



HIGHLANDS COUNTY
BOARD OF COUNTY
COMMISSIONERS
GENERAL SERVICES &

INVITATION TO BID (ITB)

The Board of County Commissioners (BCC), Highlands County, Sebring, Florida, will receive sealed bids in the County Purchasing Department for the following Annual Bid:

ITB 08-051 ONE LANDFILL GAS COMPRESSOR SYSTEM

ITB specifications, submittal procedures, and insurance requirements can be obtained from the office of Mr. Gerald (Jed) Secory, Director, Highlands County General Services / Purchasing Department, 4320 George Blvd., Sebring, 33875-5803, 863-402-6523, Fax: 863-402-6735, or by E-Mail: gsecory@hcbcc.org

Bid envelopes must be sealed and marked with the bid number and name so as to identify the enclosed bids. Bids must be delivered to the Highlands County Purchasing Department, 4320 George Blvd., Sebring, FL. 33875-5803 so as to reach said office no later than **2:00 P.M., Thursday, May 29, 2008**, at which time they will be opened. Bids received later than the date and time as specified will be rejected. The Board will not be responsible for the late deliveries of bids that are incorrectly addressed, delivered in person, by mail or any other type of delivery service.

One or more County Commissioners may be in attendance at the above bid opening.

The Highlands County Board of County Commissioners reserves the right to accept or reject any or all bids or any parts thereof, and the award, if an award is made, will be made to the most responsive and responsible bidder whose bid and qualifications indicate that the award will be in the best interest of Highlands County. The Board reserves the right to waive irregularities in the bid.

The Board of County Commissioners of Highlands County, Florida, does not discriminate upon the basis of any individual's disability status. This non-discrimination policy involves every aspect of the Board's functions, including one's access to, participation, employment or treatment in its programs or activities. Anyone requiring reasonable accommodation as provided for in the Americans with Disabilities Act or Section 286.26 Florida Statutes should contact Mr. John A. Minor, ADA Coordinator at: 863-402-6509 (Voice), or via Florida Relay Service 711, or by e-mail: jminor@hcbcc.org. Requests for CART or interpreter services should be made at least 24 hours in advance to permit coordination of the service.

Board of County Commissioners

Purchasing Department
Highlands County, Florida

Website: www.hcbcc.net

4320 George Boulevard
Sebring, Florida 33875-5803
863-402-6526 FAX 863-402-6735

SECTION I: GENERAL TERMS AND CONDITIONS (Rev 09/2006)

- A. All responses shall become the property of the County.
- B. **Florida Statutes** 287.087, on Drug Free Work Place, 287.133(3) (a) on Public Entity Crimes, and Section 287.134, on Discrimination, as a whole and/or as shown below, will be complied with:

287.087, Preference to businesses with drug-free workplace programs:

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 bid 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 bid, 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 5 days after such conviction.
5. Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community by, any employee who is so convicted.
6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

NOTE: PLEASE INCLUDE YOUR "DRUG FREE" STATUS AS PART OF THE GENERAL COMMENTS IN YOUR PROPOSAL OR WHERE INDICATED ON THE BID FORM.

287.133, Public entity crime; denial or revocation of the right to transact business with public entities:

(2)(a) 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, proposal, or reply 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 s. 287.017 for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list.

287.134, Discrimination; denial or revocation of the right to transact business with public entities:

(2)(a) An entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid on a contract or provide goods and services to a public entity, may not submit a bid on a contract with a public entity for 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 a public entity.

- C. Responses are due and must be received in accordance with the instructions given in the announcement page.
- D. The County will not reimburse respondent(s) for any costs associated with the preparation and submittal of any responses.
- E. Respondents, their agents and associates shall refrain from contacting or soliciting any County Official and that contact may be made ONLY with the individual(s) listed in this document for additional information and clarification.
- F. Due care and diligence has been exercised in the preparation of this document and all information contained herein is believed to be substantially correct; however, the responsibility for determining the full extent of the service required rest solely with those making response. Neither the County nor its representative shall be responsible for any error or omission in the responses submitted, nor for the failure on the part of the respondents to determine the full extent of the exposures.
- G. All timely responses meeting the specifications set forth in this document will be considered. However, respondents are cautioned to clearly indicate any deviations from these specifications. The terms and conditions contained herein are those desired by the County and preference will be given to those responses in full or substantially full compliance with them.

