

THE STATE OF TEXAS

BID # E24477

COUNTY OF HARRIS

ORDINANCE #

2013-1095

CONTRACT #

4600012306

I. PARTIES

1.0 ADDRESS:

THIS AGREEMENT FOR BLOWER REPLACEMENT PARTS & REPAIR SERVICES ("Agreement") is made on the Countersignature Date between the CITY OF HOUSTON, TEXAS ("City"), a Texas Home-Rule City and DRESSER, INC. ("Contractor or Vendor"), a Delaware corporation doing business in Texas.

The initial addresses of the parties, which one party may change by giving written notice to the other party, are as follows:

City

City Purchasing Agent for Director(s)  
of Public Works & Engineering Department  
City of Houston  
P.O. Box 1562  
Houston, Texas 77251

Contractor

Dresser, Inc.  
16240 Port Northwest Dr.  
Houston, Texas 77041  
Phone: 832-590-2303  
Fax: 713-896-4927

The Parties agree as follows:

2.0 TABLE OF CONTENTS:

2.1 This Agreement consists of the following sections:

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**3.0 PARTS INCORPORATED:**

3.1 The above-described sections and exhibits are incorporated into this Agreement.

**4.0 CONTROLLING PARTS:**

4.1 If a conflict among the sections or exhibits arises, the Exhibits control over the Sections.

**5.0 DEFINITIONS:**

5.1 Certain terms used in this Agreement are defined in Exhibit "A".

6.0 **SIGNATURES:**

6.1 The Parties have executed this Agreement in multiple copies, each of which is an original.

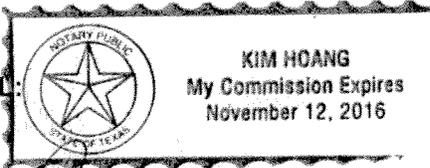
**ATTEST/SEAL (if a corporation):**  
**WITNESS (if not a corporation):**

**DRESSER, INC.**

By: *Kim Hoang*  
Name: KIM HOANG  
Title: ADMIN. ASSISTANT

By: *[Signature]*  
Name: ROSS MARCOOT  
Title: GENERAL MANAGER  
Federal Tax ID Number: 75-2795365

**ATTEST/SEAL:**



**CITY OF HOUSTON, TEXAS**  
Signed by:

*[Signature]*  
City Secretary

*[Signature]*  
Mayor *[Signature]*

**APPROVED:**

*[Signature]*  
City Purchasing Agent

**COUNTERSIGNED BY:**

*[Signature]*  
City Controller *[Signature]*

**APPROVED AS TO FORM:**

*[Signature]*  
Assistant City Attorney  
L.D. File No. 0371300093001

**DATE COUNTERSIGNED:**

12-16-13

## II. DUTIES OF CONTRACTOR

### 1.0 SCOPE OF SERVICES:

1.1 In consideration of the payments specified in this Agreement, Contractor shall provide all labor, tools, material, equipment, permits, parts, expendable items, supplies, transportation and supervision necessary to perform the services described in Exhibit "B", "B-1", "B-2", "B-3", "B-4", "B-5", "B-6", "B-7", "B-8", "B-9", "B-10," & "B-11."

### 2.0 INDEMNITY, RELEASE AND LIMITATION OF LIABILITY:

#### 2.1 RELEASE

CONTRACTOR AGREES TO AND SHALL RELEASE THE CITY, ITS AGENTS, EMPLOYEES, OFFICERS, AND LEGAL REPRESENTATIVES (COLLECTIVELY "THE CITY") FROM ALL LIABILITY FOR INJURY, DEATH, DAMAGE, OR LOSS TO PERSONS OR PROPERTY SUSTAINED IN CONNECTION WITH OR INCIDENTAL TO PERFORMANCE UNDER THIS AGREEMENT, EXCEPT IF THE INJURY, DEATH, DAMAGE, OR LOSS IS CAUSED BY THE CITY'S SOLE OR CONCURRENT NEGLIGENCE AND/OR THE CITY'S STRICT PRODUCTS LIABILITY OR STRICT STATUTORY LIABILITY.

#### 2.2 INDEMNIFICATION:

CONTRACTOR AGREES TO AND SHALL DEFEND, INDEMNIFY, AND HOLD THE CITY, ITS AGENTS, EMPLOYEES, OFFICERS, AND LEGAL REPRESENTATIVES (COLLECTIVELY "THE CITY") HARMLESS FOR ALL CLAIMS, CAUSES OF ACTION, LIABILITIES, FINES, AND EXPENSES (INCLUDING, WITHOUT LIMITATION, REASONABLE ATTORNEY'S FEES, COURT COSTS, AND ALL OTHER DEFENSE COSTS AND INTEREST) FOR INJURY, DEATH, DIRECT DAMAGE, OR LOSS TO PERSONS OR PROPERTY SUSTAINED IN CONNECTION WITH OR INCIDENTAL TO PERFORMANCE UNDER THIS AGREEMENT INCLUDING, WITHOUT LIMITATION, THOSE CAUSED BY:

2.2.1 CONTRACTOR'S AND/OR ITS AGENTS', EMPLOYEES', OFFICERS', DIRECTORS', CONTRACTORS', OR SUBCONTRACTORS' (COLLECTIVELY IN NUMBERED PARAGRAPHS 2.2.1-2.2.3, "CONTRACTOR") ACTUAL OR ALLEGED NEGLIGENCE OR INTENTIONAL ACTS OR OMISSIONS;

2.2.2 THE CITY'S AND CONTRACTOR'S ACTUAL OR ALLEGED CONCURRENT NEGLIGENCE, WHETHER CONTRACTOR IS IMMUNE FROM LIABILITY OR NOT; AND

2.2.3 THE CITY'S AND CONTRACTOR'S ACTUAL OR ALLEGED STRICT PRODUCTS LIABILITY OR STRICT STATUTORY LIABILITY, WHETHER CONTRACTOR IS IMMUNE FROM LIABILITY OR NOT.

2.2.4 CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE CITY HARMLESS DURING THE TERM OF THIS AGREEMENT AND FOR FOUR YEARS AFTER THE AGREEMENT TERMINATES. CONTRACTOR'S INDEMNIFICATION IS LIMITED TO \$500,000.00 PER OCCURRENCE.

2.2.5 HOWEVER, IN NO EVENT SHALL CONTRACTOR BE LIABLE TO THE CITY FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES AND CONTRACTOR DOES NOT INDEMNIFY THE CITY AGAINST CONSEQUENTIAL DAMAGES. CONTRACTOR'S LIABILITY UNDER THIS CONTRACT SHALL IN NO EVENT EXCEED \$500,000.00. CONTRACTOR SHALL NOT INDEMNIFY THE CITY FOR THE CITY'S SOLE NEGLIGENCE.

### 2.3 SUBCONTRACTOR'S INDEMNIFICATION:

CONTRACTOR SHALL REQUIRE ALL OF ITS SUBCONTRACTORS (AND THEIR SUBCONTRACTORS) TO RELEASE AND INDEMNIFY THE CITY TO THE SAME EXTENT AND IN SUBSTANTIALLY THE SAME FORM AS ITS RELEASE AND INDEMNITY TO THE CITY.

### 3.0 INDEMNIFICATION PROCEDURES:

3.1 Notice of Claims. If the City or Contractor receives notice of any claim or circumstances which could give rise to an indemnified loss, the receiving party shall give written notice to the other party within 10 days. The notice must include the following:

3.1.1 a description of the indemnification event in reasonable detail,

3.1.2 the basis on which indemnification may be due, and

3.1.3 the anticipated amount of the indemnified loss.

3.2 This notice does not stop or prevent the City from later asserting a different basis for indemnification or a different amount of indemnified loss than that indicated in the initial notice. If the City does not provide this notice within the 10-day period, it does not waive any right to indemnification except to the extent that Contractor is prejudiced, suffers loss, or incurs expense because of the delay.

#### 3.3 Defense of Claims

3.3.1 Assumption of Defense. Contractor may assume the defense of the claim at its own expense with counsel chosen by it that is reasonably satisfactory to the City. Contractor shall then control the defense and any negotiations to settle the claim. Within 10 days after receiving written notice of the indemnification request, Contractor must advise the City as to whether or not it will defend the claim. If Contractor does not assume the defense, the City shall assume and control the defense, and all defense expenses constitute an indemnification loss.

3.3.2 Continued Participation. If Contractor elects to defend the claim, the City may retain separate counsel to participate in (but not control) the defense and to participate in (but not control) any settlement negotiations. Contractor may settle the claim without the consent or agreement of the City, unless it (i) would result in injunctive relief or other equitable remedies or otherwise require the City to comply with restrictions or limitations that adversely affect the City, (ii) would require the City to pay amounts that Contractor does not fund in full, and (iii) would not result in the City's full and complete release from all liability to the plaintiffs or claimants who are parties to or otherwise bound by the settlement.

### 4.0 INSURANCE:

4.1 Contractor shall maintain in effect certain insurance coverage and shall furnish certificates of insurance, including any necessary endorsements, in duplicate form, before beginning its performance under this Agreement. All policies except Professional Liability and Workers' Compensation must name the City as an additional insured. The issuer of any policy (1) shall have a Certificate of Authority to transact insurance business in Texas or (2) shall be an eligible non-admitted insurer in the State of Texas and have a Best's rating of at least B+ and a Best's Financial Size Category of Class VI or better, according to the most current edition Best's Key

Rating Guide. Contractor shall maintain the following insurance coverages in the following amounts:

4.1.1 Commercial General Liability insurance including Contractual Liability insurance:  
\$2,500,000 combined single limit

4.1.2 Workers' Compensation including Broad Form All States endorsement:  
Statutory amount

4.1.3 Automobile Liability insurance  
\$2,500,000 combined single limit per occurrence  
Defense costs are excluded from the face amount of the policy.  
Aggregate Limits are per 12-month policy period unless otherwise indicated.

4.1.4 Employer's Liability  
Bodily injury by accident \$100,000 (each accident)  
Bodily injury by disease \$100,000 (policy limit)  
Bodily injury by disease \$100,000 (each employee)

4.2 All insurance policies must require on their face, or by endorsement, that the insurance carrier waives any rights of subrogation against the City. **CONTRACTOR SHALL GIVE 30 DAYS' ADVANCE WRITTEN NOTICE TO THE DIRECTOR IF ANY OF ITS INSURANCE POLICIES ARE CANCELLED, MATERIALLY CHANGED OR NON-RENEWED.** Within the 30 day period, Contractor shall procure and provide to the Director other suitable policies in lieu of those about to be canceled, materially changed, or non-renewed so as to maintain in effect the required coverage. If Contractor does not comply with this requirement, the Director, at his or her sole discretion, may:

4.2.1 immediately suspend Contractor from any further performance under this Agreement and begin procedures to terminate for default, or

4.2.2 purchase the required insurance with City funds and deduct the cost of the premiums from amounts due to Contractor under this Agreement.

## 5.0 WARRANTIES:

5.1 Contractor represents and warrants that it shall perform all work in a good and workmanlike manner, meeting the standards of quality prevailing in Harris County, Texas for work of this kind. Contractor shall perform all work using trained and skilled persons having substantial experience performing the work required under this Agreement.

5.2 With respect to any parts and goods furnished by it, Contractor warrants:

5.2.1 that all items are free of defects in title, material, and workmanship,

5.2.2 that each item meets or exceeds the manufacturer's specifications and requirements for the equipment, structure, or other improvement in which the item is installed,

5.2.3 that each replacement item is new in accordance with original equipment manufacturer's specifications, and of a quality at least as good as the quality of the item which it replaces (when the replaced item was new), and

5.2.4 that no item or its use infringes any patent, copyright, or proprietary right.

## 6.0 LICENSES AND PERMITS:

6.1 Contractor shall obtain, maintain, and pay for all licenses, permits, and certificates required by

any statute, ordinance, rule, or regulation.

**7.0 COMPLIANCE WITH LAWS:**

7.1 Contractor shall comply with all applicable state and federal laws and regulations and the City Charter and Code of Ordinances.

**8.0 COMPLIANCE WITH EQUAL OPPORTUNITY AND MWBE ORDINANCE:**

8.1 Contractor shall comply with the City's Equal Employment Opportunity Ordinance as set out in Exhibit "C."

8.2 Contractor shall comply with the City's Minority and Women Business Enterprise ("MWBE") programs as set out in Chapter 15, Article V of the City of Houston Code of Ordinances. Contractor shall make good faith efforts to award subcontracts or supply agreements in at least 3% of the value of this Agreement to MWBEs. Contractor acknowledges that it has reviewed the requirements for good faith efforts on file with the City's Office of Business Opportunity ("OBO"), and will comply with them.

8.3 Contractor shall require written subcontracts with all MWBE subcontractors and shall submit all disputes with MWBEs to mediation to be conducted in Houston, Texas if directed to do so by the OBO Director. If Contractor is an individual person (as distinguished from a corporation, partnership, or other legal entity), and the amount of the subcontract is \$50,000 or less, then the subcontract must also be signed by the attorneys of the respective parties.

**9.0 DRUG ABUSE DETECTION AND DETERRENCE:**

9.1 It is the policy of the City to achieve a drug-free workforce and workplace. The manufacture, distribution, dispensation, possession, sale, or use of illegal drugs or alcohol by contractors while on City Premises is prohibited. Contractor shall comply with all the requirements and procedures set forth in the Mayor's Drug Abuse Detection and Deterrence Procedures for Contractors, Executive Order No. 1-31 ("Executive Order"), which is incorporated into this Agreement and is on file in the City Secretary's Office.

9.2 Before the City signs this Agreement, Contractor shall file with the Contract Compliance Officer for Drug Testing ("CCODT");

9.2.1 a copy of its drug-free workplace policy,

9.2.2 the Drug Policy Compliance Agreement substantially in the form set forth in Exhibit "D," together with a written designation of all safety impact positions and,

9.2.3 if applicable (e.g. no safety impact positions), the Certification of No Safety Impact Positions, substantially in the form set forth in Exhibit "E."

9.3 If Contractor files a written designation of safety impact positions with its Drug Policy Compliance Agreement, it also shall file every 6 months during the performance of this Agreement or on completion of this Agreement if performance is less than 6 months, a Drug Policy Compliance Declaration in a form substantially similar to Exhibit "F." Contractor shall submit the Drug Policy Compliance Declaration to the CCODT within 30 days of the expiration of each 6-month period of performance and within 30 days of completion of this Agreement. The first 6-month period begins to run on the date the City issues its Notice to Proceed or if no Notice to Proceed is issued, on the first day Contractor begins work under this Agreement.

9.4 Contractor also shall file updated designations of safety impact positions with the CCODT if additional safety impact positions are added to Contractor's employee work force.

- 9.5 Contractor shall require that its subcontractors comply with the Executive Order, and Contractor shall secure and maintain the required documents for City inspection.

