

**TRAILIER MOUNTED DIESEL BY-PASS PUMP UNIT
(Equipment Only)**

for the

MAIN ISLAND PUMP STATION IMPROVEMENT PROJECT

(This is a Non-Installation Bid Package)



BID #: WS 02-13

BID OPENS: November 15th, 2012 @ 3:00 P.M.

NOTICE TO BIDDERS

Notice is hereby given that the Board of County Commissioners of Okaloosa County, FL, will accept sealed bids until **3:00 p.m. (local time) November 15th, 2012**, for direct purchase of the **MAIN ISLAND TRAILER MOUNTED DIESEL BY-PASS PUMP (Equipment Only Bid), Bid #WS 02-13**. Pursuant to hardcopy copies of bid provisions, bid forms, and specifications may be reviewed at the following: Okaloosa County Water & Sewer Office located at 1804 Lewis Turner Boulevard, Suite 300, Fort Walton Beach, Florida, 32547. Okaloosa County Purchasing Department, 602-C North Pearl Street, Crestview, FL 32536. Electronic copies may be obtained from CONSTANTINE ENGINEERING, INC., under the project name at the following web address: <http://www.tcgeng.com/Documents/>

At **3:00 p.m. (local time), November 15th, 2012**, the bids will be opened and read aloud. All bids must be in sealed envelopes reflecting on the outside thereof the bidder's name and "**Bid on MAIN ISLAND TRAILER MOUNTED DIESEL BY-PASS PUMP UNIT (Equipment Only Bid), Bid #WS 02-13 to be opened at 3:00 p. m., November 15th, 2012**". The Board of County Commissioners will consider all bids properly submitted at its scheduled Bid Opening in the Conference & Training Room #305 located at 302 N. Wilson St, Crestview, FL 32536. Bids may be submitted in the Conference & Training Room #305, prior to Bid Opening or delivered to the Clerk of Circuit Court, 302 N. Wilson St., #203, Crestview, FL 32536.

There is no obligation on the part of the County to award the bid to the lowest bidder, and the County reserves the right to award the bid to the bidder submitting a responsive bid with a resulting negotiated agreement which is most advantageous and in the best interest of Okaloosa County, and to waive any irregularity or technicality in bids received. Okaloosa County shall be the sole judge of the bid and the resulting negotiating agreement that is in its best interest and its decision shall be final.

Any bidder failing to mark outside of envelope as set forth herein may not be entitled to have their bid considered.

All bids should be addressed as follows:

Clerk of Circuit Court
Attn: Gary Stanford
302 N. Wilson St. #203
Crestview FL 32536

Richard L Brannon
Purchasing Director

Date

BOARD OF COUNTY COMMISSIONERS
OKALOOSA COUNTY

Don Amunds
Chairman

BID PROPOSAL

BID #: WS 02-13

BID ITEM: MAIN ISLAND TRAILER MOUNTED DIESEL BY-PASS PUMP UNIT (Equipment Only) BID

SCOPE

Equipment covered by this contract includes the manufacture, deliver and start-up services for a new trailer mounted 12" pump with diesel engine and imbedded full storage container with weather / sound enclosure. as specified herein. All materials shall be manufactured within the continental United States. No substitutions will be accepted unless approved by the Purchasing and the Water & Sewer Department. **Note: Evaluation of bid will be based on "TOTAL BASE BID AMOUNT", and shall include itemized unit cost for identified items.**

Price shall be guaranteed for 45 days after the bids are read and received.

Price shall include delivery of all equipment and appurtenances to the following location:

**108WS AMBERJACK DRIVE
FORT WALTON BEACH FL. 32548**

OWNER Delivery Contact:
Mark Griffin, Okaloosa County Water & Sewer
850-651-7176

Vendor is required to coordinate fabrication and shipping with the installation Contractor once a construction contract has been executed between the Board and a Contractor.

THE FOLLOWING MUST BE SUBMITTED WITH THE PROPOSAL:

- A list of any and all exceptions to the Contract Documents.
- Dimensional and weight information on components and assemblies.
- Catalog information and cuts.
- Manufacturer's specifications, including materials description and paint system. Also a list of any requested exceptions to the Contract Documents.
- Performance data, as applicable. Horsepower of all motors supplied.
- Outside utility requirements for each component, such as water, power, air, etc.
- Addresses and phone numbers of nearest service center and a listing of the manufacturers or manufacturer's representatives' services available at this location.
- Addresses and phone numbers for the nearest parts warehouse capable of providing mil parts replacement and/or repair service.
- A list of the three most recent installations where similar equipment by the manufacturer or manufacturer's representative is currently in service;

include contact name, telephone number, mailing address, and the names of the Engineer, Owner, and installation contractor; if three installations do not exist, the list shall include all that do exist, if any.

- Description of structural, electrical, mechanical, and all other changes or modifications necessary to adapt the equipment or system to the arrangement shown and/or functions described on the Drawings and in the Technical Specifications.
- Any additional information requested by the OWNER.

SPECIAL BID CONDITIONS

1. **Equipment Acceptance** - Delivery of material to Okaloosa Board of County Commissioners does not constitute acceptance for the purpose of payment. Final acceptance and authorization of payment shall be given only after a thorough inspection indicates that the material meets contract specifications and conditions as listed. Should the delivered material differ in any respect from specifications, payment will be withheld until such time as the supplier takes necessary corrective action. The Purchasing Department shall be notified of the deviation in writing within 10 days and the provisions of the delivery paragraph shall prevail. If the proposed corrective action is not acceptable to Okaloosa County, the final acceptance of the material shall remain the property of the supplier and the county shall not be liable for payment for any portion thereof.
2. **Addition/Deletion of Item** - The County reserves the right to add to or delete any item from this bid or resulting contract when deemed to be in the County's best interest.
3. **Public Entity Crime Information** - A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, for **CATEGORY TWO** for a period of 36 months from the date of being placed on the convicted vendor list.
4. **Discrimination** - An entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid on a contract to provide goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not award or perform work as a contractor, supplier, subcontractor, or consultant under contract with any public entity, and may not transact business with any public entity.
5. **Conflict of Interest** - The award hereunder is subject to the provisions of Chapter 112, Florida Statutes. All respondents must disclose with their bids the name of any officer, director, or agent who is also a public officer or an employee of the Okaloosa Board of County Commissioners, or any of its agencies.

Furthermore, all respondents must disclose the name of any County officer or employee who owns, directly or indirectly, an interest of five percent (5%) or more in the firm or any of its branches.

Furthermore, the official, prior to or at the time of submission of the bid, must file a statement with the Clerk of Circuit Court of Okaloosa County, if he is an officer or employee of the County, disclosing his or spouse's or child's interest and the nature of the intended business.

Note: For bidder's convenience, this certification form is enclosed and is made a part of the bid package.

6. **Identical Tie Bids** - Preference shall be given to businesses with drug-free workplace programs. Whenever two or more bids which are equal with respect to price, quality and service are received by the County for the procurement of commodities or contractual services, a bid received from a business that certifies that it has implemented a drug-free workplace program shall be given preference in the award process (see attached certification form).

Established procedures for processing tie bids will be followed if none of the tied vendors have a drug-free workplace program.

Note: For bidder's convenience, this certification form is enclosed and is made a part of the bid package.

7. Bids will not be considered from vendors who are currently involved in official financial reorganization or bankruptcy proceedings.
8. **Payments** - The contractor shall be paid upon submission of invoices, in duplicate to the Okaloosa County Board of Commissioners, Finance Office, Room 115, 101 James Lee Blvd., East, Crestview, Florida 32536-3502. The prices stipulated herein for articles delivered and accepted. Invoices must show Purchase Order Number.
9. **Information** - Questions concerning bid requirements or specifications should be directed to the Okaloosa County Purchasing Department, 602-C North Pearl Street, Crestview, Florida 32536, Telephone Number 850-689-5960; Attn: Richard Brannon Any changes by the County to specifications shall be in writing in the form of an addendum and furnished to all bidders. Verbal information obtained otherwise will not be considered in awarding of bids.
10. **Bid Opening** - Bid Opening shall be public, on the date and time specified on the bid form. It is the bidder's responsibility to assure that his bid is delivered at the proper time and place. Offers by telegram, facsimile, or telephone are **NOT** acceptable. **NOTE:** Crestview, Florida is "**not a next day guaranteed delivery location**" by delivery services.
11. **Right to Waive and Reject**
- A. The Board, in its absolute discretion, may reject any bid of a bidder that has failed, in the opinion of the Board, to complete or perform an Okaloosa County contracted project in a timely fashion or has failed in any other way, in the opinion of the Board, to perform a prior contract in a satisfactory manner and has directed the Okaloosa County Purchasing Director to emphasize this condition to potential bidders.
- B. There is no obligation on the part of the County to award the bid to the lowest bidder, and the County reserves the right to award the bid to bidder submitting a

responsive bid with a resulting negotiated agreement which is most advantageous and in the best interest of Okaloosa County, and to reject any and all bids or to waive any irregularity or technicality in bids received. Okaloosa County shall be the sole judge of the bid and the resulting negotiated agreement that is in its best interest and its decision shall be final.