SECTION I: GENERAL TERMS AND CONDITIONS (Rev 09/2006) cont'd

- H. Each respondent is responsible for full and complete compliance with all laws, rules and regulations including those of the Federal Government, the State of Florida and the County of Highlands. Failure or inability on the part of the respondent to have complete knowledge and intent to comply with such laws, rules and regulations shall not relieve any respondent from its obligation to honor its response and to perform completely in accordance with its response.
- I. The County, at its discretion, reserves the right to waive minor informalities or irregularities in any responses, to reject any and all responses in whole or in part, with or without cause, and to accept that response, if any, which in its judgment will be in its best interest.
- J. Award will be made to the respondent whose submittal is determined to be the most advantageous to the County, taking into consideration those responses in compliance with the requirements as set forth in this document. The Board of County Commissioners reserves the right to reject any and all responses for any reason or make no award whatsoever or request clarification of information from the respondents.
- K. Any interpretation, clarification, correction or change to this document will be made by written addendum issued by the Highlands County Purchasing Department. Any oral or other type of communication concerning this document shall not be binding.
- L. Responses must be signed by an individual of the respondent's organization legally authorized to commit the respondent's organization to the performance of the product(s) and/or service(s) contemplated by this document.
- M. Unless otherwise stated in the specifications, the following Insurance Requirements must be met before delivery of goods and services:
1. Workers' Compensation: Coverage is to apply for all employees for statutory limits in compliance with the law of the State of Florida and federal laws. The policy must include Employer' Liability with a limit of \$500,000 each accident, \$500,000 each employee, \$500,000 policy limit for disease.
 2. Commercial General Liability: Occurrence Form Required: (Contractor/vendor) shall maintain commercial general liability (CGL) insurance with a limit of not less than \$500,000 each occurrence. If such CGL insurance contains a general aggregate limit, it shall apply separately to this location/project in the amount of \$1,000,000. Products and completed operations aggregate shall be \$1,000,000. CGL insurance shall be written on an occurrence form and shall include bodily injury and property damage liability for premises, operations, independent contractors, products and completed operations, contractual liability, broad form property damage and property damage resulting from explosion, collapse or underground (x, c, u) exposures, personal injury and advertising injury. Fire damage liability shall be included at \$100,000.
 3. Commercial Automobile Liability Insurance: (Contractor/vendor) shall maintain automobile liability insurance with a limit of not less than \$1,000,000 each accident for bodily injury and property damage liability. Such insurance shall cover liability arising out of any auto (including owned, hired, and non-owned autos). The policy shall be endorsed to provide contractual liability coverage.
 4. Special Requirements / Evidence of Insurance:
 - a. A copy of the Contractor's / Vendor's current certificate of insurance MUST be provided with the response to this ITB, RFP, etc. A formal certificate shall be provided upon announcement that a Contractor / Vendor has been awarded the work as called for in this document. The Certificate(s) shall be signed by a person authorized by that insurer to bind coverage on its behalf. All Certificates of Insurance must be on file with and approved by the County before commencement of any work activities. The formal insurance certificate shall also comply with the following:
 - 1) "Highlands County, a Political Subdivision of the State of Florida and its Elected Officials, its Agents, Employees, and Volunteers" shall be named as an "Additional Insured" on all policies except Worker's Compensation.
 - 2) The policy shall provide a 30-day notification clause in the event of cancellation or modification to the policy. Highlands County will be given notice prior to cancellation or modification of any stipulated insurance.
 - 2.1) In the event the insurance coverage expires prior to the completion of the project, a renewal certificate shall be issued 30-days prior to said expiration date.
 - 2.2) Such notification will be in writing by registered mail, return receipt requested, and addressed to the General Services / Purchasing Director, 4320 George Blvd., Sebring, FL 33875-5803.
 - b. It is the responsibility of the contractor to insure that all subcontractors comply with all insurance requirements.
 - c. It should be remembered that these are minimum requirements, which are subject to modification in response to high hazard operations.