**10.0 ENVIRONMENTAL LAWS:**

- 10.1 Contractor shall comply with all applicable rules, regulations, statutes, or orders of the Environmental Protection Agency ("EPA"), the Texas Commission on Environmental Quality ("TCEQ"), and any other governmental agency with the authority to promulgate environmental rules and regulations ("Environmental Laws"). Contractor shall promptly reimburse the City for any fines or penalties levied against the City because of Contractor's failure to comply with applicable laws.
- 10.2 Contractor shall not possess, use, generate, release, discharge, store, dispose of, or transport any Hazardous Materials on, under, in, above, to, or from the City's Facilities except in strict compliance with the Environmental Laws. "Hazardous Materials" means any substances, materials, or wastes that are or become regulated as hazardous or toxic substances under any applicable federal, state, or local laws, regulations, ordinances, or orders. Contractor shall not deposit oil, gasoline, grease, lubricants or any ignitable or hazardous liquids, materials, or substances in the City's storm sewer system or sanitary sewer system or elsewhere on City Property in violation of the Environmental Laws.

**11.0 CONTRACTOR'S PERFORMANCE:**

- 11.1 Contractor shall make citizen satisfaction a priority in providing services under this Agreement. Contractor shall train its employees to be customer service-oriented and to positively and politely interact with citizens when performing contract services. Contractor's employees shall be clean, courteous, efficient, and neat in appearance and committed to offering the highest quality of service to the public. If, in the Director's opinion, Contractor is not interacting in a positive and polite manner with citizens, he or she shall direct Contractor to take all remedial steps to conform to these standards.

**12.0 PAYMENT OF EMPLOYEES AND SUBCONTRACTORS:**

- 12.1 Contractor shall make timely payments in accordance with applicable state and federal law to all persons and entities supplying labor, materials or equipment for the performance of this Agreement including Contractor's employees.
- 12.2 Failure of Contractor to pay its employees as required by law shall constitute a default under this Agreement for which the Contractor and its surety shall be liable on Contractor's performance bond if Contractor fails to cure the default as provided under this Agreement.
- 12.3 **CONTRACTOR SHALL DEFEND AND INDEMNIFY THE CITY FROM ANY CLAIMS OR LIABILITY ARISING OUT OF CONTRACTOR'S FAILURE TO PAY ITS SUBCONTRACTORS AS REQUIRED BY LAW.** Contractor shall submit disputes relating to payment of MWBE subcontractors to mediation in the same manner as any other disputes under the MWBE subcontract if directed to do so by the Director of OBO.

**13.0 CONTRACTOR PAY OR PLAY PROGRAM:**

- 13.1 The requirement and terms of the City of Houston Pay or Play program, as set out in Executive Order 1-7, as revised from time to time, are incorporated into this Agreement for all purposes. Contractor has reviewed Executive Order 1-7, as revised, and shall comply with its terms and conditions as they are set out at the time of City Council approval of this Agreement.

### III. DUTIES OF CITY

#### 1.0 PAYMENT TERMS:

- 1.1 The City shall pay and Contractor shall accept fees at the unit prices provided in Exhibit "G" for all services rendered and the Deliverables furnished by Contractor. The fees must only be paid from Allocated Funds, as provided below.
- 1.2 Any quantities of services or Deliverables shown in any part of this Agreement or its exhibits are estimates only and are not any guarantee that the City will not purchase more or less of those services or Deliverables. The City will pay only for the services or Deliverables actually ordered and only at the unit prices set out.

#### 2.0 TAXES:

- 2.1 The City is exempt from payment of Federal Excise and Transportation Tax and Texas Limited Sales and Use Tax. Contractor's invoices to the City must not contain assessments of any of these taxes. The Director will furnish the City's exemption certificate and federal tax identification number to Contractor if requested.

#### 3.0 METHOD OF PAYMENT:

- 3.1 The City shall pay Contractor on the basis of invoices submitted by Contractor and approved by the Director, showing the specific tasks completed in the preceding month and the corresponding prices. The City shall make payments to Contractor at its address for notices within 30 days of receipt of an approved invoice.

#### 4.0 METHOD OF PAYMENT - DISPUTED PAYMENTS:

- 4.1 If the City disputes any items in an invoice Contractor submits for any reason, including lack of supporting documentation, the Director shall temporarily delete the disputed item and pay the remainder of the invoice. The Director shall promptly notify Contractor of the dispute and request remedial action. After the dispute is settled, Contractor shall include the disputed amount on a subsequent regularly scheduled invoice or on a special invoice for the disputed item only.

#### 5.0 LIMIT OF APPROPRIATION:

- 5.1 The City's duty to pay money to Contractor under this Agreement is limited in its entirety by the provisions of this Section.
- 5.2 In order to comply with Article II, Sections 19 and 19a of the City's Charter and Article XI, Section 5 of the Texas Constitution, the City has appropriated and allocated the sum of **\$800,000** to pay money due under this Agreement (the "Original Allocation"). The executive and legislative officers of the City, in their discretion, may allocate supplemental funds for this Agreement, but they are not obligated to do so. Therefore, the Parties have agreed to the following procedures and remedies:
- 5.3 The City makes a Supplemental Allocation by issuing to Contractor a Service Release Order, or similar form approved by the City Controller, containing the language set out below. When necessary, the Supplemental Allocation shall be approved by motion or ordinance of City Council.

**NOTICE OF SUPPLEMENTAL ALLOCATION OF FUNDS**

By the signature below, the City Controller certifies that, upon the request of the responsible director, the supplemental sum set out below has been allocated for the purposes of the Agreement out of funds appropriated for this purpose by the City Council of the City of Houston. This supplemental allocation has been charged to such appropriation.

\$ \_\_\_\_\_

5.4 The Original Allocation plus all supplemental allocations are the Allocated Funds. The City shall never be obligated to pay any money under this Agreement in excess of the Allocated Funds. Contractor must assure itself that sufficient allocations have been made to pay for services it provides. If Allocated Funds are exhausted, Contractor's only remedy is suspension or termination of its performance under this Agreement, and it has no other remedy in law or in equity against the City and no right to damages of any kind.

**6.0 CHANGES:**

6.1 At any time during the Agreement Term, the Director, pursuant to Section 252.048 of the Texas Local Government Code, may issue a Change Order to (a) increase or decrease the scope of services, (b) request services for minor or incidental changes or matters that arise in connection with Contractor's repair or replacement services provided under this Agreement, or (c) change plans and specifications, as he or she may find necessary to accomplish the general purposes of this Agreement.

6.2 Contractor shall furnish the services or deliverables in the Change Order in accordance with the requirements of this Agreement plus any special provisions, specifications, or special instructions issued to execute the extra work. To the extent practicable, the Director will afford Contractor the opportunity to provide input on the terms and conditions of the services or deliverables in the Change Order; however, Contractor's input, if any, shall not relieve Contractor from its obligations to furnish the services or deliverables in the Change Order in accordance with this section 6.0, "Changes."

6.3 The Director will issue the Change Order in substantially the following form:

**CHANGE ORDER**

TO: [Name of Contractor]  
FROM: City of Houston, Texas (the "City")  
DATE: [Date of Notice]  
SUBJECT: Change Order under the Agreement between the City and [Name of Contractor] countersigned by the City Controller on [Date of countersignature of the Agreement]

Subject to all terms and conditions of the Agreement, the City requests that Contractor provide the following:

[Here describe the additions to or changes to the equipment or services and the Change Order Charges applicable to each.]

Signed:  
[Signature of Director]

6.4 The Director may issue more than one Change Order, subject to the following limitations:

6.4.1 Council expressly authorizes the Director to approve a Change Order of up to \$50,000.

A Change Order of more than \$50,000 over the approved contract amount must be approved by the City Council.

- 6.4.2 If a Change Order requests products, deliverables, or services resulting from Contractor's fault or negligence or describes products, deliverables, or services that Contractor is otherwise required to provide under this Agreement, the City is not obligated to pay any additional money to Contractor.
- 6.4.3 The Total of all Change Orders issued under this section may not increase the Original Agreement amount by more than 25%.
- 6.5 Expedited Change Orders. At any time during the term of the Agreement, the Director or his designee may also issue an Expedited Change Order.
  - 6.5.1 An Expedited Change Order shall mean a Change Order for minor or incidental changes or matters that arise in connection with Contractor's services to repair or replace the systems associated with the blowers or Blower Groups provided that these changes or matters (a) are necessary to bring the equipment to the working conditions agreeable to the Director; (b) must be resolved, addressed, or decided upon within two Business Days to ensure the continued, safe, and compliant operation of the systems associated with the blowers or Blower Groups; and (c) the changes or matters are not otherwise described in the Agreement.
  - 6.5.2 Expedited Change Orders shall not include (a) changes or matters resulting from Contractor's fault or negligence; (b) any changes to the Scope of Services, service locations, or Agreement value; (c) any change or matter for which the cost agreed upon by the Parties is greater than or equal to the expenditure amount that requires approval from the supervisor of the Managing Engineer, with supervisory authority over the waste water treatment plant or an approver with a higher level of authority than the Managing Engineer; and (d) any change or matter for which the agreed upon cost will exceed the \$50,000 cumulative limit for all Expedited Change Orders performed in a single fiscal year.
  - 6.5.3 The Director or his designee may issue more than one Expedited Change Order subject to the following limitations:
    - 6.5.3.1 The cumulative total of all Expedited Change Orders approved by the Director or his designee or performed by the Contractor shall not exceed \$50,000 per fiscal year.
    - 6.5.3.2 To the extent the Director's designee issues an Expedited Change Order or approves the price for the work described in the Expedited Change Order, the Director must have previously delegated to the designee, in writing, the authority to issue and approve Expedited Change Orders involving the products, deliverables, or services and the amount the designee approved, and the delegated authority must precede and extend to the date on which the designee issued the Extended Change Order and approved the price for the work described in the Expedited Change Order. The delegated authority for Expedited Change Orders can be for the term of the Agreement as long as it is not subsequently revoked.
  - 6.5.4 Whenever Contractor receives an Expedited Change Order, the Parties shall mutually agree upon a price for the work described in the Expedited Change Order, which price must be approved, in writing, by the Director or his designee.
  - 6.5.5 Contractor shall not perform work in connection with an Expedited Change Order without the Director's or his designee's prior written approval of the price for the work described in the Expedited Change Order. After receiving the required approval, Contractor shall

perform the work described in the Expedited Change Order in accordance with the provisions of this Section, including but not limited to section 6.2.

6.5.6 The City is not obligated to pay any money to Contractor for Expedited Change Orders not duly authorized in accordance with this section 6.0, "Changes." It shall be Contractor's responsibility to assure itself that the designee, if any, is acting within the limits of the designated authority and that the Expedited Change Order is in accordance with this section 6.0, "Changes."

6.6 Whenever Contractor receives a Change Order, including an Expedited Change Order, Contractor shall furnish all material, equipment, and personnel necessary to perform the work described in the Change Order. Contractor shall complete the work within the time prescribed. If no time for completion is prescribed, Contractor shall complete the work within a reasonable time. If the work described in any Change Order, including any Expedited Change Order, causes an unavoidable delay in any other work Contractor is required to perform under this Agreement, Contractor may request a time extension for the completion of the work. The Director's decision regarding a time extension is final.

6.7 A product, deliverable, or service provided under a Change Order, including an Expedited Change Order, is subject to inspection, acceptance, or rejection in the same manner as the work described in the Original Agreement, and is subject to the terms and conditions of the Original Agreement as if it had originally been a part of the Agreement.

6.8 Change Orders, including Expedited Change Orders, are subject to the Allocated Funds provisions of this Agreement.

#### **IV. TERM AND TERMINATION**

##### **1.0 CONTRACT TERM:**

1.1 This Agreement is effective on the Countersignature Date and expires three (3) years after the date specified in the Notice to Proceed unless sooner terminated according to the terms of this Agreement ("Initial Term").

##### **2.0 NOTICE TO PROCEED:**

2.1 Contractor shall begin its performance under this Agreement on the date specified in the written Notice to Proceed from the City Purchasing Agent.

##### **3.0 RENEWALS:**

3.1 Upon expiration of the Initial Term, and so long as the City makes sufficient supplemental allocations, the Director, at his or her sole discretion, may make a request to Contractor to renew this Agreement for up to two additional one-year option periods, upon at least 30 days' written notice before expiration of the initial term, or first option period, as applicable. Any renewal, pursuant to this Section, shall be upon the same terms and conditions of this Agreement.

##### **4.0 TIME EXTENSIONS:**

4.1 If the Department requests an extension of time to complete its performance, then the City Purchasing Agent may, in his or her sole discretion, extend the time so long as the extension does not exceed ninety (90) days. The extension must be in writing but does not require amendment of this Agreement. Contractor is not entitled to damages for delay(s) regardless of the cause of the delay(s).

**5.0 TERMINATION FOR CONVENIENCE BY THE CITY:**

- 5.1 The Director may terminate this Agreement at any time by giving 30 days' written notice to Contractor. The City's right to terminate this Agreement for convenience is cumulative of all rights and remedies which exist now or in the future.
- 5.2 On receiving the notice, Contractor shall, unless the notice directs otherwise, immediately discontinue all services under this Agreement and cancel all existing orders and subcontracts that are chargeable to this Agreement. As soon as practicable after receiving the termination notice, Contractor shall submit an invoice showing in detail the services performed under this Agreement up to the termination date. The City shall then pay the fees to Contractor for services actually performed, but not already paid for, in the same manner as prescribed in Section III unless the fees exceed the allocated funds remaining under this Agreement.
- 5.3 TERMINATION OF THIS AGREEMENT AND RECEIPT OF PAYMENT FOR SERVICES RENDERED ARE CONTRACTOR'S ONLY REMEDIES FOR THE CITY'S TERMINATION FOR CONVENIENCE, WHICH DOES NOT CONSTITUTE A DEFAULT OR BREACH OF THIS AGREEMENT. CONTRACTOR WAIVES ANY CLAIM (OTHER THAN ITS CLAIM FOR PAYMENT AS SPECIFIED IN THIS SECTION), IT MAY HAVE NOW OR IN THE FUTURE FOR FINANCIAL LOSSES OR OTHER DAMAGES RESULTING FROM THE CITY'S TERMINATION FOR CONVENIENCE.

**6.0 TERMINATION FOR CAUSE BY CITY:**

- 6.1 If Contractor defaults under this Agreement, the Director may either terminate this Agreement or allow Contractor to cure the default as provided below. The City's right to terminate this Agreement for Contractor's default is cumulative of all rights and remedies which exist now or in the future. Default by Contractor occurs if:
  - 6.1.1 Contractor fails to perform any of its duties under this Agreement;
  - 6.1.2 Contractor becomes insolvent;
  - 6.1.3 all or a substantial part of Contractor's assets are assigned for the benefit of its creditors;  
or
  - 6.1.4 a receiver or trustee is appointed for Contractor.
- 6.2 If a default occurs, the Director may, but is not obligated to, deliver a written notice to Contractor describing the default and the termination date. The Director, at his or her sole option, may extend the termination date to a later date. If the Director allows Contractor to cure the default and Contractor does so to the Director's satisfaction before the termination date, then the termination is ineffective. If Contractor does not cure the default before the termination date, then the Director may terminate this Agreement on the termination date, at no further obligation of the City.
- 6.3 To effect final termination, the Director must notify Contractor in writing. After receiving the notice, Contractor shall, unless the notice directs otherwise, immediately discontinue all services under this Agreement, and promptly cancel all orders or subcontracts chargeable to this Agreement.