- C. The Board of County Commissioners reserves the right to waive any informalities or reject any and all bids, in whole or part, to utilize any applicable state contracts in lieu of or in addition to this bid and to accept the bid that in its judgment will best serve the interest of the County.
 - D. The Board of County Commissioners specifically reserves the right to reject any conditional bid and will normally reject those that made it impossible to determine the true amount of the bid. Each item must be bid separately and no attempt is to be made to tie any item or items to any other item or items.
12. **Disqualification of Bidders** - Any of the following reasons may be considered as sufficient for the disqualification of a bidder and the rejection of his bid or bids:
- A. More than one bid for the same work from an individual, firm or corporation under the same or different name.
 - B. Evidence that the bidder has a financial interest in the firm of another bidder for the same work.
 - C. Evidence of collusion among bidders. Participants in such collusion will receive no recognition as bidders for any future work of the County until such participant shall have been reinstated as a qualified bidder.
 - D. Uncompleted work that in the judgment of the County might hinder or prevent the prompt completion of additional work if awarded.
 - E. Failure to pay or satisfactorily settle all bills due for labor and material on former contracts in force at the time of advertisement of bids.
 - F. Default under previous contract.
 - G. The Board, in its absolute discretion, may reject any bid of a bidder that has failed, in the opinion of the Board, to complete or perform an Okaloosa County contracted project in a timely fashion or has failed in any other way, in the opinion of the Board, to perform a prior contract in a satisfactory manner, and has directed the Okaloosa County Purchasing Director to emphasize this condition to potential bidders.
13. **Authority to Piggyback** - All bidders submitting a response to this Invitation to Bid agree that such response also constitutes a bid to all governmental agencies under the same conditions, for the same contract price, and for the same effective period as this bid, should the bidder feel it is in their best interest to do so.

Each governmental agency desiring to accept these bids and make an award thereof shall do so independently of any other governmental agency. Each agency shall be responsible for its own purchases and each shall be liable only for materials and/or services ordered and received by it, and no agency assumes any liability by virtue of this bid.

This agreement in no way restricts or interferes with the right of any governmental agency to bid any or all items.

14. **No Bid** - If not submitting a bid, respond by returning this bid, marking it "**NO BID**" and explain the reason. Repeated failure to quote without sufficient justification shall be cause for removal of the supplier's name from the bid mailing list. **NOTE:** To qualify as a respondent, bidder must submit a "No Bid" and it must be received no later than the stated bid opening date and hour.
15. **Terms and Conditions** – All bidders shall review the Terms and Conditions attached hereto and if the Board accepts their bid and executes a contract, the bidder awarded the contract (Seller) shall agree to the Terms and Conditions, completely, and agrees to furnish the materials and services specified herein in accordance with the Specifications and Terms and Conditions herein.
16. **Delivery Schedule** - Submittal data to be delivered for approval with the Bid. Operation & Maintenance manuals to be delivered for approval no later than 30 calendar days prior to start-up and after receipt of Approved or Approved as Noted submittal data. Delivery of on-site Equipment/Materials shall be no later than calendar days identified on the Bid, after receipt of Purchase Order and shall be coordinated with the on-site installation Contractor.
17. **Terms of Sale** - FOB Job Site
18. **Sales Tax** - Is excluded from the Lump Sum amount of this order. Refer to Letter of Indemnification.

STANDARD TERMS AND CONDITIONS

1. **AGREEMENT.** The executed agreement (Order) between the Board and the Seller for materials and services, including the terms and conditions herein and any attachments or specifications hereto, contains the complete agreement between the Board and the Seller and supersedes all prior agreements.
2. **TIME.** Time is of the essence in the performance of this Order.
3. **SELLERS CONDITIONS.** By acceptance of this Order and/or commencement of performance hereunder, Seller agrees to comply fully with the terms and conditions set forth in this document. Acceptance of this Order is expressly limited to the terms and conditions of this Order and none of the Seller's terms and conditions shall apply in acknowledging this Order or in the acceptance of this Order. Acceptance by the Board of the goods, equipment and/or services ("goods") delivered under this Order shall not constitute acceptance of the Seller's terms and conditions.
4. **DEFINITIONS.** As used herein, the term "goods" shall mean and include all supplies, materials, work, services, equipment, training, start-up services, operation and maintenance manuals or other items whatsoever to be furnished by Seller under this Order.
5. **INSPECTION.** Notwithstanding any prior inspection or test, payment or receiving document, goods are subject to final inspection and acceptance at the destination for delivery stated herein. Payment for goods shall not constitute acceptance.
6. **WARRANTIES.** (a) Notwithstanding inspection and acceptance by the Board of goods furnished under this Order, Seller warrants that all goods furnished will be of merchantable quality, and will be free from defects in material, workmanship and design, and conform in all aspects with the specifications and requirements of this Order. (b) Seller further warrants that all goods furnished will be of the highest workmanlike quality. (c) All Warranties hereunder shall be for a period of one (1) year from the date of delivery or the beneficial use of the goods, or as indicated otherwise in this Order, whichever is later, and shall be warranties of future performance for each warranty year. (d) In the event of a breach of warranty hereunder, the Board may, at no increase in Order price or other cost to the Board, either: (1) require the prompt correction or replacement of defective or otherwise nonconforming goods or parts thereof, along with such new or revised data as is associated with the corrective action taken; or (2) retain such goods, whereupon the price thereof shall be reduced by an amount equitable under the circumstances; or (3) correct or replace such goods with similar goods, by contract or otherwise, and charge Seller for all additional costs caused thereby. (e) Any goods or parts thereof corrected or furnished in replacement pursuant to this clause shall be subject to all the provisions of this clause to the same extent as goods initially delivered. The warranty with respect to such goods or parts thereof shall be equal in duration to the initial warranty period and shall run from the date of delivery or placement in service of such corrected or replaced goods, whichever is later. (f) the Board's or its agents approval of Seller-generated designs drawings or other technical documents shall in no way relieve Seller of its obligations under this or any other clause of this Order.
7. **SCHEDULE & EXPEDITING.** Seller shall keep the Board informed as the status of the goods hereunder and Seller's schedule of activities to assure delivery by the time

- required herein. Without any responsibility to do so, the Board reserves the right to take steps to expedite acquisition, production and/or shipment of the goods, if, in the Board's sole judgment, delivery of the completed goods by the date required becomes doubtful. Seller shall reimburse the Board for all costs it may incur in expediting acquisition, production or shipment of the goods.
8. **CHANGES.** The Board reserves the right at any time prior to delivery, by written order, to cancel, suspends, revise or change the goods or quantity of goods to be furnished by Seller hereunder, and in no event shall the Board be responsible for loss of anticipated profits or consequential damages. In the event of a revision to this Order by the Board, the Board shall be responsible only for the price of the goods accepted. Any increase in the price of the goods resulting from a revision is subject to the approval of the Board. Failure to agree to any adjustment shall be a dispute within the meaning of the "Disputes" clause hereof. Pending resolution of the dispute, the Seller shall not be excused from proceeding with the order as changed.
 9. **BANKRUPTCY.** the Board may terminate this Order in whole or in part by written notice: (a) if the Seller shall become insolvent or make a general assignment for the benefit of creditors; or (b) if a petition under any bankruptcy act or similar statute is filed by or against the Seller and is not vacated within ten (10) days after it is filed.
 10. **PRICES.** Seller warrants that the prices of the goods covered by this Order are not in excess of prices charged by Seller for similar goods to Seller's most favored customers.
 11. **INVOICING AND PAYMENT.** Unless otherwise specified, a separate invoice shall be issued for each shipment. Unless otherwise specified, an invoice shall not be issued prior to shipment of goods and payment will not be made prior to receipt and acceptance of both the goods and a correct invoice. Credit and discount periods as identified on the face of this Order (if any) shall be computed from the date of receipt of the correct invoice to the date Board's check is mailed. Discount shall be taken on full amount of invoice.
 12. **ASSIGNMENT.** Neither this Order nor any interest herein nor claim thereunder shall be assigned or transferred by Seller, except as expressly authorized in writing by the Board.
 13. **ADVERTISING AND PUBLICITY.** Seller shall not, without prior written consent of the Board, publish the fact that the Board has placed this order with Seller, or release any information relative thereto. Seller shall not use the name of Seller or Engineer, or affiliates (hereinafter collectively referred to as Engineer) in any advertising or promotional literature without the prior written consent of the Board and Engineer.
 14. **PATENT, COPYRIGHT OR TRADEMARK INFRINGEMENT.** Seller agrees to indemnify, defend and hold harmless Owner, the Board, Engineer and their officers, agents, employees, successors and assigns against loss, damage or liability, including costs, expenses and attorneys' fees on account of any suit, claim, judgment or demand involving the alleged infringement of any patent, copyright, trademark, or trade name by reason of the manufacture, use, sale or disposition of any item or material supplied hereunder. If so requested by the Board or Engineer, Seller shall, at its expense, appear in and assume the defense of any litigation to which Owner, the Board and Engineer has been made a party which relates to any such infringement. If a final injunction against Owner or the Board's use of the