SECTION I: GENERAL TERMS AND CONDITIONS (Rev 09/2006) cont'd

- N. If the goods or services being bid are for an annual or a semi-annual contract period then Interlocal Agreements between Highlands County Board of County Commissioners, other State or County agencies, the Cities of Sebring and Avon Park, the Town of Lake Placid, and the Highlands County School Board, allow those entities to purchase goods and services through the County's bids so long as such purchases will not interfere with the timely delivery of goods and services to the County in strict conformity with all specifications of its bids. Each governmental entity will issue its own purchase orders for all purchases made and will be responsible for all payments thereof. Highlands County reserves the right to direct the successful bidder to prioritize its delivery of goods and services to the County ahead of delivery to other governmental entities purchasing under the County's bids.
- O. If submitting a response for more than one bid, each bid must be in a separate envelope and correctly marked.
- P. If the successful bid is greater than \$200,000.00, a Public Construction Bond will be required and **Awarded Vendor must abide by Florida Statute 255.05 "Bond of Contractor..., record in the public records of the county..."**

ADDITIONAL TERMS AND CONDITIONS

All pages included in or attached by reference to this document shall be called and constitute the submittal as stated on the front page of this document. Vendors who will not be submitting a proposal are requested to notify us and indicate why they are not bidding. Vendors who fail to respond to two or more consecutive announcements may be removed from the County's Vendor bidding list.

END OF PAGE

**ONE LANDFILL GAS COMPRESSOR SYSTEM
ITB – 08-051**

**HIGHLANDS COUNTY
SOLID WASTE MANAGEMENT CENTER
SPECIFICATIONS FOR**

TABLE OF CONTENTS

1.0	SCOPE
2.0	CODES, STANDARDS AND SPECIFICATIONS
3.0	GENERAL REQUIREMENTS
4.0	DESIGN REQUIREMENTS
5.0	EQUIPMENT DESIGN REQUIREMENTS
6.0	SURFACE PREPARATION AND COATINGS
7.0	INSTALLATION
8.0	INSPECTION
9.0	TESTING
10.0	PREPARATION FOR SHIPMENT
11.0	BID DATA REQUIREMENTS
12.0	ENGINEERING DATA REQUIREMENTS
13.0	STARTUP SERVICES
14.0	CHANGES
15.0	WARRANTY AND RIGHT OF USE
16.0	OPERATION AND MAINTENANCE MANUAL
17.0	OFFICIAL BID FORM

**SPECIFICATIONS FOR:
ONE LANDFILL GAS COMPRESSOR SYSTEM
ITB – 08-051**

1.0 SCOPE

This specification defines requirements for furnishing the design, materials, fabrication, packaging, inspection, shop testing, and preparation for shipment, shipment, installation, and start-up of an intermittent-duty, skid-mounted, landfill gas booster blower/compressor skid. The compressor shall be connected to the landfill gas collection which shall be brought to the edge of the skid. The suction connection shall have a manual butterfly valve. The discharge side from the compressor shall be connected to the asphalt plant. The blower skid will be located a minimum of 20-feet from the asphalt plant connection. The skid shall be complete with one (1) landfill gas booster compressor with an electric motor driver, inlet liquid scrubber, auxiliaries, and all instrumentation and controls. All components shall be new and delivered ready for installation and operation. The compressor will be used to boost landfill gas to feed an asphalt plant burner now in design/construction. Only concepts and devices which have provided satisfactory operation in at least three similar applications shall be accepted.

These specifications are intended to describe an acceptable unit. Minor variations in specifications may be accepted if, in the opinion of the Engineer and County staff, they do not adversely affect the quality, maintenance or performance of the equipment. Any exceptions from these specifications must be identified in detail and must include a description of why the proposed item(s) meets, exceeds, or is irregular from the specifications. If no variations are listed, it will be assumed that all specifications are met.