**7.0 TERMINATION FOR CAUSE BY CONTRACTOR:**

- 7.1 Contractor may terminate its performance under this Agreement only if the City defaults and fails to cure the default after receiving written notice of it. Default by the City occurs if the City

fails to perform one or more of its material duties under this Agreement. If a default occurs and Contractor wishes to terminate the Agreement, then Contractor must deliver a written notice to the City Purchasing Agent and the Director describing the default and the proposed termination date.

- 7.2 The date must be at least 30 days after the Director receives notice. Contractor, at its sole option, may extend the proposed termination date to a later date. If the City cures the default before the proposed termination date, then the proposed termination is ineffective. If the City does not cure the default before the proposed termination date, then Contractor may terminate its performance under this Agreement on the termination date.

#### **8.0 REMOVAL OF CONTRACTOR OWNED EQUIPMENT AND MATERIALS:**

- 8.1 Upon expiration or termination of this Agreement, Contractor is permitted ten (10) days within which to remove contractor-owned material and equipment from the City's premises. The City shall make such material and equipment readily available to Contractor. The time period may be extended upon approval by the Director. The City reserves the right to deny any extension of time.

### **V. MISCELLANEOUS**

#### **1.0 INDEPENDENT CONTRACTOR:**

- 1.1 Contractor shall perform its obligations under this Agreement as an independent contractor and not as an employee of the City.

#### **2.0 FORCE MAJEURE:**

- 2.1 Timely performance by both parties is essential to this Agreement. However, neither party is liable for delays or other failures to perform its obligations under this Agreement to the extent the delay or failure is caused by Force Majeure. Force Majeure means fires, floods, explosions, and other acts of God, war, terrorist acts, riots, court orders, and the acts of superior governmental or military authority.
- 2.2 This relief is not applicable unless the affected party does the following:
- 2.2.1 uses due diligence to remove the Force Majeure as quickly as possible; and
- 2.2.2 provides the other party with prompt written notice of the cause and its anticipated effect.
- 2.3 The City may perform contract functions itself or contract them out during periods of Force Majeure. Such performance does not constitute a default or breach of this Agreement by the City.
- 2.5 If the Force Majeure continues for more than 30 days from the date performance is affected, the Director may terminate this Agreement by giving 30 days' written notice to Contractor. This termination is not a default or breach of this Agreement. **CONTRACTOR WAIVES ANY CLAIM IT MAY HAVE FOR FINANCIAL LOSSES OR OTHER DAMAGES RESULTING FROM THE TERMINATION EXCEPT FOR AMOUNTS DUE UNDER THE AGREEMENT UP TO THE TIME WORK IS HALTED DUE TO FORCE MAJEURE.**
- 2.6 Contractor is not relieved from performing its obligations under this Agreement due to a strike, labor disputes, or work slowdown of its employees or subcontractors. Contractor shall employ only fully trained and qualified personnel during a strike.

**3.0 SEVERABILITY:**

3.1 If any part of this Agreement is for any reason found to be unenforceable, all other parts remain enforceable unless the result materially prejudices either party.

**4.0 ENTIRE AGREEMENT:**

4.1 This Agreement merges the prior negotiations and understandings of the Parties and embodies the entire agreement of the Parties. No other agreements, assurances, conditions, covenants (express or implied), or other terms of any kind exist between the Parties regarding this Agreement.

**5.0 WRITTEN AMENDMENT:**

5.1 Unless otherwise specified elsewhere in this Agreement, this Agreement may be amended only by written instrument executed on behalf of the City (by authority of an ordinance duly adopted by the City Council) and Contractor. The Director is only authorized to perform the functions specifically delegated to him or her in this Agreement.

**6.0 APPLICABLE LAWS AND INFORMAL DISPUTE RESOLUTION:**

6.1 This Agreement is subject to the laws of the State of Texas, the City Charter and Ordinances, the laws of the federal government of the United States, and all rules and regulations of any regulatory body or officer having jurisdiction.

6.2 Venue for any litigation relating to this Agreement is Harris County, Texas.

6.3 All disputes arising in connection with this Agreement, including any question regarding its existence or validity, shall be resolved in accordance with this Article 6. If a dispute is not resolved by informal discussions, either party may, by giving written notice, refer the dispute to a meeting of appropriate higher management for the City and the Contractor, to be held in Houston, Texas, within twenty (20) business days after the giving of notice. If the dispute is not resolved within thirty (30) business days after the giving of notice, or such later date as may be mutually agreed, either party may commence litigation in Houston, Texas.

6.4 Notwithstanding the foregoing, each Party shall have the right at any time, at its option and where legally available, to immediately commence an action or proceeding in a court of competent jurisdiction, subject to the terms of this Agreement, to seek a restraining order, injunction, or similar order to enforce the confidentiality provisions set forth in this Agreement.

**7.0 NOTICES:**

7.1 All notices to either party to the Agreement must be in writing and must be delivered by hand, facsimile, United States registered or certified mail, return receipt requested, United States Express Mail, Federal Express, Airborne Express, UPS or any other national overnight express delivery service. The notice must be addressed to the party to whom the notice is given at its address set out in Section I of this Agreement or other address the receiving party has designated previously by proper notice to the sending party. Postage or delivery charges must be paid by the party giving the notice.

**8.0 CAPTIONS:**

8.1 Captions contained in this Agreement are for reference only, and, therefore, have no effect in construing this Agreement. The captions are not restrictive of the subject matter of any section in this Agreement.

**9.0 NON-WAIVER:**

- 9.1 If either party fails to require the other to perform a term of this Agreement, that failure does not prevent the party from later enforcing that term and all other terms. If either party waives the other's breach of a term, that waiver does not waive a later breach of this Agreement.
- 9.2 An approval by the Director, or by any other employee or agent of the City, of any part of Contractor's performance does not waive compliance with this Agreement or establish a standard of performance other than that required by this Agreement and by law. The Director is not authorized to vary the terms of this Agreement.

**10.0 INSPECTIONS AND AUDITS:**

- 10.1 City representatives may perform, or have performed (1) audits of Contractor's books and records, and (2) inspections of all places where work is undertaken in connection with this Agreement. Contractor shall keep its books and records available for this purpose for at least four (4) years after this Agreement terminates. This provision does not affect the applicable statute of limitations.

**11.0 ENFORCEMENT:**

- 11.1 The City Attorney or his or her designee may enforce all legal rights and obligations under this Agreement without further authorization. Contractor shall provide to the City Attorney all documents and records that the City Attorney requests to assist in determining Contractor's compliance with this Agreement, with the exception of those documents made confidential by federal or State law or regulation.

**12.0 AMBIGUITIES:**

- 12.1 If any term of this Agreement is ambiguous, it shall not be construed for or against any party on the basis that the party did or did not write it.

**13.0 SURVIVAL:**

- 13.1 Contractor shall remain obligated to the City under all clauses of this Agreement that expressly or by their nature extend beyond the expiration or termination of this Agreement, including but not limited to, the indemnity provisions.

**14.0 PARTIES IN INTEREST:**

- 14.1 This Agreement does not bestow any rights upon any third party, but binds and benefits the City and Contractor only.

**15.0 SUCCESSORS AND ASSIGNS:**

- 15.1 This Agreement binds and benefits the Parties and their legal successors and permitted assigns; however, this provision does not alter the restrictions on assignment and disposal of assets set out in the following paragraph. This Agreement does not create any personal liability on the part of any officer or agent of the City.

**16.0 BUSINESS STRUCTURE AND ASSIGNMENTS:**

- 16.1 Contractor shall not assign this Agreement at law or otherwise or dispose of all or substantially all of its assets without the City Purchasing Agent's prior written consent. Nothing in this clause, however, prevents the assignment of accounts receivable or the creation of a security interest under Section 9.406 (c) of the Texas Business & Commerce Code. In the case of such an

assignment, Contractor shall immediately furnish the City with proof of the assignment and the name, telephone number, and address of the Assignee and a clear identification of the fees to be paid to the Assignee.

- 16.2 Contractor shall not delegate any portion of its performance under this Agreement without the Director's prior written consent.

**17.0 REMEDIES CUMULATIVE:**

- 17.1 Unless otherwise specified elsewhere in this Agreement, the rights and remedies contained in this Agreement are not exclusive, but are cumulative of all rights and remedies which exist now or in the future. Neither party may terminate its duties under this Agreement except in accordance with its provisions.

**18.0 CONTRACTOR DEBT:**

- 18.1 IF CONTRACTOR, AT ANY TIME DURING THE TERM OF THIS AGREEMENT, INCURS A DEBT, AS THE WORD IS DEFINED IN SECTION 15-122 OF THE HOUSTON CITY CODE OF ORDINANCES, IT SHALL IMMEDIATELY NOTIFY THE CITY CONTROLLER IN WRITING. IF THE CITY CONTROLLER BECOMES AWARE THAT CONTRACTOR HAS INCURRED A DEBT, SHE SHALL IMMEDIATELY NOTIFY CONTRACTOR IN WRITING. IF CONTRACTOR DOES NOT PAY THE DEBT WITHIN 30 DAYS OF EITHER SUCH NOTIFICATION, THE CITY CONTROLLER MAY DEDUCT FUNDS IN AN AMOUNT EQUAL TO THE DEBT FROM ANY PAYMENTS OWED TO CONTRACTOR UNDER THIS AGREEMENT, AND CONTRACTOR WAIVES ANY RECOURSE THEREFOR. CONTRACTOR SHALL FILE A NEW AFFIDAVIT OF OWNERSHIP, USING THE FORM DESIGNATED BY CITY, BETWEEN FEBRUARY 1 AND MARCH 1 OF EVERY YEAR DURING THE TERM OF THIS AGREEMENT.

**19.0 RISK OF LOSS:**

- 19.1 Unless otherwise specified elsewhere in this Agreement, risk of loss or damage for each good, product, or equipment passes from Contractor to the City upon acceptance of the good, product, or equipment by the City. If repair services are to be performed on the City's equipment, Contractor shall be responsible for, and shall retain risk of loss of, such goods, products, or equipment until the City's acceptance of the repaired or replaced good, product, or equipment.
- 19.2 If repair services are to be performed on the City's equipment, Contractor shall be responsible for, and shall retain risk of loss of, such equipment while in the possession of the Contractor. Risk of loss or damage for each good, product, or equipment passes from Contractor to the City upon acceptance of the repaired or replaced product or equipment by the City.

**20.0 CONFIDENTIALITY:**

- 20.1 For Contractor or City personnel to perform the obligations under this Agreement, it may become necessary for either party to receive or have access to specifications, designs, plans, drawings, software, data prototypes, or other technical or business information of the other party that either existed before performance of work or was subsequently developed independent of the parties performance of contract obligations ("Background Information"), which is considered proprietary or confidential by the other party. In addition, information developed in connection with the performance of this Agreement ("Delivered Information"), which is provided under this Agreement is proprietary and confidential. All Background Information and all Delivered Information are collectively referred to in this Section as "Information."
- 20.2 The party to whom Information is disclosed shall: (a) hold the Information in confidence and protect it in accordance with the security regulations by which it protects its own proprietary or confidential information; (b) restrict disclosure of the Information solely to those employees,

agents, subcontractors, financial service providers, and representatives with a need to know; and (c) advise those employees, agents, subcontractors, financial service providers, and representatives of their obligations with respect to the Information. Notwithstanding these restrictions, the party to whom Information is disclosed may disclose Information to any other third party after first obtaining the prior written permission of the disclosing party, provided that such disclosure shall be made in accordance with the terms and conditions of this Section unless otherwise agreed to by the disclosing party.

- 20.3 The party to whom Information is disclosed shall have no obligation to preserve the proprietary or confidential nature of any Information that: (a) was previously known to it free and clear of any obligation to keep it confidential; (b) except as otherwise provided under this Agreement, is disclosed to third parties by the disclosing party without restriction; (c) is or becomes publicly available by means other than unauthorized disclosure; (d) is independently developed by it; or (e) is disclosed in response to requests made under the Texas Public Information Act or a court order. However, the party ordered to disclose the Information shall (i) give the disclosing party of the Information or Software prompt written notice of all such requests, and (ii) cooperate with the disclosing party's efforts to obtain a protective order protecting the Information from disclosure.
- 20.4 Neither party shall be liable for the inadvertent or accidental disclosure of Information, if the disclosure occurs despite the exercise of a reasonable degree of care, which is at least as great as the care the party normally takes to preserve its own proprietary information of a similar nature.
- 20.5 All Information owned by Contractor or its suppliers and furnished to the City under this Agreement is the property of Contractor or the supplier, and unless otherwise expressly provided in the applicable Order, the City, its agents and representatives shall: (a) use Information only to install, operate, or maintain the product(s) for which originally furnished or to perform an audit conducted by City employees or a third party to assess Contractor's performance under the Agreement and the effectiveness of systems, software, and equipment provided by Contractor; (b) use Information only for the City's internal business purposes; (c) not reproduce or copy Information except as authorized under this Agreement unless the parties otherwise agree in writing; (d) not use the Information to develop other software; (e) return or destroy the Information and any copies when no longer needed or permitted for use with the product for which initially furnished; and (f) not remove Information from the United States.
- 20.6 Upon request, the receiving party shall return to the furnishing party all Background Information received in tangible form that is not part of the Delivered Information.
- 20.7 Contractor shall make no announcement or release information concerning this Agreement unless the release has been submitted to and approved, in writing, by the Director.

