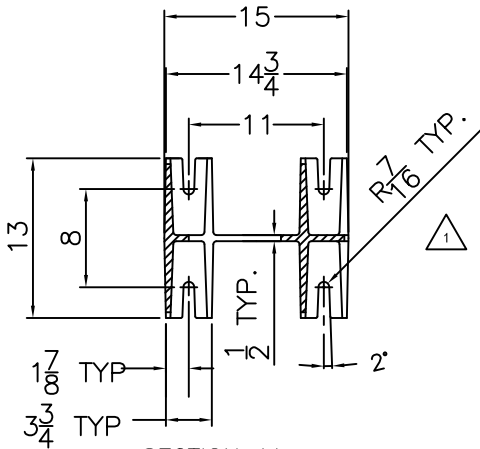


Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
2520	1150	58.4	70.8	52.2	17.3
2100	1150	64.2	68.1	49.8	17.8
1680	1150	69.4	61.8	47.6	18.2
1260	1150	73.8	52.1	45	18.2
840	1150	77.1	39	41.8	18.2

NOTE:

1. ALL DIMENSIONS IN INCHES.
2. INTERMEDIATE SUPPORT ASSEMBLY REQUIRED IF GUIDE PIPE LENGTHS EXCEEDS 13 FEET.
3. CASTING DIMENSIONS MAY VARY $\pm 1/8"$.
4. MOUNT MOTOR ON CASING IN AN ORIENTATION SUCH THAT THE LIFTING YOKE LINES UP IN A PLANE STRADDLING THE DISCHARGE C/L AND THE CASING INSPECTION PORT C/L.



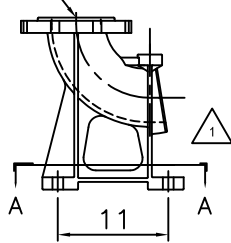
SECTION AA
MOUNTING DETAILS

2" NOM, SCH. 40 PIPE GUIDE RAIL
(SUPPLIED BY OTHERS)

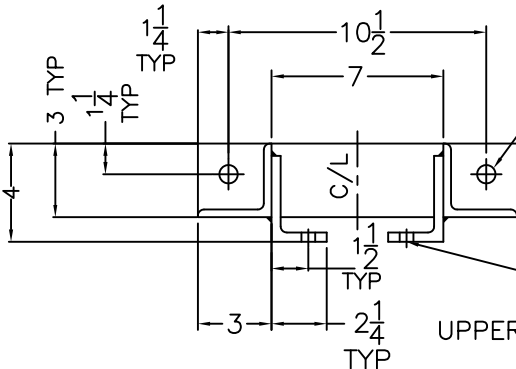
INTERMEDIATE SUPPORT
ASSY. (SUPPLIED BY HG) 4
SEE NOTE #2