2.0 CODES, STANDARDS AND SPECIFICATIONS

2.1 Except as amended by this specification, the landfill gas booster system shall meet all City, State and Local codes and the following specifications, codes and regulations in effect at the time of tender (latest editions). In the event of a conflict between this specification and referenced codes, standards and specifications, the more stringent shall apply. If Vendor cannot readily determine the more stringent, he shall contact Highlands County for written resolution. All standards and Codes are the latest editions.

API 11P, Specifications for Packaged Reciprocating Compressors for Oil and Gas
Production Services

API RP 520, Recommended Practice for the Design and Installation of Pressure-relieving
Systems in Refineries

ASME Pressure Vessel Code, Section VIII

ASME Welding and Brazing Qualifications, Section IX

ASME/ANSI B16.5, Pipe Flanges and Flanged Fittings

ASME/ANSI B31.3, Chemical Plant and Petroleum Refinery Piping

ASME PTC9, Displacement Compressors, Vacuum Pumps and Blowers

AWS D1.1, Structural Welding Code - Steel

ASTM A36, Specification for Structural Steel

ANSI/NFPA 70, National Electric Code

ANSI B19.3-1991 – Safety Standards for Blowers for Process Industries

ANSI B31.3 – Power Piping, Latest Edition

National Electric Manufacturers Association (NEMA)

State of Florida OSHA Standards

Code of Federal Regulations (CFR) Title 49 Part 192, Latest Edition

Steel Structures Painting Council (SSPC), Latest Edition

3.0 GENERAL REQUIREMENTS

- 3.1 It shall be Vendor's specific responsibility to be knowledgeable of and to conform to all applicable codes, standards and specifications, as well as to ensure each Sub vendor's conformance.
- 3.2 All furnished equipment shall be suitable for outdoor, unsheltered installation and operation in a Class 1, Division 2 hazardous area.
- 3.3 The Vendor shall supply all equipment completely fabricated, assembled and tested. Equipment shall be dismantled only to the extent necessary for inspection and shipping.
- 3.4 The Vendor shall provide the gas compressor and all auxiliary equipment. Vendor shall be responsible for coordination of all Sub vendor activities.
- 3.5 The combined performance of the compressor, driver and accessories, during field test after installation, shall be the responsibility of the Vendor.
- 3.6 The blower or compressor shall be as manufactured by Ingersoll-Rand, Dresser, Tuthill, Roots or approved equal.
- 3.7 Vendor shall provide three references of installations where similar equipment is currently being used in similar service.
- 3.8 The compressor and lubricant shall accept variation in gas composition from that specified without performance deterioration.
- 3.9 Highlands County shall provide 480 V/3 ϕ /60 Hz electrical power at the edge of the skid. It shall be the Vendor's responsibility to condition and distribute power for all on-skid needs, as needed.

4.0 DESIGN REQUIREMENTS

4.1 Process Requirements

The compressor and blower each must be capable of producing the entire stated flow rate.

PARAMETER	VALUE
Flow rate	500 SCFM
Suction temperature	80 ° F
Suction pressure	40 In/H ₂ O
Compressor discharge pressure	20 PSIG

4.2 Gas/Vapor Components

COMPONENT	Mole %
Methane	28 - 55
Carbon Dioxide	20 - 42
Nitrogen	1 - 41
Oxygen	1 - 8

The landfill gas moisture content is 100% saturated.

4.3 Site Conditions

PARAMETER	VALUE
Maximum Ambient Temperature	115 °F
Minimum Ambient Temperature	20 °F
Elevation	73 FT