**EXHIBIT "A"**  
**DEFINITIONS**

As used in this Agreement, the following terms have the meanings set out below:

1. "Agreement" means this contract between the Parties, including all exhibits, change orders, and any written amendments authorized by City Council and Contractor.
2. "Blower Groups" means the blowers or fans for the purpose of this Agreement which are grouped such as to represent the blower type, manufacturer, motor drive - size, speed and size of each blower.
3. The existing and/or future blowers at the City of Houston Wastewater facilities include: Aeration, Grit Chamber, Sludge, Digesters, Thickeners, and/or Disinfection blowers are grouped as followed:

<b><u>Group</u></b>	<b><u>Type of Blower / Manufacture</u></b>	<b><u>Size of the Drive (Horsepower)</u></b>
RL-D1	Rotary Lobe / Dresser	Fractional - 50
RL-D2	Rotary Lobe / Dresser	51 - 100
RL-D3	Rotary Lobe / Dresser	101 - 250
RL-D4	Rotary Lobe / Dresser	251 or 400
RL-D5	Rotary Lobe / Dresser	401 or Greater
RL-M1	Rotary Lobe / Miscellaneous	Fractional - 50
RL-M2	Rotary Lobe / Miscellaneous	51 - 100
RL-M3	Rotary Lobe / Miscellaneous	101 - 250
RL-M4	Rotary Lobe / Miscellaneous	251 or 400
RL-M5	Rotary Lobe / Miscellaneous	401 or Greater
SSC-D1	Single-Stage Centrifugal / Dresser	Fractional - 50
SSC-D2	Single-Stage Centrifugal / Dresser	51 - 100
SSC-D3	Single-Stage Centrifugal / Dresser	101 - 250
SSC-D4	Single-Stage Centrifugal / Dresser	251 - 400
SSC-D5	Single-Stage Centrifugal / Dresser	401 or Greater
SSC-HL1	Single-Stage Centrifugal / Hoffman & Lamson	Fractional - 50
SSC-HL2	Single-Stage Centrifugal / Hoffman & Lamson	51 - 100
SSC-HL3	Single-Stage Centrifugal / Hoffman & Lamson	101 - 250
SSC-HL4	Single-Stage Centrifugal / Hoffman & Lamson	251 - 400
SSC-HL5	Single-Stage Centrifugal / Hoffman & Lamson	401 or Greater
SSC-M1	Single-Stage Centrifugal / Miscellaneous	Fractional - 50
SSC-M2	Single-Stage Centrifugal / Miscellaneous	51 - 100
SSC-M3	Single-Stage Centrifugal / Miscellaneous	101 - 250
SSC-M4	Single-Stage Centrifugal / Miscellaneous	251 - 400
SSC-D5	Single-Stage Centrifugal / Miscellaneous	401 or Greater
<b><u>Group</u></b>	<b><u>Type of Blower / Manufacture</u></b>	<b><u>Size of the Drive (Horsepower)</u></b>
MSC-D1	Multi-Stage Centrifugal / Dresser	Fractional - 50
MSC-D2	Multi-Stage Centrifugal / Dresser	51 - 100
MSC-D3	Multi-Stage Centrifugal / Dresser	101 - 250

MSC-D4	Multi-Stage Centrifugal / Dresser	251 - 400
MSC-D5	Multi-Stage Centrifugal / Dresser	401 or Greater
MSC-HL1	Multi-Stage Centrifugal / Hoffman & Lamson	Fractional - 50
MSC-HL2	Multi-Stage Centrifugal / Hoffman & Lamson	51 - 100
MSC-HL3	Multi-Stage Centrifugal / Hoffman & Lamson	101 - 250
MSC-HL4	Multi-Stage Centrifugal / Hoffman & Lamson	251 - 400
MSC-HL5	Multi-Stage Centrifugal / Hoffman & Lamson	401 or Greater
MSC-M1	Multi-Stage Centrifugal / Miscellaneous	Fractional - 50
MSC-M2	Multi-Stage Centrifugal / Miscellaneous	51 - 100
MSC-M3	Multi-Stage Centrifugal / Miscellaneous	101 - 250
MSC-M4	Multi-Stage Centrifugal / Miscellaneous	251 - 400
MSC-M5	Multi-Stage Centrifugal / Miscellaneous	401 or Greater
BF-1	Blower Fan	Fractional – 50
BF-2	Blower Fan	51 – 100
BF-3	Blower Fan	101 – 250
BF-4	Blower Fan	251 – 400
BF-5	Blower Fan	401 or Greater

4. "City" is defined in the preamble of this Agreement and includes its successors and assigns.
5. "City Facility" or "Wastewater Facility" are used interchangeably and mean the City of Houston Wastewater Treatment facilities or plants, Wastewater Operations facilities or plants, lift stations, or other City premises at which the Blower Groups, blowers, fans, or the corresponding parts described in this Agreement are located.
6. "City of Houston Normal Business Hours" shall mean 8:00 a.m. to 5:00 p.m. CST, Monday to Friday, except on official City holidays.
7. "City Purchasing Agent" is defined as the person or duly authorized successor, authorized in writing to act for the City. The term includes, except as otherwise provided in this Agreement, the authorized representative of the City Purchasing Agent acting within the limits of delegated authority.
8. "Contract Award Notice" means the official notification substantiated by the Notice to Proceed issued by the City Purchasing Agent to the Contractor.
9. "Contractor's Facility" shall mean place of business of the Contractor where the Contractor performs repairs of equipment and machinery for other entities, specifically where the Contractor plans to repair City of Houston blowers of the model and size described in these specifications. The facility shall be equipped with the needed overhead/jib crane(s), lathe(s), drill(s), impeller balancing, pressure washing machine, vibration probes, balancing machine, paint booth, hydraulic press, and testing equipment to do the necessary repair or overhaul and replacement work for the blower in the designated group. The facility shall be clean, free from dirt and dust, to prevent contamination and damage during assembly of the blowers and installation of bearings, gears, seals, valves, pipes and impellers.
10. "Contractor's Standard Business Hours" shall mean the daily eight (8) hour period Monday through Friday, which the Contractor has established as its normal business day.
11. "Council Motion or Ordinance" shall mean the Official Document passed by the Governing Body designating award(s) and directing the City Purchasing Agent to issue Notice(s) to Proceed.
12. "Countersignature Date" means the date this Agreement is countersigned by the City Controller.

13. "Director" means the Director of the Public Works and Engineering Department, or the person he or she designates acting within the limits of the designated authority, which designation will be in writing, with notice to the Contractor. The Director is also considered the Contract Administrator.
14. "Effective Date" is defined as the date this Agreement is countersigned by the City Controller.
15. "Emergency Labor Rate" (ELR) means the Contractor's charge for labor for unscheduled, immediate, and continuous repair work that shall be carried out until the repair of the unit is completed. The Director must authorize all emergency prior to the commencement of work.
16. "Equipment Inventory (EI) Number" shall mean the unique, cradle-to-grave number called Equipment Inventory (EI) Number used by (MMS) to identify each piece of equipment.
17. "Established Contractor/Supplier" is defined as any bidder who engages in any practice or trade, or method of dealing regularly in a place, vocation or trade as to justify an expectation that the bidder can be expected to perform in a satisfactory manner with respect to this Agreement.
18. "(EI) Tag" Equipment Identification tag shall mean a metallic strip, embossed with the equipment inventory number (EI #), attached to each piece of equipment.
19. "Governing Body" means the Mayor and City Council of the City of Houston.
20. "Hazardous Materials" is defined in Article II (Environmental Laws).
21. "Maintenance Management System" (MMS) shall mean a computerized database to manage work order process, and maintains historical data about performance and repair of equipment at Wastewater Operations Branches of the Public Utilities Division, City of Houston.
22. "Non-OEM Parts" shall mean any After Market Part(s) that meets or exceeds Original Equipment Manufacturer's standards.
23. "Non-Destructive Testing" (NDT) shall mean inspection to detect cracks and discontinuities by Magnetic Particle Methods, Penetrate Methods or any other Methods as needed and shall be performed by an NDT Level III Certified Technician. The Certification shall be in accordance to the latest Recommended Practices of the American Society for Non-Destructive Testing.
24. "Non-repairable Shop Cost" shall mean the cost amount that the Contractor can bill the City for the teardown, inspection, testing, and work scope/estimate preparation when the Director determines a blower that will not be repaired, reconditioned, remanufactured or replaced; instead the blower will be decommissioned.
25. "Notice to Proceed" means a written communication from the City Purchasing Agent to Contractor instructing Contractor to begin performance.
26. "Other Repair Methods" shall mean any method of repair other than those prescribed in the Bid Form. These "other repair methods" must be authorized in writing by the equipment manufacturer and be approved by the Director.
27. "Overhaul Repair" shall mean the Contractor shall repair / replace the existing blower per OEM specifications with new or remanufactured blowers with factory warranty conditions. Upon receipt of the unit, Contractor shall disassemble and inspect (D & I) and clean all components; wash, dry, varnish, sandblast, primer and paint blower; check parts including but not limited to blower casing, impeller, impeller shaft, seals, valves, and pipes, where applicable.

28. "Overtime Labor Rate" (OLR) shall mean the Contractor's charge for labor for work performed after Contractor's Standard Business Hours. The Director must authorize all overtime prior to the commencement of work.
29. "Parties" shall mean all the entities set out in the Preamble who are bound by this Agreement.
30. "Predictive Maintenance (PdM)" shall mean a program which mission is to initiate remedies before equipment failures thus extending the life of equipment and preventing critical equipment wear. PdM shall accomplish this via the performance of field inspections (monthly, quarterly, semi-annually or annually) using high technology diagnostic tools and programs that monitor oil, bearing, and vibration analysis trends in equipment operation. Monthly testing and reporting shall establish the priorities that determine the severity of a PdM problem with a machine and the urgency in which maintenance actions shall take place.
31. "Preventive Maintenance (PM)" shall mean a program which mission is to extend the life of equipment and detect critical wear of equipment. PM shall accomplish this via the performance of a series of tasks at variable frequencies (monthly, quarterly, semi-annually or annually) before the equipment fails or breaks down.
32. "Repair at City of Houston Facilities" (Field-Repair) shall mean that, at City Facilities, the Contractor shall inspect the blower unit and its accessories, and repair, and replace parts to bring the unit to a fail-safe and working condition. The unit shall be put into operation, tested, and all status points recorded including, but not limited to, the vibration in axial, horizontal, vertical planes of the bearings of the drive and the blower.
33. "Standard Labor Rate "(SLR) shall mean the Standard, No Specialized Labor Rate.
34. "Start of Contract Period" shall mean the date specified in the Notice to Proceed.

## SECTION B

### SCOPE OF SERVICES FOR BLOWER REPAIR/REPLACEMENT

#### **B.00 GENERAL REQUIREMENTS AND SCOPE OF SERVICES**

- B.00.01 The Contractor shall furnish all supervision, labor, parts, tools, materials, equipment, supplies, and facilities necessary to provide precision repair services for the following blower types, but not limited to: (Positive Displacement (PD); Single-Stage Centrifugal; Multi-Stage Centrifugal; Centrifugal Fans; and High-Speed Turbo Blowers) at various City Facilities. The City of Houston will monitor all repair or replacement of blowers on a daily basis.
- B.00.02 The meanings of specific terms are defined in "Exhibit A" (Definitions).
- B.00.03 The existing blower(s): manufacturer's make, model, blower type, size, will vary depending on permit requirements at each of the City Facilities, therefore blowers will be grouped.
- B.00.04 The blowers are grouped as follows: RL-D: Rotary Lobe / Dresser-Roots; RL-M: Rotary Lobe / Miscellaneous; SSC-D: Single-Stage Centrifugal / Dresser-Roots; SSC-HL: Single Stage Centrifugal / Hoffman & Lamson; SSC-M: Single Stage Centrifugal / Miscellaneous; MSC-D: Multi Stage Centrifugal / Dresser-Roots; MSC-HL: Multi Stage Centrifugal / Hoffman & Lamson; MSC-M: Multi Stage Centrifugal / Miscellaneous; and BF: Blower Fans.
- B.00.05 This Agreement covers the general requirements for the repair and/ or overhauls, replacement, testing, transporting, installation or disconnection, alignments, preventative and predictive maintenance (PM / PdM) and invoicing of the blowers located at the City Facilities. This includes, but it is not limited to, blowers, blower inlet guide vanes, valves, integral gearboxes, integral lube pumps, external lube systems, couplings, inlet and outlet silencers, discharge check and isolation valves, inlet filters housing and filters, blower control system, and general mechanical work. In addition, the specification defines minimum acceptable requirements for the repair or replacement of the blowers.
- B.00.06 All test equipment required for test results shall be calibrated at a minimum of once a year and adhering to standards traceable to the National Institute of Standards and Technology (NIST) or equivalent standards laboratories (see EASA AR100-21010). The Contractor shall establish, document, and maintain calibration records for testing and measuring equipment used to demonstrate conformance of product to specified requirements.
- B.00.07 The Contractor shall furnish, when requested by the Director, copies of current environmental permits and demonstrate compliance with current environmental regulations.
- B.00.08 The Contractor's Facility shall be subject to inspection with or without advance notice to verify that the equipment and personnel deemed necessary to perform the type of repair services required under this Agreement are in place at the time of inspection.
- B.00.09 The subcontractors to the Contractor are subject to all standards as the Prime Contractor.
- B.00.10 The blowers at City Facilities are purchased and installed under City's Master Specifications (*latest edition*) requiring compliance with the applicable sections of the following standards and codes:

- American National Standard Institute (ANSI)
- Anti-Friction Bearing Manufacturing Association (AFBMA)
- Institute of Electrical and Electronic Engineers (IEEE)
- National Electrical Code (NEC)
- National Electrical Manufacturers Association (NEMA)
- American Society of Mechanical engineers (ASME)

B.00.10.01 Performance requirements include, but are not limited to the following: Discharge and inlet pressure, temperature; air flow (cfm); brake horsepower; noise level; drive shaft speed (rpm); piping; blower and motor pad (foundation or baseplate); vibration; corrosion resistant paint and primer; control systems (PLCs) and other(s).

B.00.11 Wherever this Exhibit or the Agreement refers to the following codes and standards, that specific section(s) of the code/standard shall apply to the repairs being carried out by the Contractor and/or subcontractor:

- Steel Structures Painting Council (SSPC)
- Anti-Friction Bearing Manufacturing Association (AFBMA)
- American Society for Non-Destructive Testing (AS-NDT)
- City of Houston Electrical Code
- American Society for Testing and Materials (ASTM)

B.00.12 The installed blowers at the City Facilities / locations and blowers (including Turbo High Speed Blowers) to be purchased in the future are manufactured by the following (but are not limited to) companies:

B.00.12.01 Centrifugal Fans

- New York Blower Company
- Cincinnati Fan and Ventilator Company

B.00.12.02 Single-Stage Centrifugal Blowers

- Dresser-Roots
- Turblex

B.00.12.03 Multi-Stage Centrifugal Blowers

- Dresser-Roots
- Lamson
- Hoffman
- HSI
- Hibon

B.00.12.04 Rotary Lobe Positive Displacement Blowers

- Dresser-Roots
- Gardner-Denver
- Kaeser

B.00.13 All discounts/markups shall be based on work performed by Contractor and/or subcontractor that was approved and accompanied with actual original invoiced documents. The Contractor shall submit original supporting documentation with all invoices, as attachments, with the final invoice for payment by City for the work performed by the Contractor.

- B.00.13.1 FREIGHT FOR SPECIAL ORDER REPLACEMENT OR REPAIR PARTS AND/OR REPLACEMENT OR REPAIR PARTS ORDERED AND SHIPPED FROM A STATE OTHER THAN TEXAS OR A COUNTRY OTHER THAN THE UNITED STATES IS THE RESPONSIBILITY OF THE CITY. THE CONTRACTOR MUST PROVIDE INVOICE(S) DETAILING FREIGHT COSTS WITH NO MARKUP. FREIGHT FOR ALL OTHER REPLACEMENT OR REPAIR PARTS IS THE RESPONSIBILITY OF THE CONTRACTOR.
- B.00.14 All equipment removed from any City Facility shall be documented on a City Equipment Release Form, see (Exhibit B5).
- B.00.15 At Contractor's Facility, the Contractor shall disassemble and inspect the unit (D & I), provide recommendations and prepare a scope of work to repair and/or replace parts with new OEM parts or equal new Non-OEM parts. The cost of inspection, recommendations and preparation of work scope shall be a part of the base cost of any Blower Overhaul job per Fees and Costs as outlined in the Fee Schedule (Exhibit G).
- B.00.16 If the Contractor plans to use any part other than an OEM part, the Contractor shall obtain written confirmation from the Director. Based on independent testing as set out below that the non-OEM part(s) are equal or of better material and craftsmanship and performance standards, and will not require modification to other parts, the Contractor shall submit specifications and documentation on the proposed substitution.
- B.00.16.1 Upon request by the City, at the expense of the Contractor, testing may be required by an independent third party chosen by the Director. The onus shall be upon the Contractor to prove that non-OEM parts meet the required specifications in fit, form and function as OEM parts.
- B.00.16.2 Testing data provided to the City's Director must show if parts exceed or are equivalent to OEM requirements.
- B.00.16.3 All Repair or replacement parts shall equal or exceed specifications for OEM repair or replacement parts.
- B.00.17 The City reserves the right to pick up all blower parts that are quoted by the Contractor to be replaced. This includes (but are not limited) to: seals, bearings, impellers, end plates, gears, silencers, and other items of a blower unit. Non-repairable units do not need to be reassembled.
- B.00.18 When requested by the Director, the Contractor shall furnish parts needed for maintenance activities of blowers by City Personnel. The Contractor shall charge the same price and mark-up or discount for these parts as outlined in the Fee Schedule (Exhibit "G") under "Parts and Material."
- B.00.19 The Contractor shall ensure the Equipment Inventory Number (EI) tag remains attached to the equipment. The Contractor shall notify the Director if the (EI) tag is damaged or missing.
- B.00.20 The Contractor shall install a stainless steel identification tag stamped with the Contractor's name, job number, and repair date on each blower housing. The tag shall be secured with stainless drive pins. The cost of the identification tag shall be included as part of the base cost of any overhaul or replacement.
- B.00.21 Before disassembly and inspection (D & I) of nameplate data Contractor shall verify all missing or damaged parts, identify them in writing, and note special items on the

inspection form.