DISCH. PIPE, 12 X 8
ECCENTRIC REDUCER &
HARDWARE
(SUPPLIED BY OTHERS) 1

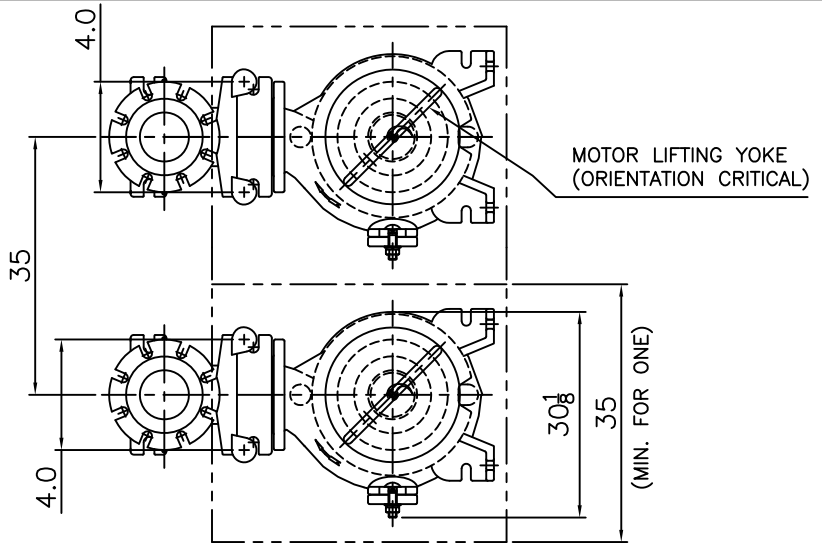
8"-125#
R.F. FLANGE



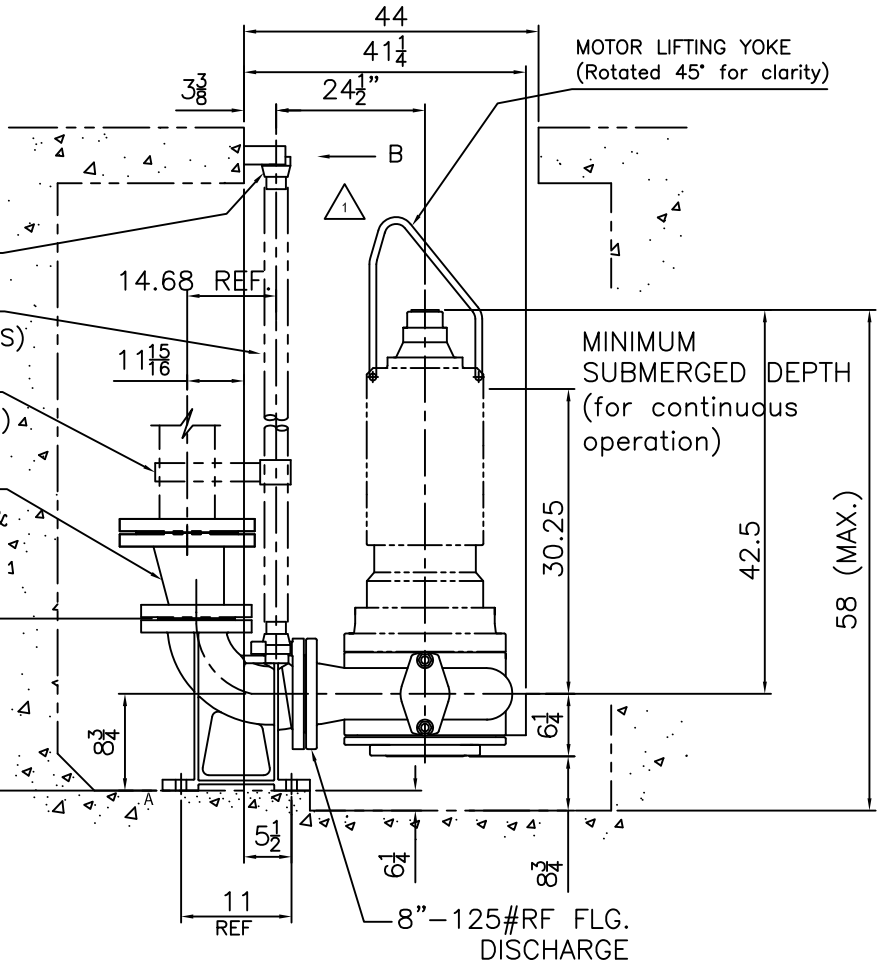
ANCHOR BOLTS PATTERN
(4-ANCHOR BOLTS, BY OTHERS)



UPPER RAIL BRACKET
VIEW B



MOTOR LIFTING YOKE
(ORIENTATION CRITICAL)



MOTOR LIFTING YOKE
(Rotated 45° for clarity)

MINIMUM
SUBMERGED DEPTH
(for continuous
operation)

58 (MAX.)