- 4.4 All equipment and accessories shall be designed and constructed for intermittent, full-load service at the rated, operating conditions
- 4.5 The Vendor's design shall include pressure losses from intake, discharge, on-skid piping, and vessels in determining horsepower requirements.
- 4.6 Vendor shall ensure the compressor will start and stop automatically at the set pressures.
- 4.7 Vendor shall design the system to minimize effects of vibration on other skid components, including piping and instrumentation. Piping shall be designed to minimize both forces and moments on compressor flanges.
- 4.8 Bearing housings, shaft seals, and housings that enclose moving, lubricated parts, instruments, and controls shall be designed to minimize entrance of moisture, dust, and other foreign matter.
- 4.9 The compressor shall be air-cooled.
- 4.10 Vendor shall provide a skid-mounted inlet scrubber, designed and stamped in accordance with ASME Pressure Vessel Code, Section VIII.
- 4.11 Vendor shall size the scrubber to provide adequate residence time to degas the condensate and to remove the condensables from the gas for 99% of 10 microns or larger. The relative humidity of the gas must be reduced to less than 80%.
- 4.12 Vendor shall provide automatic scrubber dump with low and high level shutdowns. The scrubber dump line shall be piped to the edge of the skid and connected to the drain pipe stubbed out by Highlands County.
- 4.13 The compressor driver shall be sized and rated to meet the maximum compressor operating conditions in a Class 1, Division 2 hazardous area. The motor nameplate rating shall be a minimum of 110 percent of the greatest horsepower (including drive losses) required for any of the compressor operating conditions, excluding service factor.

5.0 EQUIPMENT DESIGN REQUIREMENTS

5.1 Compressor

- 5.1.1 The vendor shall recommend the blower or compressor type to be used.
- 5.1.2 Bolt threading shall conform to ANSI standards. Clearance shall be provided for socket- or box-type wrenches.
- 5.1.3 Main inlet and discharge connections shall be furnished with flanges. However, 1-1/4, 3-1/2, 5, 7, or 9-inch sizes shall not be used.
- 5.1.4 Low-point, casing-drain connections shall be provided. Connections shall be 3/4-inch NPT minimum and shall be provided with plugs.

5.1.5 Gas thermometers and high-temperature shutdowns shall be provided on the discharge of each stage. Stainless-steel temperature wells shall be furnished.

5.2 Couplings, Gears, V-Belt Drives and Guards

5.2.1 The Vendor shall furnish non-lubricated, flexible spacer couplings for connecting shafts of compressor and driver, where applicable.

5.2.2 The compressor shall be either direct, gear, or V-belt driven.

5.2.3 Non-sparking, removable guards, conforming to OSHA standards, shall be required. Guards shall be sufficiently rigid to prevent contact with the coupling or shaft.

5.3 Instrumentation and Control

5.3.1 A 24 VDC electrically-powered instruments, which must be suitable for Class 1, Division 2 hazardous area operation.

5.3.2 A control panel shall be provided that is capable of both manual and automatic startup and shutdown of the landfill gas booster compressor based on system pressure. All switches shall be included that are required to automatically start up and shut down the compressor, based on suction and discharge header pressure. Indicator lights shall also be included.

5.3.3 The on and off pressure setpoints must be adjustable in the field without the need for specialize knowledge, parts, or software.

5.3.4 The control panel shall be mounted on the skid. Panel shall be suitable for installation in a Class I, Division 2 area.

5.3.5 Vendor shall provide sufficient lengths of control and power wiring to make all necessary skid connections. Thermocouple wire and capillary tubing, when used, shall not be spliced. Terminal strips shall be provided at both ends, where possible.

5.3.6 Alarm and shutdown switches shall be provided for, as a minimum; excessive temperature, excessive pressure, low suction pressure, low scrubber levels, and high scrubber levels.

5.3.7 Dry contacts shall be provided to connect individual alarms, shutdowns, alarm silence, and run status wiring for remote viewing. The contacts should be closed in normal run condition. Alarm/shutdown resets shall be located on the skid control panel.

5.3.8 Highlands County shall provide power to the skid at one point.

5.3.9 Vendor shall provide a recycle system if it is required for startup, shutdown or capacity control. The total system shall be mounted on the skid. All piping, valves and controls for a fully-functioning system shall be provided.

5.3.11 Instrumentation to be furnished shall be specified in detail by the Vendor and approved by the Engineer.

5.4 Piping and valves

5.4.1 All piping shall be ASTM A106 or SA53, Grade B or better. Skid connection points 2" and larger shall be 150 CL raised face flanges. Smaller lines shall be NPT threaded.

5.4.2 All piping requiring tie-ins, including process, utility and drain connections, shall terminate at the edge of the skid.