- goods results from such claim (or if the Board reasonably believes such a claim is likely), Seller shall, at its own expense and at the Board's request, obtain for Owner and the Board the right to continue using the goods or replace or modify (or any part thereof) so that it becomes non-infringing but functionally equivalent.
15. **INDEMNITY.** (a) Seller agrees to indemnify and hold harmless and upon request, defend the Board and Engineer and their agents and employees and persons claiming through the Board or Engineer from and against all claims, losses, damages, expenses for (1) damages to persons or property caused in whole or in part by any act, omission or default of Seller, its contractors, subcontractors, sub-subcontractors, material men, or agents of any tier or their respective employees except for claims of or damages resulting from the gross negligence, or willful, wanton or intentional misconduct of the Board, or Engineer, their officers, directors, agents or employees; and (2) statutory or punitive damages caused by or result from the acts or omissions of the Seller, its contractors, subcontractors, sub-subcontractors, material men, or agents of any tier or their respective employees. The indemnity provided by this Section 16 (a) shall be limited to the dollar amount of insurance specified in Section 27. (b) Seller further agrees to indemnify and hold harmless and upon request defend the Board and Engineer and persons claiming through the Board or Engineer and their agents and employees from liabilities, damages, losses and costs, including but not limited to attorneys' fees, to the extent caused by the negligence, recklessness, or intentional wrongful misconduct of the Seller and persons employed or utilized by Seller in the performance of the work. The indemnity provided by this Section 16 (b) shall in no way be limited by any insurance coverage provided by Seller.
16. **CONSEQUENTIAL DAMAGES.** Notwithstanding any other provision herein, the Board shall under no circumstances be responsible to Seller for any consequential, indirect or special damages.
17. **DELIVERY.** Delivery shall be to the project site Free on Board (F.O.B.) unless otherwise designated in this Order.
18. **TITLE AND RISK OF LOSS.** Title to and risk of loss on all goods shipped by Seller to the Board shall not pass to the Board until the Board inspects and accepts such goods at the location designated by the Board.
19. **TAXES.** Board of County Commissioners of Okaloosa County, FL, is a tax exempt public entity and the prices herein should not include Federal, state or local taxes for the goods purchased herein.
20. **DISPUTE RESOLUTION.** In the event of any dispute between the parties arising out of or in connection with the contract or the services or work contemplated herein; the parties agree to first make a good faith effort to resolve the dispute informally. Negotiations shall take place between the designated principals of each party. If the parties are unable to resolve the dispute through negotiation within 90 days, then either party may give written notice within 10 days thereafter that it elects to proceed with non-binding mediation pursuant to the commercial mediation rules of the American Arbitration Association. In the event that mediation is not invoked by the parties or that the mediation is unsuccessful in resolving the dispute, then either party may submit the controversy to a court of competent jurisdiction. The foregoing is a condition precedent to the filing of any action other than an action for injunctive relief or if a Statute of Limitations may expire. Each party shall be responsible for its own costs and expenses including attorneys' fees and court

- costs incurred in the course of any dispute, mediation, or legal proceeding. The fees of the mediator and any filing fees shall be shared equally by the parties.
21. **COMPLIANCE WITH LAWS.** Seller agrees to comply with all applicable local, state and Federal laws and executive orders and a regulation issued pursuant thereto and agrees to indemnify the Board and Engineer against any liability, loss, cost, damage, or expense incurred by reason of Seller's violation of this provision.
 22. **GOVERNING LAW.** This Order shall be governed by the laws of the State of Florida.
 23. **SEVERABILITY.** If any provision of this Order, or any part thereof, shall be invalid or unenforceable, such provision or part shall be deemed severed, and the remainder hereof shall be given full force and effect.
 24. **MISCELLANEOUS PROVISIONS.** Seller shall comply with the Fair Labor Standards Act, particularly sections 6, 7 and 12 thereof, and all other applicable Federal, state and local laws, regulations and orders and shall, upon request, furnish to the Board a certificate to such effect. The Equal Opportunity clause in Title 41, part 60-1.4 of the Code of Federal Regulations (Paragraphs 1 through 7 of President's Executive Order 11246), the Employment of the Handicapped clause in Title 20, Part 741.3 of the Code of Federal Regulations, listing of Employment Openings for Veterans clause in Title 41, part 50-250.2, of the Code of Federal Regulations and Disabled Veterans and Veterans of the Vietnam Era Clause in Title 41, Part 60-250, of the Code of Federal Regulations are incorporated herein by reference if and to the extent applicable. When applicable, Seller shall not discriminate against any employee or applicant for employment because of physical or mental handicap; and shall establish an affirmative action program applicable thereto, all as set forth in Part 741, Subchapter C, Chapter VI, Title 20 of the Code of Federal Regulations.
 25. **INSURANCE REQUIREMENTS.** Seller shall maintain products liability and completed operations insurance which provides, under the terms of the primary policy or by contractual liability endorsement if necessary, coverage in respect of claims involving bodily injury or property damage arising out of or in connection with the goods. Such insurance shall be in such minimum amounts of 1 million, whichever is greater and shall declare the Board, Engineer and Owner as an additional insured. Seller shall also maintain workers compensation and employer's liability insurance. All policies of insurance shall not be cancelable except upon ten (10) days' written notice to the Board, shall include a waiver of subrogation in favor of the Board and Engineer. Seller shall furnish proof of such insurance to the Board.

CONFLICT OF INTEREST DISCLOSURE FORM

For purposes of determining any possible conflict of interest, all bidders/proposers, must disclose if any Okaloosa Board of County Commissioner, employee(s), elected official(s), of if any of its agencies is also an owner, corporate officer, agency, employee, etc., of their business.

Indicate either "yes" (a county employee, elected official, or agency is also associated with your business), or "no". If yes, give person(s) name(s) and position(s) with your business.

YES _____

NO _____

NAME(S)

POSITION(S)

FIRM NAME: _____

BY (PRINTED): _____

BY (SIGNATURE): _____

TITLE: _____

ADDRESS: _____

PHONE NO. _____

DRUG-FREE WORKPLACE CERTIFICATION

THE BELOW SIGNED BIDDER CERTIFIES that it has implemented a drug-free workplace program. In order to have a drug-free workplace program, a business shall:

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
2. Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.
3. Give each employee engaged in providing the commodities or contractual services that are under quote a copy of the statement specified in subsection 1.
4. In the statement specified in subsection 1, notify the employees that, as a condition of working on the commodities or contractual services that are under quote, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
5. Impose a sanction on, or require the satisfactory participation in, drug abuse assistance or rehabilitation program if such is available in employee's community, by any employee who is convicted.
6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign this statement, I certify that this firm complies fully with the above requirements.

DATE: _____

SIGNATURE: _____

COMPANY: _____

NAME: _____
(Typed or Printed)

ADDRESS: _____

TITLE: _____

PHONE NO.: _____

BID SHEET

BID #: **WS 35-12**

BASE BID (Items 1) - TRAILER MOUNTED BY-PASS PUMP UNIT
DEDUCTIVE ALTERNATE (Item 2) – Compressor Assisted Priming System

****Submit separate pricing for Item 1 (Base Bid), Item 2 (Deductive Alternate)**

ITEM	QTY		DESCRIPTION	UNIT PRICE	EXT. PRICE
1	1	EA	12" diesel driven pump , trailer mounted, enclosure and fuel storage		
	1	LOT	Specific Specification Sections (01330E, 01332E, 01782015728) Drawings: All Submittals: (Include with this bid the following: Shop Drawings, Product Data, & Calculations (6 Copies w/Electronic PDF. Preliminary O&M Manuals, and Final O&M Manuals Warranty: Warranty shall be in accordance with the attached specifications Payment: List Freight and Manufacturer Services as a separate non taxable item when submitting invoices	Cost associated with these requirements shall be included in the associated unit price shown for the specified equipment in Item 1	N/A
	1	Lot	Manufacturer Services as detailed in Specification Section 01640, and as required providing a fully operational and functioning system per the scope of this contract.		N/A
	1	Lot	Spare Parts and Tools: As specified in Equipment Sections		N/A
			TOTAL BASE BID (ITEM 1)	\$	
2	1	LS	DEDUCTIVE COST: Compressor Assisted Priming System Section 015728 2.1.E	\$	

DELIVERY TIME: _____ MAXIMUM* DAYS FROM RECEIPT OF PURCHASE ORDER

*Max Days is defined as calendar days to deliver all equipment to the site as specified, including submittals, manufacturing and testing. Time will be from date of receipt of purchase agreement from OWNER. Allow a max 10 working days for initial submittal review and each resubmit required by ENGINEER / OWNER.

LUMP SUM BASE BID AMOUNT IS WRITTEN AS:

_____ Dollars and _____ Cents,

\$ _____, To Be Fully Tested, Shipped and

Delivered to the Project Site within _____ Calendar Days from Receipt of Official Purchase Order.