NOTE: MOTOR HAS THERMAL PROTECTION
& MOSTURE DETECTION

CERTIFIED FOR CONSTRUCTION


December 13, 2016 E. Gordon
DATE SIGNED
HAYWARD GORDON ULC

PUMP:	HAYWARD GORDON CHOPX CENTRIFUGAL PUMP MODEL CHOPX8RB-S IN CAST IRON CONSTRUCTION C/W CD4MCU IMPELLER & 316 SS CUTTER. ALSO TANDEM MECHANICAL SEAL-CARBON CERAMIC UPPER SEAL & TC/TC LOWER SEAL & 50 FT OF POWER & CONTROL CABLES		
MOTOR:	60 HP, 1200 RPM, 3/60/460V, 320TY TENV-XP-UL LISTED	CAPACITY:	2100 USGPM
DRIVE:	CLOSE COUPLED	HEAD:	64 FT TDH
BASE:	CAST IRON	SPEED:	1150 RPM
GUARD:	NOT REQUIRED	LIQUID:	INFLUENT
TOTAL WEIGHT	WITH MOTOR: 2000 LBS	TAG:	-
	W/O MOTOR: N/A	QUANTITY:	FIVE (5)

1	FEB 02/17	CP	UPPER BRACKET AND MOUNTING DETAILS ADDED
NO.	DATE	BY	REVISION
HAYWARD GORDON ULC.			
NTS	SCALE	CUST. P.O. NO.	GENERAL ARR. DWG.: CHOPX8RB-S FOR ALASKA ROTEQ CORP.
OCT. 31, 16	DATE	H.G. JOB NO.	
ND	DRN.	DWG. NO.	
		338188G	

KEY NO	DESCRIPTION	QTY	NOTES	Commercial Designation	KEY NO	DESCRIPTION	QTY	NOTES	Commercial
201	VOLUTE CASING	1							
202	IMPELLER	1							
206	DISINTEGRATER	1							
A 214	CUTTER PLATE HOUSING	1			A727	HEX HEAD SCREW	8		
B 214	CUTTER PLATE DISC	1							
219	INSPECTION PORT COVER	1							
223	QUICK DISCONNECT FLANGE	1							
224	QUICK DISCONNECT PEDESTAL	1							
401	SHAFT	1			A738	HEX NUT	2		
403	SHAFT ADAPTER (IF REQUIRED)	1			B738	HEX NUT	8		
A407	NAME PLATE	1							
B407	ROTATION ARROW	1							
413	IMPELLER SHROUD	1	(STD)		A746	FLAT WASHER	2		
					B746	FLAT WASHER	8		
					C746	LOCKWASHER	8		
419	IMPELLER SCREW	1			D746	LOCKWASHER	1		
					E746	LOCKWASHER	2		
A451	SHIM SET (0.010" 316SS)	2			F746	LOCKWASHER	8		
B451	SHIM SET	1			G746	FLAT WASHER	8		
					H746				
A461	LIFTING YOKE	1							
B461	FREE STANDING PEDESTAL	1							
470	TOP ANCHOR	1							
472	PIPE RAIL GUIDE	2							
A501	RADIAL BEARING	1			A781	CARRIAGE BOLT	2		
B501	AXIAL LOAD BEARINGS	2			B781	CARRIAGE BOLT	8		
C506	'O'-RING CUTTER PLATE	1							
A525	GASKET QUICK DISCONNECT	1							
B525	GASKET INSPECTION COVER	1							
A540	UPPER SEAL	1							
B540	LOWER SEAL	1							
564	SUBMERSIBLE MOTOR	1							
A408	IMPELLER KEY	1							
B408	MOTOR KEY	1							

SEE 02620098 FOR MASTER ASS'Y

3			
2			
1	AUG.26/11	JM	ADDED CHOPX8RB
NO.	DATE	BY	REVISION
 HAYWARD GORDON LTD. TORONTO MONTREAL CALGARY VANCOUVER			
SCALE		CUST. P.O. NO.	
NTS			
DATE		H.G. JOB NO.	
JAN.15/01			
DRN.		DWG. NO.	
KJW		02610039	
PARTS LIST CHOPX8B/8RB/10B/ CHOPX12B-S SUBMERSIBLE PUMP			