- B.00.21.1 D & I shall be performed within seven (7) business days of the blower being received into Contractor's Facility (see Exhibit B5 – Equipment Release Form). In the event the blower cannot and/or will not be D & I within the specified seven (7) business days, the Contractor shall notify the Director, in writing, describing the cause of delay.
- B.00.22 Upon receipt of the blower, the Contractor shall verify and document all information about the condition of the unit(s) including nameplate data. The Contractor shall inspect the unit and document the damaged and missing parts on the teardown report.
- B.00.23 Contractor shall replace all defective nameplates upon completion of repair. All original nameplate information shall be stamped by Contractor on a new nameplate after Contractor applies the final coat of paint. Contractor shall permanently attach new nameplates with mechanical fasteners. The cost of a new nameplate shall be included as a part of the base cost of any repair, overhaul and/or replacement of unit.
- B.00.24 Delivery tickets and packing slips shall contain quantity, part number, description of commodity delivered, name of department or section and facility name to which the merchandise was delivered, the City of Houston Ordinance Number, Contract number, signature of the Director, printed name, employee number, and the authorization release number.
- B.00.25 Where hourly work is performed on behalf of the City, the Contractor (and approved subcontractor) shall fully document the start of the work, the time spent on the job, and completion of each job. The documentation shall be punch card/time-clock, shop record or any other mutually agreed method. Original documents shall be furnished in the invoice package. (See Exhibit B10)
- B.00.26 The Contractor shall establish and maintain records of the repair and services performed for at least four years after the Agreement expires and also at least three (3) years after the blower is returned to the City, whichever is later. These records shall be provided if requested by the Director.
- B.00.27 Contractor shall perform repairs specifically at the Contractor's Facilities. The Contractor shall provide the Director a list of the Name(s) and Location(s) of ALL shop(s) and subcontractors that will be used for the specified repair work prior to the commencement of any work. The Contractor shall obtain written the Director's approval for each shop and subcontractor before start of the Agreement. If the Contractor plans to use any subcontractor not on the list, the Contractor shall obtain written approval from the Director before subcontracting the work.
- B.00.28 RESERVED
- B.00.29 The repair shop must be able to verify all hours charged for machine work. This will apply to work done by subcontractors or the Contractor. In-house work will be supported with copies of time cards. This verification shall be submitted with the invoice.
- B.00.30 The field TIME SHEETS should be signed DAILY by the Director at the facility location. ALL TIME SHEETS shall be approved by the Director on the last working day of each week.
- B.00.31 THE CITY SHALL BE BILLED ONLY FOR THE HOURS THE CONTRACTOR WORKS ON CITY EQUIPMENT WHETHER AT CITY FACILITY OR AT CONTRACTOR'S FACILITY. LABOR RATE FOR WORK AT A CITY FACILITY SHALL COVER THE TRAVEL EXPENSE OF THE CONTRACTOR. NO ITEMIZED TRAVEL TIME IS ALLOWED.

- B.00.32 The price of parts and material and cost of a replacement unit supplied for this Agreement shall be the total original invoiced cost to the Contractor plus Contractor's quoted percentage (%) markup or percent (%) discount for the item. The Contractor shall submit all ORIGINALS of the supporting documentations with the FINAL invoice.
- B.00.33 All rates for any service, parts, and/or material, and work performed by Contractor and/or subcontractor(s) shall be clearly defined within the Fee Schedule (Exhibit G). And, all services rendered, parts and material shall be documented and original documents will be submitted in the final invoice package.
- B.00.34 Unless otherwise specified, fabrications, processes, parameters, and test methods for any electrical parts and/or equipment shall conform to the latest revision of the following ELECTRICAL APPARATUS SERVICE ASSOCIATION (EASA) documents and ASTM guide:
- EASA AR100-2010 - RECOMMENDED PRACTICE FOR REPAIR OF ROTATING APPARATUS (hereafter abbreviated as EASA AR100-2010);
  - EASA Technical Note No. 16 – GUIDELINES FOR MAINTAINING MOTOR EFFICIENCY DURING REBUILDING, September 1999 (hereafter abbreviated as EASA Tech Note No. 16);
  - EASA Technical Note No. 17 – STATOR CORE TESTING, updated March 1997 (hereafter abbreviated as EASA Tech Note No. 17);
  - EASA Bearing Fit Tolerance Chart, updated 1997; and
  - ASTM E1934-99a (2005e1) – Standard Guide for Examining Electrical and Mechanical Equipment and Infrared Thermography (herein abbreviated as ASTM E 1934)
- B.00.35 RESERVED
- B.00.36 Wherever OEM documentation such as Operation and Maintenance Manual, etc., specify torque values, the Contractor shall use a torque wrench, adhere to the OEM torque values, and record them on the Shop Acceptance Test Form (Exhibit B3).
- B.00.37 Paint booth shall not be used for Sandblasting.
- B.00.38 All blowers with peeling paint or rust shall be sandblasted by Contractor. The cost of sandblasting shall be included as a part of the base cost of any repair.
- B.00.39 The Contractor shall be responsible for storage of the blower units and all parts in secured locations. Any parts lost or damaged while in the possession of the Contractor shall be repaired or replaced at Contractor's expense.
- B.00.40 All metal parts shall be checked for structural integrity and cracks using a Non-Destructive Test and recorded on D & I Report, and structurally unsound or cracked parts shall be repaired or replaced.
- B.00.41 All repairs shall be made to bring the unit to OEM's specifications.
- B.00.42 The enclosed City of Houston "D & I Report (Exhibit B1)" included in this document shall be used for each repair or replacement.
- B.00.43 The Contractor shall be responsible for, but not limited to disconnecting, transporting, disassembling and inspecting (D & I), repairing, aligning to drive-shaft, replacing and installing blowers along with any necessary associated equipment.

- B.00.44 Terminal boxes and auxiliary equipment enclosures shall be made to meet OEM's specifications.
- B.00.45 Pricing for parts and/or material, and replacement unit supplied under this Agreement will be based on the Latest Manufacturer's Price List provided by the Contractor bi-annually during each Agreement year.
- B.00.46 Digital photographs of each unit, as received and the damaged components will be taken by Contractor and Contractor shall include them in the teardown report.
- B.00.47 All inspection, cleaning, disassembly, reassembly, sandblasting, painting, testing and document preparation shall be included as part of the base overhaul fee.
- B.00.48 At City Facilities, all machinery and equipment that are undergoing maintenance and repair shall be locked-out/tagged-out (LOTO) to protect against accidental or inadvertent operation when such operation could cause injury to personnel or damage to equipment. Only authorized City of Houston personnel who may include, but not limited to qualified electricians, mechanics, and operators shall carry out LOTO.
- B.00.49 Contractor shall provide monthly status reports for the Agreement period (See Exhibit B8) (Progress and Status Report).
- B.00.50 The Director and the Contractor's manager shall meet once a month to review the records of the completed works, works in progress, and any other matter related to this Agreement. Any discrepancies shall be resolved at the time and all backlogs shall be addressed during the monthly meeting. The Contractor shall provide the Director with a monthly progress report for tracking each blower's cost and progress. The Contractor shall update the spreadsheet (Exhibit B8 – Progress Report) to reflect changes in activities by the Contractor.
- B.00.51 For any blower and/or blower peripheral parts (i.e. – guide vans, oil pumps, actuators, valves, silencers, piping to name a few) removed from a City Facility and taken into custody by Contractor, Contractor shall sign an Equipment Release Form (see Exhibit B-5) furnished by the Director prior to removing any equipment. The Director shall maintain Equipment Release Form records for the user department (Wastewater Operations) to manage daily activities of this Agreement.
- B.00.52 In the event the Contractor cannot repair and/or overhaul the blower, with the Director's written approval, the Contractor may purchase a replacement unit from the manufacturer that include new, reconditioned and/or remanufactured blowers according to OEM specifications based on the needs of each facility or location.
- B.00.53 The Contractor who is an OEM Distributor/Shop shall use the OEM's latest list price utilizing the OEM Distributor/Shop's applied discount percentage (%) + or - for the price of OEM parts and material and cost of a replacement unit supplied for this Agreement.
- B.00.54 REJECTION: In the event the Purchasing Agent or Director rejects any item, due to the failure of the blower, then Contractor shall have seven (7) business days to repair and install unit at serviceable conditions at no additional cost to the City. If the unit cannot be placed back in service in seven (7) business days, then a written explanation for delay shall be provided to the Director.
- B.00.55 [Reserved]
- B.00.56 Within seven (7) working days of receipt of the Blower at contractor shop, the Contractor shall teardown and inspect the Blower and shall prepare an accurate Disassembly and

Inspection (D & I) Report and a good faith and detailed cost estimate and shall submit same to the Director. To be included with the cost estimate is a specific, detailed statement of root cause of failure. This cost estimate shall include a brief description of the work to be performed, cost for new replacement OEM/ or Non-OEM parts, estimated additional labor hours required for the repair of the unit not covered under rewind/ or recondition base cost and shall include the estimated time for delivery time of parts and expected completion date of the work.

B.00.57 The cost estimate shall be provided to the Director within seven (7) working days of the Disassembly and Inspection (D & I) Report. If the cost estimate is not provided within the specified time, a 5% discount shall be applied to the final invoice amount for each (business) day that a quotation is not provided. This delay deduction shall not exceed thirty percent (30%) of the final invoice amount, unless a detailed (acceptable) explanation is provided by the Contractor. The Director shall determine the fair and acceptable just cause.

B.00.57.1 An additional 5% discount shall be applied to the final invoice amount each week that a repair or replacement unit is not provided, due to delays caused by manufacturer or Contractor. This delay deduction shall not exceed thirty percent (30%) of the final invoice amount, unless a detailed (acceptable) explanation is provided by the Contractor. The Director shall determine the fair and acceptable just cause.

B.00.57.2 Any discount(s) applied by the City shall not exceed a total discount rate of thirty percent (30%) of the final invoice amount.

B.00.58 The Director will inspect the torn-down unit, review the Contractor's proposed work scope and cost estimate. If the cost exceeds the budget, the Director shall revise the scope and have the Contractor submit another cost estimate within five (5) days.

## **B.01 REPAIR AND REPLACEMENT**

B.01.01 The Contractor shall inspect, repair, and/or troubleshoot assemblies and sub-assemblies of the Blowers in lieu of replacement unless the repair cost of the Blower exceeds seventy percent (70%) of the cost for replacing it with a new, reconditioned and/or re-manufactured item. Generally the seventy percent (70%) rule applies, but the City reserves the right to purchase or repair units based on Blower economic evaluation and various operational considerations.

B.01.02 The Contract shall attach quote(s) for the Director to review when submitting work scope. For all major components such as impellers, shafts, gears, and gear assembly the repair work scope shall include the cost of a new item as well as the estimated cost to repair such item. Every Cost Estimate (Exhibit B6) shall include the purchase price of a new, reconditioned, and/or remanufactured blower identical and/or exceeds existing performance and capabilities to the one being repaired.

B.01.03 The Director must approve in writing, the purchase of a new, reconditioned, and/or remanufactured unit in lieu of repair.

B.01.04 Replacement unit shall be identical to the unit being replaced. If the identical unit is no longer offered by the manufacturer, the replacement unit shall have the same blower performance characteristic and similar physical dimensions as the one being replaced and shall be of the "Highest Efficiency" blower available that include, but are not limited to Turbo High Speed Blowers. The replacement cost of each unit shall be incorporated into the reconditioned, remanufacturer or replacement cost of the blower. Replacement shall be authorized in writing by the Director.

- B.01.05 If the unit is considered to be "non-repairable," the Contractor shall use the schedule in the Agreement Fee Schedule under "Non-Repairable Shop Cost" to invoice for the work performed by the Contractor to include all costs associated with teardown, reports, and D & I.
  - B.01.05.1 Non-repair cost (Under LABOR RATES—Line item 30) is to be used for Blowers that are not repaired nor replaced.
- B.01.06 [Reserved]
- B.01.07 The Contractor shall obtain three (3) quotes for items estimated to cost more than \$50,000.00, when applicable. The City has the option of accepting the lowest and best quote. The City reserves the right to solicit quotes for replacement items.
- B.01.08 If the equipment is a sole source item, Contractor shall obtain a "signed" and dated letter from the manufacturer stating so. This letter shall list the sole distributor for the Houston area. The manufacturer's letter is valid for thirty (30) days.
- B.01.09 The replacement unit must meet the minimum specification requirements and be equal or better in material, craftsmanship, and performance as the replaced Blower.
- B.01.10 The replacement unit provided must be able to fit the facilities existing blower pad, controls, piping and motor system without any required modification to the facility. The City reserves the right to request a specific blower that may require facility modification.

**B.02 SPECIFIC TASKS AND SCOPE OF WORK**

- B.02.01 Upon request from the Director and within twenty-four (24) hours, the Contractor shall inspect the blower at the City Facility. If repairs can be performed at the City Facility at the time of inspection, the Contractor shall do the needed repair and release/return the unit to Operation.
- B.02.02 Upon request from the Director and within twenty-four (24) hours, the Contractor shall send a Field Technician or Company Representative to perform the field alignment of the blower and motor's drive-shaft.
- B.02.03 *If the blower can be repaired at the City Facility but parts and/or material and services are needed, the Contractor shall notify the Director and prepare a scope of the work with Cost Estimate within forty-eight (48) hours and submit it to the Director for approval. Upon receipt of approved Cost Estimate, the Contractor shall begin work.*
- B.02.04 *If the blower cannot be repaired at the City Facility, the Contractor shall notify the Director within forty-eight (48) hours.*
  - B.02.04.1 Once the Equipment Release Form is signed by both Director and Contractor, the blower shall be uncoupled, disconnected, remove from foundation, and load on Contractor's vehicle, and transport/deliver the unit to contractor's repair facility.
  - B.02.04.2 The Contractor shall ensure that all openings to pipes, inlet and discharge of dampeners/silences, and filters are blocked to prevent entry of rain, dirt, rodents, birds, and crawling animals. The covers for the openings shall be made of metal or plywood of sufficient thickness, strength, rigidity, and shall be secured to resist damage by wind and rainstorm.
- B.02.05 The Contractor shall furnish hoist, crane, etc. for loading and unloading of the unit at City Facilities and at Contractor's facility.