ANTI-COLLUSION STATEMENT: The below signed bidder has not divulged to, discussed or compared his bid with other bidders and has not colluded with any other bidder or parties to bid whatever. (Note: No premiums, rebates, or gratuities permitted either with, prior to, or after any delivery of materials. Any such violation will result in the cancellation and/or return of material (as applicable) and the removal from bid list(s).

Bidder's Company Name

Authorized Signature – Manual

Authorized Signature – Typed

Address

Title

Phone #

Fax #

Federal ID # or SS #

SECTION 01330E
SUBMITTALS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Submittals are required prior to, during, and at the end of the installation period. The submittals shall conform to the requirements described in this Section and all referenced Sections or Articles.

1.02 PROCEDURE

- A. Submit the following items within five days after the Contract is executed.
 - 1. Shop Drawings, Product Data and Samples: Submit Shop Drawings, product data and samples in accordance with Section 01332, Shop Drawing Procedures, and as required in applicable Sections of the Contract Documents.
 - 2. Request for Information: Submit a Request for Information (RFI), when any of the following are required: an interpretation of the Specifications; additional details; information not shown on the Drawings or in the Specifications; or clarification of discrepancies is required. Manufacturer shall retain one copy and submit one copy to the ENGINEER for response.
 - 3. Operation and Maintenance Manuals and Lesson Plans: Submit Equipment Operation and Maintenance Manuals for approval, by the ENGINEER, within 30 days after approval of Equipment Shop Drawing. Submit Equipment Training Lesson Plans for approval, by the ENGINEER, 60 days prior to commencement of training. Submit Operation and Maintenance Data and Lesson Plans in accordance with Section 01782, Operation and Maintenance Data.
- B. Submittal At Final Completion: Submit the following items in the proper form as a condition of Final Acceptance of the Work:
 - 1. Guarantees, Warranties, and Bonds: Submit as listed in various Sections of the Specifications.
 - 2. Operations and Maintenance Data: Submit all remaining product data and manuals as specified in various Sections of the Specifications.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01330E

SECTION 01330E
SUBMITTALS

MAIN ISLAND PS

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08/24/2012

SECTION 01332

SHOP DRAWING PROCEDURES

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The submittal of Shop Drawings shall conform to requirements in this Section. A separate transmittal form shall be used for each specific item or class of material or equipment for which a submittal is required.
- B. The term "Shop Drawings" as used herein shall be understood to include detailed design calculations, fabrication and installation drawings, lists, graphs, test data, operating instructions, and other items which shall include, but are not necessarily limited to:
 - 1. Drawings and catalog information and cuts.
 - 2. Specifications, parts list, suggested spare parts lists, and equipment drawings.
 - 3. Wiring diagrams of systems and equipment.
 - 4. Complete lubrication, maintenance and operation instructions, including initial startup instructions.
 - 5. Applicable certifications.
 - 6. Anchor bolt templates, mounting instructions, and mounting design calculations as required.
 - 7. Required maintenance operations to allow all installed equipment to remain idle for a period of time not to exceed 24 months.
 - 8. Other technical, installation, and maintenance data as applicable.
 - 9. Unloading and handling methods and storage requirements.
 - 10. Note, highlight, and explain proposed changes to the Contract Documents.
 - 11. Paint submittal showing type of paint and the mils thickness of coating system used.
 - 12. Drawings showing Installation Contractor field verifications illustrating all field dimensions. Installation Contractor shall field verify all dimensions and existing materials shown on the Drawings. Any modifications required shall be at Installation Contractor's expense.

1.2 PROCEDURE

- A. Submit Shop Drawings to ENGINEER.
- B. A letter of transmittal shall accompany each submittal. If data for more than one Section of the Specifications is submitted, a separate transmittal letter shall accompany the data submitted for each Section.
- C. All letters of transmittal shall be submitted in duplicate.

- D. At the beginning of each letter of transmittal, provide a reference heading indicating the following:
1. OWNER'S Name: _____
 2. Project Name: _____
 3. Contract No.: _____
 4. Transmittal No.: _____
 5. Section No.: _____
- E. If a Shop Drawing deviates from the requirements of the Contract Documents, Manufacturer shall specifically note each variation in his letter of transmittal.
- F. All Shop Drawings submitted for approval shall have a title block with complete identifying information satisfactory to ENGINEER.
- G. All Shop Drawings submitted shall bear the stamp of approval and signature of Manufacturer as evidence that they have been reviewed and verified to the completeness of the submittal by Manufacturer. Submittal without this stamp of approval will not be reviewed by ENGINEER and will be returned to Manufacturer. Manufacturer's stamp shall contain the following minimum information:

Project Name: _____

Manufacturer's Name: _____

Date: _____

-----Reference-----

Item: _____

Specifications:

Section: _____

Page No.: _____

Page No.: _____

Drawing No.: _____ of _____

Location: _____

Submittal No.: _____

Approved By: _____

- H. Manufacturer shall utilize the submittal identification numbering system as follows:
1. The Submittal Number shall be a separate and unique number correlating to each individual submittal that is required to be tracked as a separate and

unique item. The Submittal Number shall be a two part, eight character, alpha/numeric number assigned by Manufacturer in the following manner:

- a. The first part of the Submittal Number shall consist of five characters that pertain to the applicable Specification Section number.
 - b. The second part of the Submittal Number shall consist of three digits (numbers 001 to 999) to number each separate and unique submittal submitted under each Specification Section.
 - c. A dash shall separate the two parts of the Submittal Number.
 - d. A typical Submittal Number for the third Working Drawing submitted under Section 15101, Ductile Iron Pipe, would be 15101-003.
2. The Review Cycle shall be a three-digit number indicating the initial submission or resubmission of the same submittal. For example:

001 = First (initial) submission.
002 = Second submission (first resubmission).
003 = Third submission (second resubmission).

3. An example of the typical submittal identification numbers for the first submission of the third submittal submitted under Section 15051, Buried Piping Installation is:

<u>Submittal Number</u>	<u>Review Cycle</u>
15051-003	001

An example of the typical submittal identification numbers for the second submission of the third submittal submitted under Section 15051, Buried Piping Installation is:

<u>Submittal Number</u>	<u>Review Cycle</u>
15051-003	002

- I. Manufacturer shall initially submit to ENGINEER a minimum of five copies of all submittals that are on 11-inch by 17-inch or smaller sheets, and one unfolded reproducible and three prints made from that reproducible for all submittal on sheets larger than 11-inch by 17-inch.
- J. After ENGINEER completes his review, Shop Drawings will be affixed with a stamp and marked with one of the following notations:
 1. Approved.
 2. Approved as Corrected.
 3. Approved as Corrected, Resubmit.
 4. Revise and Resubmit.
 5. Not Approved.
 6. Not Reviewed.
 7. For Information Only.

- K. If a submittal is acceptable, it will be marked "Approved" or "Approved as Corrected." Three prints or copies of the submittal will be returned to Manufacturer.
- L. Upon return of a submittal marked "Approved" or "Approved as Corrected," Manufacturer may order, ship or fabricate the materials included on the submittal, provided it is in accordance with the corrections indicated.
- M. If a Shop Drawing marked "Approved as Corrected" has extensive corrections or corrections affecting other Shop Drawings or Work, ENGINEER may require that Manufacturer make the corrections indicated thereon and resubmit the Shop Drawings for record purposes. Such Shop Drawings will have the notation, "Approved as Corrected - Resubmit." The corrected Shop Drawing shall be a pre-condition for payment for the work item of the Shop Drawing.
- N. If a submittal is unacceptable, two copies will be returned to Manufacturer with one of the following notations:
 - 1. "Revise and Resubmit."
 - 2. "Not Approved."
- O. Upon return of a submittal marked "Revise and Resubmit", Manufacturer shall make the corrections indicated and repeat the initial approval procedure. The "Not Approved" notation is used to indicate material or equipment that is not acceptable. Upon return of a submittal so marked, Manufacturer shall repeat the initial approval procedure utilizing acceptable material or equipment.
- P. Shop Drawings shall be submitted well in advance of the need for the material or equipment for construction and with ample allowance for the time required to make delivery of material or equipment after data covering such is approved. Manufacturer and Installation Contractor shall assume the risk for all Work, materials or equipment that are fabricated, delivered or installed prior to the approval of Shop Drawings. Materials or equipment will not be included in periodic progress payments until approval thereof has been obtained in the specified manner.
- Q. ENGINEER will review and process all submittals promptly; a reasonable time shall be allowed for this, for the Shop Drawings being revised and resubmitted, and for time required to return the approved Shop Drawings to Manufacturer.
- R. Manufacturer shall furnish required submittals with complete information and accuracy in order to achieve required approval of an item within two submittals.
- S. Mark each page of a submittal and each individual component submitted with the specification number, paragraph, and subparagraph. Arrange submittal information presentation to appear in the sequence in the Specification Section.