1500 SERIES RELAY DATA SHEET

The Series 1500 Induction Relays provide versatile and economical means of controlling many processing and production functions from remote locations with the safety inherent in a low energy sensing circuit that is isolated from the AC power source. When installed near pumps, motors or other operating equipment, the Series 1500 Induction Relay permits use of low-cost light gauge wires for the control circuit to level sensing electrodes. Relays with low voltage secondary coils provide remote control up to 36,000 feet from contact type pilot devices. Available as open chassis units or furnished with a choice of standard enclosures, these relays are connected to a constant source of alternating current. When properly installed, they will draw a maximum of 9 volt-amperes regardless of the line or electrode circuit voltage.

CAUTION: Electrodes are terminals of live electrical circuits and must be installed to prevent accidental contact by personnel. Control power must be disconnected before servicing.

A GOOD DEPENDABLE RETURN GROUND CONNECTION TO LIQUID IS REQUIRED

SPECIFICATIONS

Input Voltage:

110 to 600 VAC 50/60 Hz

Power Consumption:

9 Volt-Amperes Max.

Contact Rating:

25 Amps Resistive at 120, 240, or 480 VAC

1 HP Single Phase at 120 or 240 VAC

Heavy Duty Pilot 120 to 600 VAC

2 Amps Resistive at 120 VDC

10 Amps Resistive at 48 VDC

Ambient Temperatures:

-20° F to 150° F

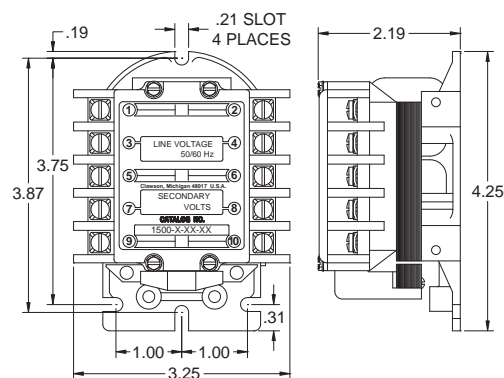
-28.8° C to 65.5° C

Coil Insulation:

Class "B"

Output Contact Arrangement:

Available in 1, 2, and 3 pole N.O. and/or N.C. configurations as shown in diagram.

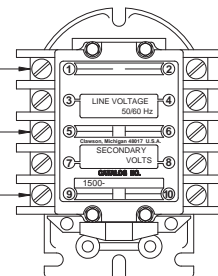


MUST BE VERTICALLY MOUNTED AS SHOWN



CONTACT ARRANGEMENT CODE

	A	B	C	D	E	F	G	H	J
	1 N.O.		2 N.O.	1 N.O.	2 N.C.		3 N.O.	2 N.O.	1 N.O.
		1 N.C.		1 N.C.	2 N.C.		1 N.C.	2 N.C.	3 N.C.
TOP CONTACT TERMINALS 1 & 2									
MIDDLE CONTACT TERMINALS 5 & 6									
BOTTOM CONTACT TERMINALS 9 & 10									



PART NUMBER ORDERING INFORMATION

Series 1500

1500 - A - L1 - S7 - N1 - X

Contact Arrangement

A, B, C, D, E, F, G, H, J (See Chart Above)

Supply Line Voltage

L1 (110-120 VAC 50/60 Hz), L2 (208-240 VAC 50/60 Hz), L3 (440-480 VAC 50/60 Hz),
L4 (550-600 VAC 50/60 Hz), L5 (120/240) VAC 50/60 Hz)

Secondary Coil Voltage

S1 (12 V), S2 (24V), S3 (40V), S4 (90V), S7 (220V), S8 (360V), S9 (480V), S11 (800V)

Enclosure Type

OC (Open Chassis), N1 (NEMA 1), N4 (NEMA 4), N4X (NEMA 4 Fiberglass), N7 (NEMA 7), N12 (NEMA 12)

Additional Options

X (None), M (Manual Rest Relay)

Recommended relay: 1500-G-L1-S9-OC-X