- B.02.06 Before disassembly of the unit at Contractor's Facility, the Contractor shall inspect the unit and document the damaged and missing parts using Exhibit B1 (Teardown Report). In addition, the Contractor shall photograph the blower and sub-assemblies, as received. These photographs and any subsequent photographs of the blower and its parts shall be part of the repair record.
- B.02.07 The Contractor shall chemically and/or mechanically clean all external surfaces, as required.
- B.02.08 The Contractor shall disassemble blowers and clean all internal parts.
- B.02.09 The Contractor shall inspect all components of the blowers and all critical areas to determine if clearances are within OEM tolerances, and the parts meet manufacturer's specifications. If the manufacturer's data is not available, the tolerances shall be verified with the relevant tables in industry standards to assure its conformance (i.e.- Blower Curves; Energy Efficiency, Operating Range etc.).
- B.02.10 If needed, the City will assist the Contractor to obtain the OEM data from the manufacturer(s).
- B.02.11 The Contractor shall inspect the blowers and its shaft for corrosion, erosion, chipping, and other damage and this information shall be recorded on the "Teardown Report.
- B.02.12 The Contractor shall inspect the rotor shaft for "roundness/runout" and determine if it is within OEM tolerance. If the manufacturer's data is not available, the tolerances shall be verified with the relevant tables in industry standards to assure conformance.
- B.02.13 The Contractor shall inspect the shaft extensions and keyseats (keyways). Shaft extensions must be smooth, polished, and concentric with shaft center. Shaft extension dimension shall be checked to determine if it is within OEM tolerance. If the manufacturer's data is not available, the tolerances shall be verified with the relevant tables in industry standards to assure conformance.
- B.02.14 Contractor shall inspect each bolt for damaged threads.
- B.02.15 Repair shall include sandblasting, welding and machining as required. Other services required of Contractor shall include Non-Destructive Testing (NDT), chroming and metalizing when required.
- B.02.16 Contractor shall determine what parts are to be machined or replaced with new parts. At a minimum, the Contractor shall replace all bearings and seals when the original unit was furnished with such items.
- B.02.17 The Contractor shall inspect all components of the each blower upon shop acceptance from the City that include, but not limited to the following: impeller (lobes); simple instrumentation; silencers (intake and discharge); bearings; blower enclosure; shaft; seals; fittings; valves; and piping to determine if clearances are within OEM tolerances, and the parts meet manufacturer's specifications record results on Teardown Report (Exhibit B1).
- B.02.18 Upon written acceptance of cost estimate by the Director, the Contractor shall proceed with repairs. The Contractor shall commence to work on the unit and complete the repair within the allocated time for delivery of such item:

**B.02.18.1**

**Rotary Lobe (PD) Blowers**

**8 weeks**

<b>B.02.18.2</b>	<b>Centrifugal Blowers (Multi-Stage)</b>	<b>8 weeks</b>
<b>B.02.18.3</b>	<b>Centrifugal Blowers (Single-Stage)</b>	<b>8 weeks</b>
<b>B.02.18.4</b>	<b>Centrifugal Fan</b>	<b>6 weeks</b>

- B.02.19 The Contractor shall notify the Director immediately if the Contractor cannot complete the job within the contractually agreed time period. The Contractor shall submit to the Director a detailed explanation for the delay with new documentation to complete the job. If additional work is required, the Contractor shall submit an explanation before commencing the additional work.
- B.02.20 At all times during the repair process, Contractor shall maintain City's equipment in a clean and weather protected storage area.
- B.02.21 The shaft assembly shall be checked for total indicated run out (TIR) and recorded on the rotor information sheet. This test shall be carried out on a lathe.
- B.02.22 Shaft seal surface, bearing journals and coupling fit, shall be micrometer checked and recorded on the rotor information sheet.
- B.02.23 End bells and bearing housing critical dimensions shall be micrometer checked and recorded on the mechanical inspection sheet.
- B.02.24 The above measurements shall be submitted to Director, along with other data sheets, during the teardown inspection.
- B.02.25 Replacement bearings shall have an L<sub>10</sub> rating life in accordance with ANSI/AFBMA equal to or longer that OEM bearing.
- B.02.25.1 Replacement bearings shall have an L<sub>10</sub> rating life in accordance with ANSI/AFBMA of at least 40,000 hours of service life. If the existing bearings have exceeded L<sub>10</sub> rating life (40,000 hours), then the Contractor shall replace the bearing with the same L<sub>10</sub> rating life bearing as the existing one.
- B.02.26 After parts have been repaired, Contractor shall put together the rotating assembly and balance it. The Contractor shall reassemble the blower, test, seal and paint, as required.
- B.02.27 The Contractor shall prepare the surfaces to be painted to white a "metal finish" by blast cleaning to SSPC-SP5.
- B.02.28 Surface of all units shall be primed and finished, in an approved paint booth, using the blower OEM standard painting system:
  - The minimum Prime coat thickness shall be 3 mils DFT, **dry film thickness (DFT)**.
  - The minimum finish coat thickness shall be 6 mils DFT, **dry film thickness (DFT)**.
- B.02.29 If OEM paint information is not available, the following City of Houston's standard specification for surface coating of Blowers and equipment shall be followed:
  - The primer and finish coats shall be two-component, rust-inhibitive, polyamide-cured epoxy coating with a recoatable finish.
  - The prime coat shall be Ameron 38P, Tnemec 69, or equal.
  - The finish coat shall be Ameron 38S, Tnemec 69, or equal.
- B.02.30 No deviation from the paint specification is allowed, unless advance written approval for variance to paint specifications was given by the Director.
- B.02.31 The paint color shall be as the OEM standard for such units unless specifically

requested otherwise, in writing by the Director.

- B.02.32 The Contractor shall return the repaired unit to a City Facility, set on foundation, check the leveling of the blower base, couple, precision align the drive / blower / coupling, and reconnect lube piping. The Contractor shall ensure that all shutdown systems/protections are operational before the test run.
- B.02.33 If requested by the Director, the Contractor shall couple, precision align the drive / blower / coupling of the units which had their drive replaced by the City personnel. The charge for this service will be based on the blower type and size as quoted in the Agreement's Fee Schedule.
- B.02.34 The Contractor shall start the unit and check the lube system. The Contractor shall measure/record the vibration of the blower and the drive at DE and ODE in axial, vertical, and horizontal directions.
- B.02.35 The vibration levels shall be as specified by the OEM. If needed, the City will assist the Contractor to obtain the OEM data from the manufacturer(s).
- B.02.36 The final alignment shall be made at the end of the test run when the blower and the drive have reached their operating temperatures. Alignment shall be adjusted, as required, before placing the unit into permanent service.
- B.02.37 Whenever needed, OEM or manufactured approved lube/cooling oils, or equal, shall be used in the oil chamber. The lube/cooling oils shall be biodegradable, nontoxic, and FDA approved.
- B.02.38 Greases and/or Lubricants used on bearings shall be OEM specified or approved equal.

**B.03 Blower Inspection and Repair**

- B.03.01 The Contractor shall provide a repair record and report showing the condition of the blower upon receipt, the repair work done, vibration levels, and the final test results.
- B.03.02 During disassembly and inspection (D & I), the blower components and parts shall be visually inspected to determine and record/report the cause of failure.
- B.03.03 The shaft assembly shall be inspected by the Contractor for wear, scoring, and cracks.
- B.03.04 Shaft seal surface, bearing journals and coupling fit, shall be checked by the Contractor with a micrometer and recorded on the rotor information sheet.
- B.03.05 Blowers that are overhauled-repaired at Contractor's Facility shall be thoroughly cleaned by the Contractor to be free from dirt, grit, grease, oil, and shall be inspected for damage and repairs made to damaged areas.
- B.03.06 Torch heating shall NOT be used during cleaning of unit.
- B.03.07 The grit blasting shall be done with approved material.
- B.03.08 **OVERHAUL- REPAIR AT CONTRACTOR'S FACILITY (OVERHAUL-REPAIR):** The following work scopes shall be followed for all shop overhaul-repair of the blowers and shall be performed by the Contractor. All bearings shall be replaced with new OEM specified bearings that have an L<sub>10</sub> rating life as the original OEM or longer in accordance with ANSI/AFBMA. Equivalent bearing may be used if approved by the Director. The price in the Agreement Fee Schedule for **OVERHAUL-REPAIR (SHOP-REPAIR)** of a blower shall

include ALL cost of supervision, labor, tools, equipment, supplies to complete the work specified herein for Shop-Repair. The lump sum cost does not include the cost of the bearings, damaged or broken or worn parts (which are reimbursable) if authorized by the Director.

**B.03.08.1**

**Multi-Stage Centrifugal Blowers:**

- B.03.08.1.1 Disassemble the blower.
- B.03.08.1.2 Sandblast and clean all parts as needed, and inspect all parts.
- B.03.08.1.3 Clean and de-burr the inlet cover.
- B.03.08.1.4 Clean and de-burr the diaphragm.
- B.03.08.1.5 Clean and de-burr the discharge cover.
- B.03.08.1.6 Clean and de-burr the seal housing and polish bores on faces.
- B.03.08.1.7 NDT check impellers for cracks, balance impellers individually, balance shaft, check mechanical run outs, and balance rotor assembly.
- B.03.08.1.8 Set-up inlet cover, install shaft and 1<sup>st</sup> stage impeller, install diaphragm and check rotor float, check rotor float after each impeller and diaphragm is installed, install discharge cover and check total float, and install seal housing and seal.
- B.03.08.1.9 Paint the assembled unit.

**B.03.08.2**

**Single-Stage Centrifugal Blowers:**

- B.03.08.2.1 Disassemble the blower.
- B.03.08.2.2 Sandblast and clean the volute, chase all tapped holes and de-burr, and inspect.
- B.03.08.2.3 Clean case and cover, chase all tapped holes and de-burr, and inspect bores and seal fits.
- B.03.08.2.4 Clean and polish all low-speed shafts fits and inspect, de-burr and NDT gear teeth, check mechanical run outs, and balance the low-speed shaft.
- B.03.08.2.5 Clean and polish all high-speed shafts fits and inspect, de-burr and NDT gear teeth, check mechanical run outs, and balance the high-speed shaft.
- B.03.08.2.6 Sandblast the impeller and NDT, and balance the high-speed assembly.
- B.03.08.2.7 Clean and de-burr the oil pump housing, upgrade drive bushing and install new adapter shaft.
- B.03.08.2.8 Install high-speed seal and impeller bearing into case, install oil pump into case, install low speed bearing onto shaft, install drive bushing and shaft adapter into oil pump, install low-speed assembly and high-speed shaft into case, install case cover and set thrust on low-speed bearings, install impeller bearing, install impeller, install volute and thrust collar, set end clearance and thrust on high-speed shaft, and test main oil pump.
- B.03.08.2.9 Paint the assembled unit.

**B.03.08.3**

**Positive Displacement Rotary Blowers:**

- B.03.08.3.1 Disassemble the blower.
- B.03.08.3.2 Sandblast and clean headplates, inspect and NDT as needed.
- B.03.08.3.3 Sandblast and clean cylinder, chase all tapped holes and de-bur.
- B.03.08.3.4 Sandblast and clean impellers, install stub shaft bolts, taper pins, check mechanical run out, set up ream and install taper pins, and balance.
- B.03.08.3.5 Sandblast and clean bearing carriers, chase all tapped holes and

- de-burr, and drill for anti-rotation pin.
- B.03.08.3.6 Clean timing gears, de-burr the teeth and inspect, NDT if needed, check gear rim run out, gear hub run out, and gear backlash.
- B.03.08.3.7 Clean, inspect, and de-burr the gearbox and end cover.
- B.03.08.3.8 NDT check impellers for cracks, balance impellers individually, balance shaft, check mechanical run outs, and balance rotor - assembly.
- B.03.08.3.9 Install gear end headplate to cylinder, install impeller into cylinder, install thrust end headplate to cylinder, install seal into carrier, install carrier into headplate, press in bearing, install lock nuts, set internal clearances, time impeller, install timing gear, install gearbox, end cover, and oil piping, and mechanical test.
- B.03.08.3.10 Paint the assembled unit.
- B.03.08.4 Blower Fans:**
- B.03.08.4.1 Disassemble the blower fan.
- B.03.08.4.2 Sandblast and clean the volute, chase all tapped holes and de-burr, and inspect as needed.
- B.03.08.4.3 Clean case and cover, chase all tapped holes and de-burr, and inspect bores and seal fits.
- B.03.08.4.4 Clean and polish all low-speed shafts fits and inspect, de-burr and NDT gear teeth, check mechanical run outs, and balance the low-speed shaft.
- B.03.08.4.5 Clean and polish all high-speed shafts fits and inspect, de-burr and NDT gear teeth, check mechanical run outs, and balance the high-speed shaft.
- B.03.08.4.6 Sandblast the impeller and NDT, and balance the high-speed assembly.
- B.03.08.4.7 Clean and de-burr the oil pump housing, upgrade drive bushing and install new adapter shaft.
- B.03.08.4.8 Install high-speed seal and impeller bearing into case, install oil pump into case, install low speed bearing onto shaft, install drive bushing and shaft adapter into oil pump, install low-speed assembly and high-speed shaft into case, install case cover and set thrust on low-speed bearings, install impeller bearing, install impeller, install volute and thrust collar, set end clearance and thrust on high-speed shaft, and test main oil pump.
- B.03.08.4.9 Paint the assembled unit.

#### **B.04 RESPONSE TIME**

- B.04.01 Contractor shall be accessible to the City via telephone during normal business hours. The Contractor shall be ready to start work on any unit within twenty-four (24) hours of receiving the call for the service.
- B.04.02 The Contractor shall be available and accessible to the City via telephone to work overtime and/or emergency per the request of the Director within six (6) hours of initial contact from the Director.
- B.04.03 The Contractor shall start an emergency job immediately, without scheduling delays, and will not be restricted to normal working hours. The Director shall approve and coordinate the emergency and overtime work.

**B.05 REPAIR TECHNICIANS**

- B.05.01 The repair technicians of the Contractor shall be qualified, properly trained in repair-recondition of blowers of the type and sizes specified for this Agreement.
- B.05.02 The Contractor shall have at least one senior repair technician with a minimum of five (5) years' experience in repair and/or overhaul of blowers specified in this Agreement.
- B.05.03 These requirements shall apply to all of the subcontractors who work for the Contractor.
- B.05.04 The Contractor shall furnish the resume of the technicians to the City inspection team during the team's visit of the Contractor's and/or approved subcontractor's Facilities. And the Contractor shall provide a resume for any new or old employees (Blower Technicians) to the Director, who will be working on blowers throughout the duration of this Agreement.