5.4.3 All tubing and tubing fittings shall be stainless steel. Parker tubing fittings or equal shall be used.

5.4.4 Liquid drain connections shall be piped to skid edge and connected to the drain pipe stubbed out by Highlands County.

5.5 Skid

- 5.5.1 The compressor, driver, scrubber, separator, control panel, piping, wiring, and all other vendor provided components shall be mounted on a structural-steel skid. All equipment shall be attached exclusively to the beams or cross members.
- 5.5.2 Skid layout shall provide adequate clearance and safe access for operation, equipment removal, ease of maintenance and alignment.
- 5.5.3 Lifting lugs shall be provided. Skid shall also be provided with 2 ground connections.

5.6 Accessories

- 5.6.1 Scrubber shall be provided with stainless-steel mist eliminators. The scrubber shall be designed and sized to remove free liquids or mist. Scrubber shall be provided complete with relief valve, level controller, level gauge, automatic dump valve, low-level alarm and shutdown switch, and high-level alarm and shutdown switch.
- 5.6.2 All relief valves shall be provided and located over full-opening, lockable, isolation ball valves. Relief valve calculations shall be submitted to the Engineer for approval.
- 5.6.3 Vendor shall provide a free-standing oil drum with level gauge, if a forced-lubrication system is furnished. Total assembly shall be mounted on the skid.

5.7 Motors & Electrical

5.7.1 Motors shall conform to the following requirements:

- Area Classification: Class I, Division 2, Group D
- Power available: 480 Volts, 60 Hertz, 3 Phase
- Enclosure Type: TEFC
- Service factor: 1.15
- Continuous duty

6.0 SURFACE PREPARATION AND COATINGS

6.1 All non-galvanized external rigid steel surfaces shall be blasted according to NACE No. 2/SSPC-SP10.

6.1.1 All blasted surfaces shall be coated in accordance with packager's standard coating manufacturer's instructions.

6.2 The Vendor shall submit topcoat color chip or designation for approval by the Owner. All surfaces must be clean and dry prior to coating.

7.0 INSTALLATION

Vendor shall furnish special tools required for operation, or maintenance of the landfill gas booster system.

8.0 INSPECTION

- 8.1 All equipment covered by this specification shall be subject to inspection and/or witnessed testing by the Engineer or Owner's Representative. Inspectors shall be granted access to any and all parts of the Vendor's and Sub vendor's plant(s).
- 8.2 A minimum of 10 percent of all welds on piping containing gas shall be radiographed.

9.0 TESTING

- 9.1 Acceptance of shop tests shall not constitute a waiver of requirements to meet the specified operating conditions, nor does inspection relieve the Vendor of his responsibilities.
- 9.2 Vendor shall keep the following available for examination upon request by the Engineer or Owner's Representative; all certifications of materials, such as mill test reports; purchase specifications of bills of material; and hydrostatic test data.
- 9.3 The Vendor shall provide at least 5 days notice to the Owner's Representative prior to the test dates.
- 9.4 Pressure vessels and components shall be tested to ASME Section VIII Div 1.
- 9.5 All piped assemblies and subassemblies shall be shall be tested to ANSI B16.31 normal.

10.0 PREPARATION FOR SHIPMENT

- 10.1 All exposed machined surfaces shall be cleaned and covered.
- 10.2 Male and female threaded connections shall be capped or plugged.
- 10.3 All flanged openings shall be provided with 3/16 IN metal or 1/2 IN plywood closures, bolted in place with at least four bolts.
- 10.4 Each individual container shall be marked with the equipment number and Highlands County purchase order number. All materials shipped separately shall be properly tagged or match marked for easy reassembly. A list of items shall be included with shipment.
- 10.5 Vendor shall notify the Owner's Representative at least five working days before unit is ready for shipment, and make the shipment upon approval.

11.0 BID DATA REQUIREMENTS

- 11.1 Vendor shall provide the following drawings and data with their bid. An electronic and hard copy of each drawing and other information shall be supplied with the bid.
- 11.1.1 Detailed description of all equipment, materials and instrumentation.
- 11.2 Vendor shall provide initial, drawing delivery dates, by categories, with the proposal. Vendor shall also provide an equipment delivery schedule.
- 11.3 Vendor shall note any exceptions to this bid, or state full compliance.