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SHOP DRAWING PROCEDURES

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PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01332

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SECTION 01400E
QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve CONTRACTOR of responsibility for compliance with the Contract Document requirements.
 - 1. Specified tests, inspections, and related actions do not limit CONTRACTOR's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
 - 2. Requirements for CONTRACTOR to provide quality-assurance and -control services required by ENGINEER, OWNER, or authorities having jurisdiction are not limited by provisions of this Section.
- C. See Divisions 2 through 16 Sections for specific test and inspection requirements.

1.2 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by ENGINEER.
- C. Mockups: Full-size, physical assemblies that are constructed on-site. Mockups are used to verify selections made under sample submittals, to demonstrate aesthetic effects and, where indicated, qualities of materials and execution, and to review construction, coordination, testing, or operation; they are not Samples. Approved mockups establish the standard by which the Work will be judged.
- D. Laboratory Mockups: Full-size, physical assemblies that are constructed at testing facility to verify performance characteristics.

- E. Preconstruction Testing: Tests and inspections that are performed specifically for the Project before products and materials are incorporated into the Work to verify performance or compliance with specified criteria.
- F. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with industry standards.
- G. Source Quality-Control Testing: Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.
- H. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- I. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- J. Installer/Applicator/Erector: CONTRACTOR or another entity engaged by CONTRACTOR as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
 - 1. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to trades people of the corresponding generic name.
- K. Experienced: When used with an entity, "experienced" means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.3 CONFLICTING REQUIREMENTS

- A. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to ENGINEER for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to ENGINEER for a decision before proceeding.

1.4 SUBMITTALS

- A. Qualification Data: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- B. Reports: Prepare and submit certified written reports that include the following:
 - 1. Date of issue.
 - 2. Project title and number.
 - 3. Name, address, and telephone number of testing agency.
 - 4. Dates and locations of samples and tests or inspections.
 - 5. Names of individuals making tests and inspections.
 - 6. Description of the Work and test and inspection method.
 - 7. Identification of product and Specification Section.
 - 8. Complete test or inspection data.
 - 9. Test and inspection results and an interpretation of test results.
 - 10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
 - 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 - 12. Name and signature of laboratory inspector.
 - 13. Recommendations on retesting and reinspecting.
- C. Permits, Licenses, and Certificates: For OWNER's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.5 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this Article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- C. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that is similar to those indicated for this Project in material, design, and extent.
- F. Specialists: Certain sections of the Specifications require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
1. Requirement for specialists shall not supersede building codes and regulations governing the Work.
- G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 548; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.
1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
 2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
- H. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
1. Build mockups in location and of size indicated or, if not indicated, as directed by ENGINEER.
 2. Notify ENGINEER seven days in advance of dates and times when mockups will be constructed.
 3. Demonstrate the proposed range of aesthetic effects and workmanship.
 4. Obtain ENGINEER's approval of mockups before starting work, fabrication, or construction.
 5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
 6. Demolish and remove mockups when directed, unless otherwise indicated.
- J. Laboratory Mockups: Comply with requirements of preconstruction testing and those specified in individual Sections in Divisions 2 through 16.

1.6 QUALITY CONTROL

- A. OWNER Responsibilities: Where quality-control services are indicated as OWNER's responsibility, OWNER will engage a qualified testing agency to perform these services.
1. OWNER will furnish CONTRACTOR with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
 2. Costs for retesting and re-inspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to CONTRACTOR, and the Contract Sum will be adjusted by Change Order.
- B. Tests and inspections not explicitly assigned to OWNER are CONTRACTOR's responsibility. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of CONTRACTOR by authorities having jurisdiction, whether specified or not.
1. Where services are indicated as CONTRACTOR's responsibility, engage a qualified testing agency to perform these quality-control services.
 - a. CONTRACTOR shall not employ same entity engaged by OWNER, unless agreed to in writing by OWNER.
 2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
 3. Where quality-control services are indicated as CONTRACTOR's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 4. Testing and inspecting requested by CONTRACTOR and not required by the Contract Documents are CONTRACTOR's responsibility.
 5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Division 1 Section "Submittal Procedures."
- D. Retesting/Re-inspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and re-inspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- E. Testing Agency Responsibilities: Cooperate with ENGINEER and CONTRACTOR in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify ENGINEER and CONTRACTOR promptly of irregularities or deficiencies observed in the Work during performance of its services.
 2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
 3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through CONTRACTOR.
 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
 6. Do not perform any duties of CONTRACTOR.
- F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
 4. Facilities for storage and field curing of test samples.
 5. Delivery of samples to testing agencies.
 6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 7. Security and protection for samples and for testing and inspecting equipment at Project site.
- G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
1. Provide materials and comply with installation requirements specified in other Specification Sections.

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QUALITY REQUIREMENTS

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- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are CONTRACTOR's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01400E

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SECTION 01640E
MANUFACTURER'S SERVICES

PART 1 - GENERAL

1.1 DEFINITIONS

- A. Reference Section 01650, FACILITY STARTUP
- B. Person-Day: One person for 8 hours within regular CONTRACTOR working hours.

1.2 SCOPE

- A. Work under this section defines the minimum scope of services to be provided using factory representatives of the manufacturers of the equipment to be installed during installation, start-up, and operator training.
- B. Equipment manufacturers assigned unit responsibility for systems comprised of several components shall provide the service of factory representative from each component manufacturer to perform the duties required under these Specifications. The equipment manufacturer assigned unit responsibility shall be responsible for coordinating the activities of the system component manufacturers.

1.3 SUBMITTALS

- A. Training Schedule: Submit not less than 15 days prior to equipment installation and revise as necessary for acceptance.
- B. Training Materials:
 - 1. Final training materials must be approved by ENGINEER prior to equipment startup and training.
 - 2. Furnish complete outlines of proposed training session, operation and maintenance data for each trainee in attendance.
- C. Quality Control Submittals: As required in the individual Specification, submit:
 - 1. Qualifications of Manufacturer's Representative performing specified services.
 - 2. Manufacturer's Certificate of Proper Installation using form provided by Manufacturer.

1.4 QUALIFICATION

- A. Qualification of the representatives for installation, startup, and operator training purposes shall be an authorized representative of the manufacturer, factory trained, and experienced in the technical applications, installation, operation and maintenance of the equipment being installed and shall be subject to the approval of the ENGINEER. No substitutions of approved representatives will be allowed without the prior written approval of the ENGINEER.
- B. References in various equipment sections of the terms "factory representative" or "field representative" shall mean an employee or contractor of the equipment manufacturer who is trained, articulate, capable of coordinating and expediting training, and familiar with operation and maintenance manual information specified in Section 01782, OPERATION AND MAINTENANCE DATA.

1.5 COORDINATION

- A. Contractor shall notify ENGINEER 72 hours prior to any impending visit by factory representatives so that the ENGINEER may be present.
- B. ENGINEER may approve the services of a manufacturer's representative for more than one system during the same site visit.
- C. Installation Contractor shall perform the necessary inspections to ensure that all conditions necessary for successful training and/or startup services have been met prior to scheduling manufacturer's onsite services.

1.6 MINIMUM MANUFACTURER'S SERVICES REQUIREMENTS

- A. Qualified factory representatives shall furnish manufacturer's services as specified in the Contract Documents.
- B. Where time is specified in the Contract Documents for manufacturer's services, the specified time shall be considered a minimum time and any time in excess of the specified time stated in the specifications to perform the required manufacturer's services shall be considered incidental work. ENGINEER approved days of service will be credited to fulfill the specified minimum manufacturer's services.
- C. Installation Contractor's training and startup schedule shall coordinate manufacturer's services to avoid conflicting with other onsite testing or other manufacturer's services.
- D. Manufacturer's services will include the following, as applicable to the specific system or equipment items:
 - 1. Installation assistance including observation, guidance, instruction of Installation Contractor's assembly, erection, installation or applications.

2. Inspection, checking, and adjustment as required for product (system, subsystem, or component) to function as warranted by manufacturer and necessary to furnish written approval of installation.
3. Additional site visits as necessary to address problems and until installation and operation are acceptable to ENGINEER.
4. Perform, coordinate, and assist during functional and performance testing and startup demonstration, and until product acceptance by the ENGINEER.
5. Training of OWNER'S personnel in the operation and maintenance of respective product as required.
6. Completion of Manufacturer's Certificate of Proper Installation with applicable certificates for proper installation and initial, interim, and final test or service.

1.7 SCHEDULE

- A. Coordinate with Installation Contractor the following.
- B. List specified equipment and systems with respective manufacturers that require training services of manufacturers' representatives and show:
 1. Estimated dates for installation completion.
 2. Estimated training dates to allow for multiple sessions when several shifts are involved.
- C. Adjust training schedule to ensure training of appropriate personnel as deemed necessary by OWNER, and to allow full participation by manufacturers' representatives. Adjust schedule for interruptions in operability of equipment.

1.8 TRAINING PLAN

- A. Training Plan: Submit for each proposed course:
 1. Title and objectives.
 2. Schedule of training courses including dates, durations, and locations of each class.
 3. Recommended types of attendees (e.g., managers, engineers, operators, maintenance).
 4. Course description and outline of course content.
 5. Duration.
 6. Instruction materials and equipment requirements.
 7. Detailed course schedule for each day showing time allocated to each topic.
 8. Resumes of instructors providing the training.