**B.06 ACCEPTANCE OF REPAIR**

- B.06.01 The Director shall thoroughly inspect the repaired or replaced unit before the performance test can begin. It is the Contractor's responsibility to ensure communication has been established with the Director for witnessing of the performance test.
- B.06.02 All control sensing devices shall be checked by the Contractor to ensure they meet the OEM specifications. The control sensing devices shall include (but is not limited to) vibration probes.
- B.06.03 The Contractor shall record all results of testing on Shop Acceptance Form to submit as supporting documentation for invoicing purposes.
- B.06.04 After the repaired or replaced unit has run continuously for at least four (4) hours, the Contractor shall record the vibration at the same spots as the beginning of the test run. The acceptable allowable (maximum) vibration reading the blower manufacture shall meet all OEM specifications.
- B.06.05 No load test run of the blower shall be performed at its optimum range.
- B.06.06 The blower unit shall be securely mounted by the Contractor, to a leveled metal base-plate or set on standard rubber isolation pads while vibration readings are taken.
- B.06.07 Vibration level measurements shall be taken on the completely assembled unit at the bearing housings (horizontal (X), axial (Z) and vertical (Y) positions) adjacent to the shaft. The vibration level limits set are per the manufacturer's standard and shall not be exceeded.
  - B.06.07.1 Vibration measurements shall be recorded on a completely assembled blower unit at the DE and ODE (horizontal, axial and vertical) directions on the bearing housings adjacent to the shaft.
- B.06.08 If deficiencies are detected, the repair work shall be rejected and the Contractor shall make the necessary repairs, adjustments or replacements.
- B.06.09 After corrective actions are made, the unit shall go through a new test run before the Blower is accepted.
- B.06.10 A typed copy of the Repair Data Sheets covering results of specific tests such as rotary-

lobe or impeller balance, vibration measurement, electrical testing results, and mechanical measurements final test sheets shall be included with the invoice of all repaired blower units.

B.06.11 The City shall not make any payment to the Contractor until all corrective actions are made, testing is performed, and the equipment repair and replacement unit is accepted by the Director.

B.06.12 The Contractor shall torque bolts and this value is to be recorded on the City's Shop Acceptance Test Form (Exhibit B-3: Shop Acceptance Test Form).

#### **B.07 SILENCE OF SPECIFICATIONS**

The apparent silence of these specifications as to any detail, or apparent omission from it of a detailed description concerning any point, shall be regarded as meaning that only the best commercial practice is to prevail and that only material and workmanship of the finest quality are to be used. All interpretations of these specifications shall be made on the basis of this statement.

#### **B.08 LABOR RATE**

The labor rate shall include ALL cost associated for the qualified person to work on and repair City equipment including wages paid, all company benefits, transportation, and company profits.

#### **B.09 PREVENTIVE AND PREDICTIVE MAINTENANCE**

B.09.00 The Preventive Maintenance (PM) and Predictive Maintenance (PdM) programs will be performed by the Contractor on all blower units in each group either monthly, quarterly, semi-annually, or annually. The PM must occur prior to the commencement of the PdM per unit.

B.09.00.01 All PM and PdM services involving shut down of equipment shall be approved by the Director and coordinated with the Operations supervisor of the facility. Contractor shall submit request for shutdown two weeks prior to the shut down. Granting of a Shutdown is subject to Operations' conditions at the time.

B.09.00.02 The Contractor shall complete any scheduled PM and PdM, and inspection service of any equipment and return such unit to operation notwithstanding the expiration of the Business Hours and/or other conditions unless authorized, in writing, by the Director.

B.09.00.03 The Contractor shall have access to all City Facilities designated by the Director and to storage areas designated by the Director within the City Facilities. Access to the City Facilities shall be limited to 7:30 a.m. to 4:00 p.m. Monday to Friday, except as required or allowed by the Director.

B.09.00.04 The Contractor shall perform un-scheduled corrective, repair, and maintenance services when requested by the Director. The Contractor shall be reimbursed as shown in the Fee Schedule (Exhibit "G").

B.09.00.05 The Contractor shall perform Preventive Maintenance (PM) and perform Predictive Maintenance concurrently and invoice each unit individual per City Facility.

B.09.00.06 The Contractor shall clearly label each target point (drive end: vertical, axial and radial; and opposite drive end: vertical, axial and radial) on the blower

for vibration analysis and vibration verification per unit.

B.09.00.07 The Contractor shall provide results of preventive and predictive maintenance of oil analysis, vibration analysis, temperature, pressure and other associated readings in an electronic format.

#### B.09.01 PREVENTIVE MAINTENANCE PROGRAM

The Preventive Maintenance (PM) program mission is to extend the life of equipment and detect critical wear of equipment and initiate the needed remedial action. PM shall accomplish this via the performance of a series of tasks at variable frequencies (monthly, quarterly, semi-annually or annually) before the equipment fails or breaks down.

B.09.01.01 Rotary Lobe, Centrifugal – Single and Multi-Stage, Centrifugal Fans Blower Preventative Maintenance Program:

The Contractor shall perform vibration analysis, oil analysis, preventive maintenance, and report results via the following tasks:

##### (1) Positive Displacement Blower

###### A. Blower Vibration Analysis:

1. Measurement at each bearing in the X, Y, and Z directions
2. Report trending
3. Identify the problem and recommend corrective action

###### B. Blower Oil Analysis:

1. Collect sample of oil from oil reservoir
2. Submit oil for testing at a Director pre-approved laboratory
3. Identify problem and recommend corrective action

###### C. Preventive Maintenance Tasks:

1. Check the oil in the sump and top off if needed
2. Check for hot spots with properly calibrated and maintained temperature gauge and/or thermo-imaging device
3. Check for increase in vibration and noise level, using the vibration probe and record readings
4. Record inlet and outlet operating pressure
5. Record inlet and outlet operating temperature
6. Check oil filter pressure drop
7. Record oil pressure and ensure that the pressure is within specified rated values
8. Check for oil leaks in the lubrication system and repair if necessary
9. Verify that the coupling is properly lubricated
10. Final determination that the blower is operating within specified rating limits
11. Collect oil samples for the purpose of transporting to lab for oil sample analysis

##### (2) Single-Stage Centrifugal Blower

###### A. Blower Vibration Analysis

1. Measurement at each bearing (DE and ODE) in the X, Y, and Z positions.
2. Report trending
3. Identify the problem and recommend corrective action

###### B. Blower Oil Analysis:

1. Collect sample of oil from oil reservoir
2. Submit oil for testing at a Director pre-approved laboratory
3. Identify problem and Recommend corrective action

###### C. Preventive Maintenance Tasks:

1. Check accuracy of instrumentation
2. Check oil in lube oil sump and top off as needed
3. Drain water from lube oil sump before taking oil sample

4. Record all pressure readings and report deviations from rated values
5. Clean air-to-oil cooler and clean fins as necessary
6. Check air filter and replace as necessary
7. Check for oil leaks in the lubrication system and repair if necessary
8. Replace oil filter every six months or sooner if pressure drop exceeds limits
9. Record all temperature readings and report deviations from rated values
10. Check alarm and shutdown switches to ensure proper functioning
11. Verify that coupling is properly lubricated

**(3). Multi-Stage Centrifugal Blower**

**A. Blower Vibration Analysis**

1. Measurement at each bearing (DE and ODE) in the X, Y, and Z positions
2. Report trending
3. Identify the problem and recommend corrective action

**B. Blower Oil Analysis:**

1. Collect sample of oil from oil reservoir
2. Submit oil for testing at a Director pre-approved laboratory
3. Identify problem and Recommend corrective action

**C. Preventive Maintenance Tasks:**

1. Check accuracy of instrumentation
2. Check oil in lube oil sump and top off as needed
3. Drain water from lube oil sump before taking oil sample
4. Record all pressure readings and report deviations from rated values
5. Clean air-to-oil cooler and clean fins as necessary
6. Check air filter and replace as necessary
7. Check for oil leaks in the lubrication system and repair if necessary
8. Replace oil filter every six months or sooner if pressure drop exceeds limits
9. Record all temperature readings and report deviations from rated values
10. Check alarm and shutdown switches to ensure proper functioning
11. Verify that coupling is properly lubricated

**(4) Centrifugal Fans:**

**A. Blower Vibration Analysis**

1. Measurement at each bearing (DE and ODE) in the X, Y, and Z positions
2. Report trending
3. Identify the problem and recommend corrective action

**B. Blower Oil Analysis:**

1. Submit oil for testing at a Director pre-approved laboratory
2. Identify problem and Recommend corrective action

**C. Preventive Maintenance Tasks:**

1. Check accuracy of instrumentation
2. Check oil in lube oil sump and top off as needed
3. Drain water from lube oil sump before taking oil sample
4. Record all pressure readings and report deviations from rated values
5. Clean air-to-oil cooler and clean fins as necessary
6. Check air filter and replace as necessary
7. Check for oil leaks in the lubrication system and repair if necessary
8. Replace oil filter every six months or sooner if pressure drop exceeds limits
9. Record all temperature readings and report deviations from rated values
10. Check alarm and shutdown switches to ensure proper functioning
11. Verify that coupling is properly lubricated

**B.09.02 PREDICTIVE MAINTENANCE PROGRAM**

B.09.02.1 The Predictive Maintenance (PdM) program mission is to initiate remedies before equipment failures thus extending the life of equipment and preventing critical equipment wear. PdM shall accomplish this via the performance of field inspections (monthly, quarterly, semi-annually or annually) using high technology diagnostic tools and programs that monitor oil, bearing, and vibration analysis trends in equipment operation.

B.09.02.2 Monthly testing and reporting shall establish the following priorities that determine the severity of a PdM problem with a machine and the urgency in which maintenance actions shall take place:

- *Priority 1:* Severe Problem – Equipment requires immediate maintenance action
- *Priority 2:* Significant Problem – Equipment requires urgent attention which shall be scheduled as soon as time allows (within less than a month)
- *Priority 3:* Problem Exists – Equipment requires maintenance action which shall be scheduled at least within three (3) months
- *Priority 4:* Equipment exhibits potential problems with no change in operation efficiency – Maintenance personnel determines no maintenance action presently warranted – Continue to monitor for changes that indicate problem is becoming severe enough to warrant maintenance action
- *Priority 5:* Present data reveals no problem – Equipment does not require maintenance action but monitoring shall continue

**B.10 WARRANTIES**

**B.10.01 Warranty of Services**

B.10.01.1 Definitions: “Acceptance” as used in this clause, means the act of the Director approving specific services, as partial or complete performance of the Agreement. “Correction” as used in this clause, means the elimination of a defect.

B.10.01.2 Notwithstanding inspection and acceptance by the City or any provision concerning the conclusiveness thereof, the Contractor warrants that all products provided and services performed under this Agreement will, at the time of acceptance, be free from defects in workmanship, and conform to the requirements of this Agreement. The City shall give written notice of any defect or nonconformance to the Contractor within the warranty period from the date of acceptance by the Director. This notice shall state either (1) that the Contractor shall correct or re-perform any defective or non-confirming product(s) and service(s) at no additional cost to the City, or (2) that the City does not require correction or re-performance.

B.10.01.3 If the Contractor is required to correct or re-perform, it shall be at no cost to the City, and any products or services corrected or re-performed by the Contractor shall be subject to this clause to the same extent as work initially performed. If the Contractor fails or refuses to correct or re-perform, the City may, by contract or otherwise correct or replace with similar products or services and charge to the Contractor the cost occasioned to the City thereby, or make an equitable adjustment in the Agreement price.

B.10.02 Contractor shall observe the highest standards of diligence and care in the performance of repair services and shall meticulously follow the standards and procedures required by the equipment manufacturer and any specifications mutually agreed upon by the Parties.

- B.10.03 Contractor further warrants that all service, products, and replacement parts it provides shall be in strict compliance with all applicable regulations.
- B.10.04 The Contractor shall fully warrant its maintenance of all parts, products, and equipment from the date of acceptance by the City for a minimum of twelve (12) months. Contractor shall fully warrant its repair, replacement, and installation of all parts, products, and equipment for a minimum of twelve (12) months. The twelve (12) month warranty period for repair, replacement, and installation of all equipment and parts shall begin after satisfactory four (4) hours test run and the day the City officially accepts the repaired or replaced unit in accordance with this section B.11 Warranties.
- B.10.05 During the warranty period, ALL related work shall be started by Contractor within twenty-four (24) hours after delivery or notification, whichever is earlier, and shall be completed by Contractor within fifteen (15) days, unless Contractor otherwise notifies the Director, in writing, of the justification(s) for the delay.
  - B.10.05.1 If the unit undergoing warranty work is out of service more than fifteen (15) additional days, then the warranty period shall extend by the exact number of days the unit or good was out of service for warranty work.
- B.10.06 During the warranty period, ALL failed units shall be re-repaired or replaced and delivered to the City at Contractor's expense if failure occurs under normal operating conditions or if the failure is due to faulty parts or negligence of the Contractor.
- B.10.07 If the City does not require correction or re-performance, the City shall make an equitable adjustment in the Agreement price.
- B.10.08 It is understood that City must give Contractor free access to equipment for removal and reinstallation. Repair or replacement of such goods or services to meet the warranties shall constitute City's exclusive remedy under this Agreement. THE FOREGOING IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES WHATSOEVER, EXPRESS, IMPLIED AND STATUTORY, INCLUDING WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. The warranty specified herein shall apply to this Agreement, but it is specifically understood that the products sold hereunder are not warranted for operation with erosive or corrosive fluids or those which tend to build up with the product. No product or part shall be deemed to be defective by reason of failure to resist erosive or corrosive action of any fluid and the City shall have no claim whatsoever against Contractor therefore nor for problems resulting from buildup of material within the unit. The foregoing is Contractor's only obligation and City's exclusive remedy for breach of warranty. In no event shall Contractor be liable in contract, in tort, in strict liability or otherwise for any special, indirect, incidental or consequential damages, including, but not limited to, loss of anticipated profits or revenues, loss of use, non-operation or increased expense of operation of equipment, or cost of capita.

**B.11 INVOICES**

No later than 30 days after the City accepts and receives the Blower, the Contractor shall submit invoices for payment in triplicate (one original and two copies) that are on Contractor's company stationery with the original signed by an authorized agent of the Contractor. In addition, all invoices shall be submitted by May 30th of each of the City's fiscal years to ensure payments are paid by the end of each City of Houston fiscal year. ALL SUPPORT DOCUMENTS SHALL BE ORIGINAL. The invoice number shall not be duplicated during the term of the Agreement. Each invoice shall include the following information:

- B.11.01 The City Contractor Number, City Ordinance Number, City Release Number, and Contractor's Job Number.