12.0 ENGINEERING DATA REQUIREMENTS

- 12.1 Vendor shall provide the following engineering information to the Engineer after receipt of a purchase order.
- 12.1.1 Skid layout, piping, and electrical drawings showing all equipment and components and tie-in points.
 - 12.1.2 Pressure vessel calculations.
 - 12.1.3 Foundation plan, showing unbalanced forces, moments and center of gravity.
 - 12.1.4 Allowable forces and moments on connections.
 - 12.1.5 Skid-construction drawings, indicating type and size of all members and anchor bolt locations and sizes.
 - 12.1.6 Control-panel-layout drawing, showing location of all alarms, gauges, switches, etc.
 - 12.1.7 Motor control schematic or elementary diagrams, showing location of all contacts, switches, alarms, etc.
 - 12.1.8 Relief valve calculations.
 - 12.1.9 Recommend spare parts list, including any special tools needed.
 - 12.1.10 As-built data sheets.
 - 12.1.11 Pressure test reports and charts.
 - 12.1.12 Testing reports and procedures.
 - 12.1.13 Three copies of operating and maintenance manuals, showing startup and shutdown instructions and catalog cuts on all equipment supplied by the Vendor. Both as-built drawings and complete materials list shall be a part of this document.
 - 12.1.14 Vendor shall provide a list of special tools required for installation and maintenance of the landfill gas booster compressor, and complete instructions for their use.

13.0 STARTUP SERVICES

- 13.1 Vendor shall include in the quotation, as a separate line item, the cost of onsite startup services. Vendor shall clearly state the requirements for the presence of other crafts, prior to or during startup.

14.0 CHANGES

- 14.1 Highlands County shall have the right at any time, by written change order, to make revisions to this specification, including additions or omissions in quantities ordered.
- 14.2 If any such change affects price and/or delivery, an equitable adjustment shall be negotiated.
- 14.3 Highlands County shall have the right at any time, by written change order, to cancel the purchase order. Cancellation may affect all or any portion of the purchase order prior to shipment. An equitable cancellation charge shall be negotiated in this case.
- 14.4 Any claim or adjustment shall be submitted to Highlands County by Vendor in writing within thirty (30) days from date when the change or cancellation is received by Vendor.

15.0 WARRANTY AND RIGHT OF USE

- 15.1 The landfill gas booster system design shall be warranted to be in accordance with the codes and standards listed in these specifications.
- 15.2 Vendor shall warrant the landfill gas booster system, and all its constituent parts, is of the kind and quality described. It shall be warranted to perform in the manner designated in this specification.
- 15.3 Any failure in the system that occurs, due to defective material or workmanship, or any failure to comply with the specifications, that appears within a period of one (1) year from the actual startup date, shall be corrected by the Vendor at his expense, immediately upon notification by Highlands County.
- 15.4 If, after the system has been installed, it is discovered that it or any part requires correction, Highlands County shall have the right to use the compressor until such time as it is convenient to Highlands County to initiate correction of the installation.

16.0 OPERATION AND MAINTENANCE MANUALS

Provide written instructions to enable the operation and maintenance of the system. This information shall be completed in manuals with title pages containing index sheets and section titles. The Operation and Maintenance Manual shall be prepared specifically for this installation. The Operation and Maintenance Manual shall include the following:

1. Catalog descriptions of all equipment utilized in the system as well as performance criteria for the operating conditions.
2. Recommended spare parts lists for all equipment, to include part name, manufacturer, part number, manufacturer's part number, supplier, etc.
3. Operating instructions for the system under the conditions for which it was designed.
 - a. Start-up and shutdown procedures
 - b. Preventive maintenance schedule
 - c. Operating and safety procedures
 - d. Maintenance procedures
 - e. Emergency shutdown
 - f. Rigging procedures
 - g. Methods of disassembly
 - h. Methods of reassembly
4. A table indicating the proper control settings for all instrumentation.
5. Certified copies of as-built/installed drawings.
6. Troubleshooting instructions.