1.9 TRAINING OWNER'S PERSONNEL

- A. Manufacturer shall furnish the services of a factory representative to train the operations staff in the operation and maintenance of each item installed under these Specifications.

The time required to perform these services shall be shown in the equipment section, but shall be no less than one (1), eight (8) hour day.

B. Prestartup Training:

1. Coordinate training sessions with operating personnel and manufacturers' representatives, and with submission of operation and maintenance manuals in accordance with Section 01782, OPERATION AND MAINTENANCE DATA.
2. Complete at least 14 days prior to actual startup.

C. Post-Startup Training: If required in Specifications, furnish and coordinate training of OWNER'S operating personnel by respective manufacturer's representatives.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01640E

SECTION 01650E
FACILITY STARTUP

PART 1 - GENERAL

1.1 DEFINITIONS

- A. Reference Section 01640, MANUFACTURER'S SERVICES
- B. Functional Test: A test or tests in the presence of the ENGINEER and OWNER to demonstrate that the installed equipment or system meets manufacturer's installation and adjustment requirements and other requirements specified including, but not limited to, noise, vibration, alignment, speed, proper electrical and mechanical connections, thrust restraint, proper rotation, and initial servicing.
- C. Performance Test: A test performed in the presence of the ENGINEER and OWNER and after any required functional test specified, to demonstrate and confirm that the equipment and/or system meet the specified performance requirements.
- D. System: The overall process, or a portion thereof, that performs a specific function. A system may consist of two or more subsystems as well as two or more types of equipment. Examples of systems on this Project are as follows:
 - 1. FRP wetwell, discharge piping, Pre-fabricated Electrical Building.
 - 2. Pumps, motors, variable frequency drives, equipment appurtenances, transducers.
 - 3. Instrumentation and control system(s).

1.2 SCOPE

- A. Work under this Section includes, but is not necessarily limited to, the provision of all labor and material required to perform startup of all equipment and mechanical systems installed under this Contract.
- B. Work defined under this Section includes providing the services of a factory representative in accordance with the requirements of Section 01640 MANUFACTURER'S SERVICES.

1.3 SUBMITTALS

A. Administrative Submittals:

1. Functional and performance test schedules and plan for equipment, units, and systems at least 15 days prior to start of related testing. Include test plan, procedures, and log format.
2. Schedule and plan of facility startup activities at least 15 days prior to commencement.

B. Quality Control Submittals:

1. Manufacturer's Certificate of Proper Installation as required.
2. Test Reports: Functional and performance testing, in format acceptable to ENGINEER and certification of functional and performance test for each piece of equipment or system specified.
3. Certifications of Calibration: Testing equipment.

1.4 MANUFACTURER AND INSTALLATION CONTRACTOR FACILITY STARTUP RESPONSIBILITIES

A. General:

1. Perform all Work necessary for functional and performance tests specified in the Contract Documents.
2. Demonstrate proper installation, adjustment, function, performance, and operation of equipment, systems, control devices, and required interfaces individually and in conjunction with process instrumentation and control system.
3. Complete Work associated with the unit and related processes before testing, including related manufacturer's representative services.
4. Installation Contractor shall have, at the plant site, Operation and Maintenance Manuals for equipment to be started.
5. Furnish qualified manufacturer's representatives when required to assist in testing.
6. Utilize the Manufacturer's Certificate of Proper Installation Form from Section 01640, MANUFACTURERS' SERVICES, supplemented as necessary, to document functional and performance procedures, results, problems, and conclusions.
7. Schedule and attend pretest (functional and performance) meetings related to test schedule, plan of test, materials, chemicals, and liquids required, facilities' operations interface, ENGINEER and OWNER involvement.
8. Designate and furnish one or more persons to be responsible for coordinating and expediting Installation Contractor's facility startup duties. The person or persons shall be present during facility startup meetings and shall be available at all times during the facility startup period.
9. Provide temporary valves, gauges, piping, test equipment and other materials and equipment required to conduct testing.

1.5 OWNER/ENGINEER FACILITY STARTUP RESPONSIBILITIES

A. General:

1. Review CONTRACTOR'S test plan and schedule.
2. Witness each functional or performance test.
3. Coordinate other plant operations, if necessary, to facilitate testing.
4. Provide water, power, chemicals, and other items as required for testing, unless otherwise indicated.

B. Startup Test Period:

1. Operate process units and devices, with support of Installation Contractor.
2. Provide sampling, labor, and materials as required and provide laboratory analyses.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TESTING PREPARATION

A. Cleaning and Checking: Prior to starting functional testing:

1. Calibrate testing equipment for accurate results.
2. Inspect and clean equipment, devices, connected piping, and structures so they are free of foreign material.
3. Lubricate equipment in accordance with manufacturer's instructions.
4. Turn rotating equipment by hand and check motor-driven equipment for correct rotation.
5. Open and close valves by hand and operate other devices to check for binding, interference, or improper functioning.
6. Check power supply to electric-powered equipment for correct voltage.
7. Adjust clearances and torques.
8. Test piping for leaks.
9. Balance HVAC systems, measuring airflow (cfm) static pressure, and component pressure losses. Furnish typed report documenting results of balancing.
10. Obtain completion of applicable portions of Manufacturer's Certificate of Proper Installation in accordance with Section 01640, MANUFACTURERS' SERVICES.

B. Startup Test Period:

1. As applicable to the equipment furnished, state in writing that all necessary hydraulic structures, piping systems, and valves have been successfully tested; that all necessary equipment systems and subsystems have been checked for proper installation, started, and successfully tested to indicate that they are all operational; that the systems and subsystems are capable of performing their

- intended functions; and that the facilities are ready for startup and intended operation.
2. Attend prestartup planning meetings and arrange for attendants by key major equipment manufacturer representatives as required by the Contract Documents.
 3. Designate and provide one or more persons to be responsible for coordinating and expediting Installation Contractor's startup duties.
 4. When plant startup has commenced, schedule remaining Work so as not to interfere with or delay the completion of plant startup. Support the startup activities with adequate staff to prevent delays, process upsets. This staff shall include, but not be limited to, major equipment and system manufacturers' representatives, subcontractors, electricians, instrumentation personnel, millwrights, pipefitters, plumbers.
 5. Supply and coordinate specified manufacturer's plant startup services.
 6. Make adjustments, repairs, and corrections necessary to complete plant startup.
 7. After the plant is operating, complete the testing of those items of equipment, systems, and subsystems which could not be or were not adequately or successfully tested prior to plant startup.
- C. Ready-to-test determination will be by ENGINEER based at least on the following:
1. Notification by CONTRACTOR of equipment and system readiness for testing.
 2. Acceptable testing plan.
 3. Acceptable Operation and Maintenance Manuals.
 4. Receipt of Manufacturer's Certificate of Proper Installation, if specified.
 5. Adequate completion of Work adjacent to, or interfacing with, equipment to be tested.
 6. Availability and acceptability of manufacturer's representative, when specified, to assist in testing of respective equipment, and satisfactory fulfillment of other specified manufacturers' responsibilities.
 7. Equipment and electrical tagging complete.
 8. All spare parts and special tools delivered to OWNER.

3.2 FUNCTIONAL TESTING—GENERAL

- A. Begin testing at a time mutually agreed upon by the OWNER, ENGINEER, and Installation Contractor.
- B. ENGINEER will be present during test. Notify in writing OWNER, ENGINEER, and manufacturer's representative(s) at least 10 days prior to scheduled date of functional tests.
- C. Separate items of equipment demonstrated to function properly during subsystem testing may require no further functional test if documentation of subsystem testing is acceptable to ENGINEER.
- D. Conduct functional tests as specified for each equipment item or system.

- E. Demonstrate all operational features and instrumentation and control functions while in automatic mode.
- F. If, in ENGINEER'S opinion, functional test results do not meet requirements specified, the systems will be considered as nonconforming.
- G. Performance testing shall not commence until the equipment or system meets the specified functional tests.

3.3 PERFORMANCE TEST—GENERAL

- A. Begin testing at a time mutually agreed upon by the OWNER, ENGINEER, and Installation Contractor.
- B. ENGINEER will be present during test. Notify in writing OWNER, ENGINEER, and manufacturer's representative(s) at least 15 days prior to scheduled date of functional tests.
- C. Conduct performance tests as specified for each equipment item or system.
- D. Unless otherwise indicated, Installation Contractor shall furnish all labor, materials, and supplies for conducting the test and taking all samples and performance measurements.
- E. Prepare performance test report summarizing test method. Include test logs, pertinent calculations, and Manufacturer's written certification that the equipment or system performs as specified.

3.4 STARTUP TEST PERIOD

- A. A. General:
 - 1. Attend planning meetings and arrange for attendance by key major equipment manufacturer representatives as required by the Contract Documents.
 - 2. When facility startup has commenced, schedule remaining Work so as not to interfere with or delay the completion of facility startup.
 - 3. Support facility startup activities with adequate staff to prevent delays. Such staff shall include, but not be limited to, major equipment and system manufacturer's representatives, electricians, instrumentation and control personnel, millwrights, pipefitters, and plumbers.
 - 4. Furnish and coordinate specified manufacturer's facility startup services.
 - 5. After the facility is operating, complete the testing of those items of equipment, systems, and subsystems which could not or were not successfully tested prior to the startup test period.
- B. Startup Testing:

1. Startup of the entire facility or any portion thereof requires the coordinated operation of the facilities by the CONTRACTOR, subcontractors, OWNER'S operating personnel, and manufacturer's representatives.
 2. Startup test period shall occur after all required functional tests have been completed and those performance tests deemed necessary for the safe operation of the entire facility have been completed.
 3. Startup of the entire facility or any portion thereof shall be considered complete when, in the opinion of the ENGINEER, the facility or designated portion has operated in the manner intended for 20 continuous days without significant interruption. This period is in addition to any training, functional, or performance test periods specified elsewhere.
 4. Signification interruption may include any of the following events:
 - a. Failure of CONTRACTOR to maintain qualified onsite startup personnel as schedule.
 - b. Failure to meet specified performance for more than 2 consecutive hours.
 - c. Failure of any critical equipment unit, system, or subsystem that is not satisfactorily corrected within 5 hours after failure.
 - d. Failure of any non-critical unit, system, or subsystem that is not satisfactorily corrected within 8 hours after failure.
 - e. As may be determined by ENGINEER.
 5. A significant interruption will require the startup then in progress to be stopped and restarted after corrections are made.
- C. Startup Test Reports: As applicable to the equipment furnished, certify in writing that:
1. Hydraulic structures, piping systems, and valves have been successfully tested.
 2. Equipment systems and subsystems have been checked for proper installation, started, and successfully tested to indicate that they are operational.
 3. Systems and subsystems are capable of performing their intended functions, including fully-automatic.
 4. Facilities are ready for intended operation.

END OF SECTION 01650E

SECTION 01782
OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
 - 1. Emergency manuals.
 - 2. Operation manuals for systems, subsystems, and equipment.
 - 3. Maintenance manuals for the care and maintenance of products, materials, finishes, systems, and equipment.
- B. See Divisions 16 Sections for specific operation and maintenance manual requirements for the Work in those Sections.

1.2 SUBMITTALS

- A. Manual: Submit 3 copies of each manual in final form at least 15 days before final inspection. ENGINEER will return copy with comments within 15 days after final inspection.
 - 1. Correct or modify each manual to comply with ENGINEER's comments. Submit 3 copies of each corrected manual within 20 days of receipt of ENGINEER's comments.

PART 2 - PRODUCTS

2.1 MANUALS, GENERAL

- A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain a title page, table of contents, and manual contents.
- B. Title Page: Enclose title page in transparent plastic sleeve. Include the following information:
 - 1. Subject matter included in manual.
 - 2. Name and address of Project and Project Number.

3. Name and address of OWNER.
 4. Date of submittal.
 5. Name, address, and telephone number of CONTRACTOR.
 6. Name and address of ENGINEER.
 7. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
1. Binders: Heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch (215-by-280-mm) paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
 - a. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project name and number, and subject matter of contents. Indicate volume number for multiple-volume sets.
 2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
 3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software diskettes for computerized electronic equipment.
 4. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
 - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
 - b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

2.2 EMERGENCY MANUALS

- A. Content: Organize manual into a separate section for type of emergency, emergency instructions, and emergency procedures.
- B. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment,

and component for fire, flood, gas leak, water leak, power failure, water outage, equipment failure, and chemical release or spill.

- C. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of OWNER's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.
- D. Emergency Procedures: Include instructions on stopping, shutdown instructions for each type of emergency, operating instructions for conditions outside normal operating limits, and required sequences for electric or electronic systems.

2.3 OPERATION MANUALS

- A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and equipment descriptions, operating standards, operating procedures, operating logs, wiring and control diagrams, and license requirements.
- B. Descriptions: Include the following:
 - 1. Product name and model number.
 - 2. Manufacturer's name.
 - 3. Equipment identification with serial number of each component.
 - 4. Equipment function.
 - 5. Operating characteristics.
 - 6. Limiting conditions.
 - 7. Performance curves.
 - 8. Engineering data and tests.
 - 9. Complete nomenclature and number of replacement parts.
- C. Operating Procedures: Include start-up, break-in, and control procedures; stopping and normal shutdown instructions; routine, normal, seasonal, and weekend operating instructions; and required sequences for electric or electronic systems.
- D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.
- E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

2.4 PRODUCT MAINTENANCE MANUAL

- A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

- B. Source Information: List each product included in manual identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.
- C. Product Information: Include the following, as applicable:
 - 1. Product name and model number.
 - 2. Manufacturer's name.
 - 3. Color, pattern, and texture.
 - 4. Material and chemical composition.
 - 5. Reordering information for specially manufactured products.
- D. Maintenance Procedures: Include manufacturer's written recommendations and inspection procedures, types of cleaning agents, methods of cleaning, schedule for cleaning and maintenance, and repair instructions.
- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

2.5 SYSTEMS AND EQUIPMENT MAINTENANCE MANUAL

- A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.
- B. Source Information: List each system, subsystem, and piece of equipment included in manual identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.
- C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including maintenance instructions, drawings and diagrams for maintenance, nomenclature of parts and components, and recommended spare parts for each component part or piece of equipment:
- D. Maintenance Procedures: Include test and inspection instructions, troubleshooting guide, disassembly instructions, and adjusting instructions, and demonstration and training videotape if available, that detail essential maintenance procedures:

- E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
- F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.
- H. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

- A. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by OWNER's operating personnel for types of emergencies indicated.
- B. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- C. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
- D. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
- E. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in Record Drawings to ensure correct illustration of completed installation.
 - 1. Do not use original Project Record Documents as part of operation and maintenance manuals.

END OF SECTION 01782

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SECTION 015728

BY-PASS PUMP SPECIFICATIONS (OCWS)

PART 1 - GENERAL

1.1 DESCRIPTION

A. General Requirements:

1. The unit shall be a 12 inch x 12 inch vacuum-assisted horizontal sewage pump driven by a water-cooled diesel engine. The pump shall be fully automatic, self-priming from dry conditions and capable of handling moderate volumes of air, water, and solids. Pump unit shall include a sound attenuation enclosure covering both the engine and pump for noise abatement. The unit shall be a Thompson model 12JSVG-DJDS-90HMC or approved equal.
2. The complete pump package shall be manufactured in a plant that is registered to ISO 9001:2008 and a copy of the Certificate shall be provided with the bid submittal.
3. The pump shall be designated and manufactured in conformance with CPB / AEM standards.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Centrifugal Pump

1. The centrifugal pump shall be a horizontal end suction solids handling centrifugal type.
2. The pump casing shall be constructed of class 30 cast iron with back pullout design.
3. The impeller shall be fully enclosed, 17.5 inch diameter and constructed of class 30 cast iron. The impeller shall be hardened to 500 Hb.
4. Suction wear ring shall be of peripheral type requiring no adjustment and constructed of class 30 cast iron.
5. Mechanical seal shall be a John Crane Tungsten Carbide vs. Silicon Carbide mechanical type with viton elastomers and stainless steel spring and hardware.
6. The seal chamber shall include a dished back plate and deflector vanes to remove solids and abrasive material away from the seal area and purge air and gas pockets. An oil reservoir shall be provided for automatically feeding lubricant to the seal faces permitting indefinite dry running.
7. Shaft shall be constructed of stress proof steel, machined and polished to transmit full drive output.
8. Shaft sleeve shall be AISI416 stainless steel. Sleeve designed to be renewable with O-ring and positively locked to prevent rotation on the shaft.
9. Bearing frame shall be constructed of class 30 cast iron.
10. Bearings shall be of sufficient size to withstand the radial and axial thrust loads incurred during service. Bearings shall have a minimum L-10 bearing life of 100,000 hours. Bearings shall be grease lubricated.
11. Centrifugal pump shall be capable of delivering 5,100 gallons per minute at 160 feet of total dynamic head at 1,800 rpm.

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12. Centrifugal pump shall be capable of generating a closed discharge valve (shutoff) head of no less than 365 feet at 1,800 rpm.
13. Centrifugal pump shall be capable of handling up to 3.38 inch diameter non-compressible spherical solids.
14. The pump inlet shall be equipped with a 12 inch 125# ANSI flange.
15. The pump outlet shall be equipped with a 12 inch 125# ANSI flange.
16. The pump shall be furnished with a liquid-filled vacuum gauge for system diagnostics.
17. A 12 inch FNPT strainer shall be provided.

B. JOHN DEERE DIESEL ENGINE

1. The engine shall be a Tier III EPA compliant six (6) cylinder four (4) cycle water-cooled naturally aspirated diesel engine, John Deere model 6090HF485-275 or equal capable of producing 275 continuous duty horsepower at 1,800 rpm.
2. The engine shall drive the pump via an elastomeric torsion drive coupling.
3. The engine shall have an industrial type battery with 175-amp hour rating and minimum 990 cold-cranking amps, with 175 amp reserve, mounted in a lockable frame.
4. A 12-volt starter and alternator charging system shall be provided.
5. Engine shall have an industrial muffler.
6. Engine shall have an electronic type governor.
7. Engine shall have variable speed throttle control.
8. Engine shall have safety shutdown switches for low oil pressure and high head temperature.
9. An instrument panel shall be provided in an enclosure and mounted on rubber isolators.
10. Instrument panel shall contain the following instrumentation and controls: throttle control, key switch, tachometer, hour meter, voltmeter, oil pressure gauge and temperature gauge.

C. CP-750 CONTROL PANEL

1. The engine control panel shall be provided in a NEMA 4X enclosure mounted on rubber isolators to reduce vibration.
2. The control panel shall be equipped with a factory installed microprocessor-based controller, able to start/stop the engine at a signal supplied by the high and low level floats, or by transducer operation.
3. The control panel shall function interchangeably from; float switches, pressure switch, or transducer, as well as manually using the start/stop selection at the keypad. No other equipment or hardware changes shall be required.
4. The control panel shall be capable of varying the engine speed to maintain a constant level in response to a change in level, pressure, or flow from the transducer, without a change to the panel, other than via the keypad.
5. The start function should be able to be programmed for warm-up and cool-down cycles, preset engine rpm for flow and head parameters.
6. In automatic mode, the control panel shall automatically conserve power by going to "sleep" mode when not active or programming mode.

7. The keypad shall be a capacitive touch sensing system. No mechanical switches will be acceptable. The keypad shall operate in extreme temperatures, (-13°F to 167°F), and maintain complete weather tight sealing of the control panel.
8. The controller shall integrate the engine safety shut-off for low-oil temperature, high water temperature, and provide over speed protection.
9. The controller shall include standard field adjustable parameters for engine cycle crantimer, shutdown time delay, warm-up time delay, and cool down time delay.
10. Standard components shall consist of (8) digital inputs, (5) analog inputs, (8) digital outputs, (1) RS232 port, (1) RS485 port, (1) J1939 port, (76) selectable features, (32) alarm even history.
11. The control panel shall be equipped with a large LCD display (4.25" diagonal), capable of showing (4) separate functions simultaneously. The LCD shall be clearly readable in both bright sunlight as well as total darkness.
12. The control panel shall be capable of withstanding vibration of 3g, 3 axis, frequency swept 10-1000 Hz, and an operating humidity range of 0-95% non-condensing.
13. Unit shall include a telemetry system (installed by the manufacturer), capable of remotely monitoring, recording, reporting, and alarm information relating the engine, pump, fuel system, and other parameters. The telemetry system shall also include GPS tracking, capable of viewing on an interactive map including street addresses.

D. PRIMING SYSTEM – VACUUM ASSIST

1. The priming system shall be fully automatic eliminating the need to pre-fill the pump casing with water to achieve initial prime.
2. The priming system shall work in combination with the centrifugal pump to remove large volumes of air.
3. An air separation chamber shall be provided to prevent any carryover of the pumping fluid into the vacuum pump. Units not meeting this requirement shall not be considered.
4. An air separation chamber shall contain a float and ball valve assembly mounted on a steel plate that can be easily removed as a unit without special tools.
5. The air separation chamber shall not include any screens which can clog creating a maintenance nuisance and cause the priming system to fail.
6. The vacuum pump shall be a rotary claw, air-cooled oil-less version and have a nominal rating of 97 cubic feet per minute.
7. The vacuum pump shall be driven by a v-belt with belt tensioner that can be easily replaced in the field without having to remove the pump from the engine. A spare v-belt shall be pre-installed around the shaft and ready for immediate placement in the event of a failure to the primary v-belt.
8. A flapper type discharge check valve shall be provided to prevent pulling air through the discharge during priming.
9. The priming system shall be capable of automatically priming the pump with a 15 foot static suction lift and no water in the pump or suction piping within 15 seconds. Also, the priming system shall be capable of automatically priming the

pump with a 28-foot static suction lift with no water in the pump or suction piping. Units not meeting this requirement shall not be considered.

E. PRIMING SYSTEM- COMPRESSOR ASSIST (DEDUCTIVE ALTERNATE)

1. The priming system shall be fully automatic eliminating the need to pre-fill the pump casing with water to achieve initial prime.
2. An air separation chamber shall be provided to prevent any carryover of the pumping fluid through the ejector and onto the ground. Units not meeting this requirement shall not be considered.
3. An air separation chamber shall contain a single float assembly mounted on a steel plate, which can be easily removed as a unit without special tools.
4. The air separation chamber shall not include any screens which can clog creating a maintenance nuisance and cause the priming system to fail.
5. The compressor shall be an industrial version pressure-lubricated type. Splash-lubricated compressors shall not be considered.
6. The compressor shall contain a pressure relief valve for overpressure protection.
7. The priming system shall contain an in-line serviceable discharge 45° flapper style non-return valve which can be readily cleaned and repaired without having to disconnect the discharge piping. Ball type discharge check valves will not be accepted.
8. The venturi shall be constructed of bronze and be of modular design allowing for replacement of individual components. The Venturi shall be remote mounted on the frame for ease of removal and inspection.
9. The priming system shall incorporate a manual valve to permit the pump to operate under positive suction head conditions.
10. The priming system shall be capable of automatically priming the pump with a 28-foot static suction lift with no water in the pump or suction piping.

F. SOUND ENCLOSURE

1. The entire unit including the pump and engine shall be completely enclosed in a lockable enclosure. Units not meeting this requirement shall not be considered.
2. The enclosure shall reduce operating noise below 70 dBA measured at 7 meters @ full speed (EPA Standard 40CFR204 is 76 dBA @ 7 meters). Units not meeting this requirement shall not be considered.
3. The enclosure shall be constructed with a modular galvanized steel frame and 2" thick reinforced galvanized panels. Fiberglass or plastic enclosures shall not be considered.
4. The individual panels shall be constructed of a sandwich construction of an 18-gauge solid galvanized outer shell, 2" thick 8lb density mineral wool fill encapsulated in a 1-mil polyester moisture barrier, damping sheet and 22-gauge perforated galvanized steel inner liner. Unprotected open-cell foams with adhesive-style mounting systems shall not be considered.
5. The enclosure shall contain a minimum of 6 lockable-hinged doors; three sides, two rear and one front door to allow unrestricted access to all compartments for servicing without having to disassemble and remove panels. The enclosure shall

contain a modular lift off panel on top. Enclosures that must be disassembled in order to facilitate routine maintenance shall not be considered.

6. The enclosure shall contain two rear doors that can be opened and permit complete access to the pump and priming system for routine maintenance without having to disconnect the suction or discharge piping.
7. The enclosure shall be fully detachable as a single unit to facilitate major repairs such as replacing the engine or pump.
8. The enclosure shall utilize powder coating instead of other paint applications.

G. MOUNTING FRAME

1. The complete power unit shall be mounted on a combination frame/single wall fuel tank constructed of tubular steel, approximate length 120 inches, approximate width 48 inches, with a fuel capacity of 140 US gallons.
2. The frame shall incorporate an integral lifting bail capable of lifting the entire unit.
3. Fuel tank shall have two clean-out ports located at opposite ends of the tank.
4. Fuel tank shall have a removable basket strainer mounted in the fill port and a lockable cap.

H. UNIVERSAL TRAILER

1. The trailer is to be a 14,000 lb overall capacity with a payload capacity of 12,450 lbs.
2. Overall length of 227", overall width of 98.5", tow bar height of 22", and weight of 1,550 lbs.
3. Trailer contains tandem axle leaf spring suspension, adjustable 3" pintle hitch, electric brakes with battery, removable fenders, LED lights, license plate holder, tie down rings, 3/8" safety chain, from 5000 lb side wind jack, four stabilizing stands, fully adjustable mounting supports, and a DOT certified/VIN tag included.
4. Trailer is powdered coated with ST235/80/R16E tires.

I. PAINTING

1. A minimum 5-mil thick layer of epoxy coated primer shall be applied to the entire pump set prior to the finish coat. A minimum 5-mil thick layer of TPM Blue Industrial Acrylic Enamel Paint shall be applied over the primer coat

PART 3 – RECORDS AND TESTING

3.1 RECORDS, TESTING, WARRANTY

A. WARRANTY

1. The manufacturer of the pumping unit shall warrant for a period of one year from the date of shipment that the entire unit and all equipment therein shall be free from defects in design, material, and workmanship.

B. MANUALS

1. One complete set of operation and maintenance manuals, stored inside a rainproof document box, shall be furnished with the unit.

C. TESTING

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1. The complete pump set shall be factory tested according to ANSI/HI 1.61994 by a certified quality technician. The pump shall be sound tested according to ISO 3744, ANSI/HI9.4 and CPB Sound Level Measurement Standard. A test report shall be submitted to the Customer prior to acceptance.