- B.11.02 The Contractor's Job Number and Contract year shall appear clearly on all time sheets [showing hours worked, break(s) and lunch time], invoices, and suppliers' invoices.
- B.11.03 The Contractor's name and address and where the service was performed.
- B.11.04 The City equipment EI Number, and City Work Order Number.
- B.11.05 The City Facility Number and address where equipment had been prior to service.
- B.11.06 City Facility where equipment was installed/delivered after completion of repair.
- B.11.07 Detailed description of services rendered.
- B.11.08 Description of Parts or Components repaired or replaced. Provide Part Numbers, listing before and after discount. If Parts are OEM reconditioned or new Non-OEM, the costs must be listed as well as the cost of new OEM replacement Parts.
- B.11.09 Subcontractors' invoices with detailed description of cost of work performed.
- B.11.10 City delivery and pickup tickets.
- B.11.11 Subtotal costs for Parts and Labor hours separately.
- B.11.12 Shop Teardown and Recommended Repair form, Equipment Release Authorization form, Recommended Repair Estimate form, Field Acceptance Tests form and Progress and Status Report form shall be submitted.
- B.11.13 Total invoice costs of the job.
- B.11.14 Subtotal costs for alignments, repairs, replacements and overhauls, parts and/ or material, and labor rates separately.
- B.11.15 Shop Acceptance form, Teardown and Recommended Repair form, UL Certification form (when applicable), Equipment Release Authorization Form, Recommended Repair Estimate form, Fits and Indicated Run-out Form, Final Acceptance Tests Form.
- B.11.16 A clear indication of the cost of the repair of the unit in a percentage compared to the cost of a new unit.
- B.11.17 All unit prices for labor and parts shall be easily identified utilizing the item number and the quoted Agreement pricing.
- B.11.18 The Contractor shall submit the completed invoice check list with invoice to ensure all documents are submitted in total (see Exhibit B9 - Invoice Check List) per invoice.
- B.11.19 \* All unit prices for labor and parts shall be easily identified against the quoted contract pricing.
- B.11.20 *Mail invoices to Accounts Payable:*  
**City of Houston**  
**Department of Public Works & Engineering**  
**Accounts Payables – Service Contracts**  
**P.O. Box 61449**  
**Houston, TX 77208-1489**

**B.12 ADDITIONS & DELETIONS:**

The City, by written notice from the City Purchasing Agent to the Contractor, at any time during the term of this Agreement, may add or delete like or similar equipment, supplies, locations and/or services to the list of equipment, supplies, locations, and/or services to be provided. Any such written notice shall take effect on the date stated in the notice from the City. Similar equipment, supplies, services, or locations added to the Agreement shall be in accordance with the Agreement specification/scope of services, and the charges or rates for items added shall be the same as specified in the Fee Schedule. In the event that the additional equipment, supplies, locations and/or services are not identical to the item(s) already under contract, the charges therefore will then be the Contractor's normal and customary charges or rates for the equipment, supplies, locations and/or services classified in the Agreement Fees and Costs schedule.

**B.13 Labor Rates:**

- B.13.01 The labor rate shall include ALL costs for a qualified person to work on and repair the City equipment including wages, all company benefits, and company profit. No separate

labor costs shall be charged for these services.

B.13.02 Contractor shall pay all employees a minimum of **\$7.25** per hour and/or the determined wage as outlined by the Federal minimum wage requirements while working under this Agreement.

B.13.03 If, during the term of this Agreement, there is legislation enacted regarding a decrease or increase in the minimum wage law, Contractor may submit a request(s) for decrease or increase in the Agreement Fees to the City Purchasing Agent for consideration, provided such request is accompanied by documentation as requested by the City Purchasing Agent verifying that only Contractor's employees' salaries\* were increased accordingly. The City Purchasing Agent shall consult with the Director before responding to the request.

\*Subject to the minimum wage law but not already at the new minimum wage level.

#### **B.14 ESTIMATED QUANTITIES NOT GUARANTEED**

The estimated quantities specified herein are not a guarantee of actual quantities, as the City does not guarantee any particular quantity of blower repair services during the term of this Agreement. The quantities may vary depending upon the actual needs of the user department. The quantities specified herein are good faith estimates of usage during the term of this Agreement. Therefore, the City shall not be liable for any contractual agreements/obligations the Contractor enters into based on the City purchasing/requiring all the quantities specified herein.

#### **B.15 SITE VISITS**

When deemed necessary an inspection may be made by the Public Works & Engineering Department to determine whether the Contractor has a facility at the location they have listed when submitting its initial bid.

#### **B.16 CONTRACT COMPLIANCE**

B.16.01 The Department of Public Works and Engineering reserves the right to monitor this Agreement for compliance to ensure legal obligations are fulfilled and that acceptable level of services are provided.

B.16.02 Monitoring may take the form of, but not necessarily limited to:  
16.2.1 Site visits  
16.2.2 Review of deliveries received for accuracy and timeliness  
16.2.3 Review of contractor's invoices for accuracy

B.16.03 The responsibility for monitoring compliance rests with the Contract Compliance Section, Management Support Branch of the Office of the Director, Department of Public Works and Engineering.

(REQUIRED FORMS)

Exhibit B-1  
City of Houston  
Public Works & Engineering Department  
Blower Repair Service Contract  
Teardown and Recommended Repair Report  
*Sample Only, Actual Form is subject to change by CTR after award of the Contract*

Contractor: \_\_\_\_\_ Contractor Job Number: \_\_\_\_\_

City Contract #: \_\_\_\_\_ City Release #: \_\_\_\_\_ City Ordinance #: \_\_\_\_\_

Blower Location: \_\_\_\_\_ City Facility Number: \_\_\_\_\_ EI #: \_\_\_\_\_

**Nameplate Information:**

Make:	Volt:	HP:	RPM:
Model:	Amp:	Hz:	SF:
Serial:	Impeller Type:		

Bearings:	DE Size		Condition:
Bearings:	ODE Size		Condition:
Volute:			
Seals:			
Fittings:			
Valves:			
Impeller (Conditions)	<u>Poor / Satisfactory / Good / Excellent:</u>		
Detailed Descriptions:			

Shaft Diameter: \_\_\_\_\_

Surge Test: \_\_\_\_\_

(Other) Test: \_\_\_\_\_

**Recommendation:**

\_\_\_\_\_

Other Repairs Needed: \_\_\_\_\_

Parts Description: \_\_\_\_\_

Prepared By: \_\_\_\_\_

Job Title: \_\_\_\_\_

Date: \_\_\_\_\_

Exhibit B-2  
City of Houston  
Public Works & Engineering Department  
Blower Repair Service

U. L. CERTIFICATION FORM  
(if applicable)

*Sample Only, Actual Form is subject to change by CTR after award of the Contract*

NAME OF REPAIR SHOP: \_\_\_\_\_

FACILITY NAME \_\_\_\_\_ JOB # \_\_\_\_\_ EI # \_\_\_\_\_

OLD U.L. SERIAL # \_\_\_\_\_ NEW SERIAL # \_\_\_\_\_

ORIGINAL CLASS \_\_\_\_\_ ORIGINAL GROUP \_\_\_\_\_

REBUILT CLASS \_\_\_\_\_ REBUILT GROUP \_\_\_\_\_

DATE NEW SERIAL # ISSUED \_\_\_\_\_

WORK DONE \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

MFGR \_\_\_\_\_ FRAME \_\_\_\_\_

SERIAL # \_\_\_\_\_

HP \_\_\_\_\_ VOLTS \_\_\_\_\_ AMPS \_\_\_\_\_ CODE \_\_\_\_\_

INSULATING CLASS \_\_\_\_\_ THERMOSTAT MOUNTING CODE \_\_\_\_\_

U.L. INSPECTOR NAME: \_\_\_\_\_

U.L. INSPECTOR EMPLOYEE #: \_\_\_\_\_

**Exhibit B-3**  
**Shop Acceptance Tests Form**

**City of Houston**

Public Works & Engineering Department  
 Blower Repair Service Contract

*Sample Only, Actual Form is subject to change by CTR after Award of the Contract*

Contractor: \_\_\_\_\_ Contractor Job #: \_\_\_\_\_

Contract #: \_\_\_\_\_ Ordinance #: \_\_\_\_\_ City Work Order #: \_\_\_\_\_

City Facility Name: \_\_\_\_\_ City Facility #: \_\_\_\_\_ EI #: \_\_\_\_\_

**Nameplate Information:**

Make:	Volt:	HP:	RPM:
Model:	Amp:	Hz:	SF:
Serial:	Impeller Type:		

**Visual Inspection:**


Source Voltages (Volts)	$V_1 =$	$V_2 =$	$V_3 =$			
No-Load Currents: (Amps)	$I_1 =$	$I_2 =$	$I_3 =$			
Vibration:	Axial	Radial	Vertical			
DE:	DE:	DE:	DE:			
ODE:	ODE:	ODE:	ODE:			
Torque of Bolts: (ft-lbs)	<u>1.</u>	<u>2.</u>	<u>3.</u>	<u>4.</u>	<u>5.</u>	<u>6.</u>

**Comments and Deficiencies:**


Tests Performed By: \_\_\_\_\_ Job Title: \_\_\_\_\_ Date: \_\_\_\_\_

Witnessed By UDR: \_\_\_\_\_ # \_\_\_\_\_ Date: \_\_\_\_\_

Exhibit B-4

**Field Acceptance Tests Form**

City of Houston

Public Works & Engineering Department

Blower Repair Service Contract

*Sample Only, Actual Form is subject to change by CTR after Award of the Contract*

Contractor: \_\_\_\_\_ Contractor Job #: \_\_\_\_\_

Contract #: \_\_\_\_\_ Ordinance #: \_\_\_\_\_ City Work Order #: \_\_\_\_\_

City Facility Name: \_\_\_\_\_ City Facility #: \_\_\_\_\_ EI #: \_\_\_\_\_

Nameplate Information:

Make:	Volt:	HP:	RPM:
Model:	Amp:	Hz:	SF:
Serial:	Impeller Type:		

Visual Inspection:


Source Voltages (Volts)	V <sub>1</sub> =		V <sub>2</sub> =		V <sub>3</sub> =	
No-Load Currents: (Amps)	I <sub>1</sub> =		I <sub>2</sub> =		I <sub>3</sub> =	
Vibration:	Axial		Radial		Vertical	
DE:	DE:		DE:		DE:	
ODE:	ODE:		ODE:		ODE:	
Torque of Bolts: (ft-lbs)	<u>1.</u>	<u>2.</u>	<u>3.</u>	<u>4.</u>	<u>5.</u>	<u>6.</u>

Comments and Deficiencies:


Tests Performed By: \_\_\_\_\_ Job Title: \_\_\_\_\_ Date: \_\_\_\_\_

Witnessed By UDR: \_\_\_\_\_ # \_\_\_\_\_ Date: \_\_\_\_\_

Exhibit B-5

Equipment Release Authorization Form

City of Houston

Public Works & Engineering Department

Blower Repair Service Contract

Sample Only, Actual Form is subject to change by CTR after Award of the Contract

City Release #: \_\_\_\_\_

Date: \_\_\_\_\_

CITY EI #: \_\_\_\_\_

CITY WORK ORDER #: \_\_\_\_\_

CITY FACILITY NAME: \_\_\_\_\_

CITY FACILITY #: \_\_\_\_\_

**Nameplate Information:**

Make:	Model #:	Serial #:	Blower #:
Blower Type:	Drive Volt:	Drive HP:	Drive RPM:

REASON FOR PULLING THE BLOWER: \_\_\_\_\_

**COMMENTS:**

ARE THERE ANY PICTURES OF THE BLOWER?

YES: \_\_\_\_\_ NO: \_\_\_\_\_

THE BLOWER IS GOING TO THE CONTRACTOR'S FACILITY:

CONTRACTOR'S NAME: \_\_\_\_\_

CONTRACTOR'S ADDRESS: \_\_\_\_\_

CONTRACTOR'S REPRESENTATIVE:

CITY OF HOUSTON REPRESENTATIVE:

NAME: \_\_\_\_\_

NAME: \_\_\_\_\_

EMPLOYEE #: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

**Exhibit B-6**

**Cost Estimate Form**  
 City of Houston  
 Public Works & Engineering Department  
 Blower Repair Service Contract

*Sample Only, Actual Form is subject to change by CTR after Award of the Contract*

Contract #:	City Work Order #:	
Ordinance #:	Contractor Job #:	
City Facility:	Facility #:	
Blower:		
Manufacturer:	Work Notification Date:	
Drive Voltage:      HP:      RPM:	Field Inspection Date:	
Serial #:	Equipment Pull Date:	
Impeller Type:		
EI#:	Estimate Date:	

UNIT PRICE ITEMS:	Unit	Extended
	<u>Price</u>	<u>Qty</u>
		<u>Price</u>
Item 1 - Prepare for Removal – Each	1.00	
Item 2 - Transport to Shop – Each	1.00	
Item 3 - Return to City – Each	1.00	
<b>Sub-Total Unit Price Items</b>		

COST PLUS ITEMS:	Contract	Extended
	<u>Cost</u>	<u>Mark Up</u>
		<u>Price</u>
Item 14 -	1.**	
Item 15	1.**	
Item 15- Work by Sub-contractor (see Original invoices)	1.**	
Item 16 - NDT (see parts worksheet)	1.**	
Item 17 - Parts: (see parts Original Invoices)	1.**	
Item 18 – Crane Rental / Rigging	1.**	
<b>Sub-Total Cost Plus Items</b>		

Additional Services (see worksheet):

**Total Estimated Project Costs**

Total Estimated Blower Repair Only

Replacement Cost of Blower Unit

Repair Cost Expressed as % of Replacement Cost

Repair of Blower Approved by City of Houston:

Signature/Date – Blower Repair Print Name

**Exhibit B-7**

**FITS AND INDICATED RUNOUT**

City of Houston  
Public Works & Engineering Department  
Blower Repair Service Contract

Sample Only, Actual Form is subject to change by CTR after Award of the Contract

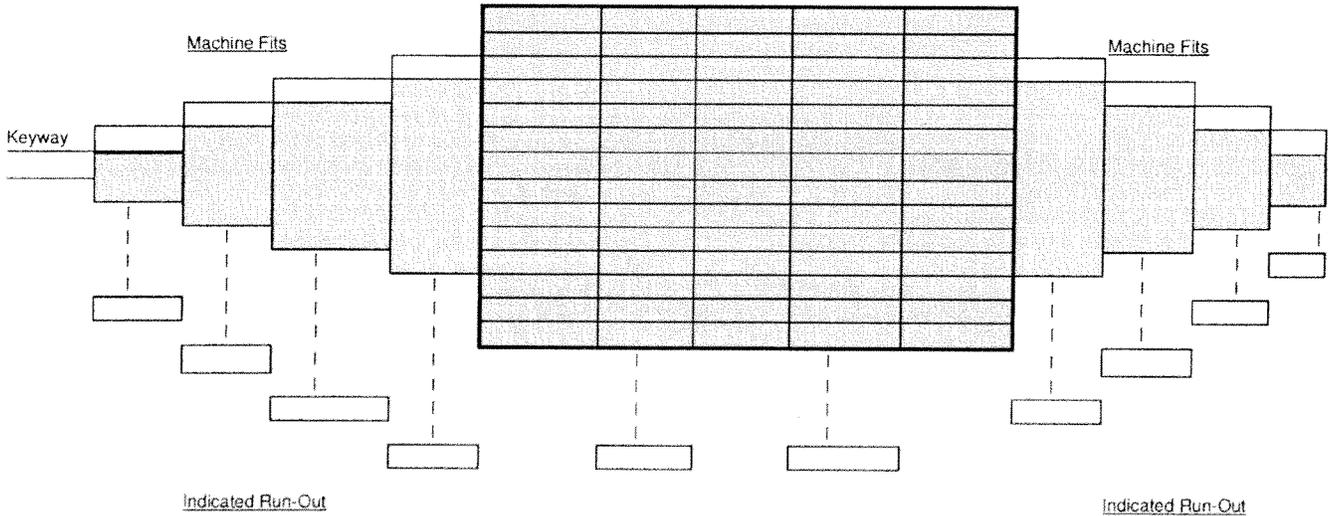
\*if applicable  
(Horizontal & Vertical Motor)

EI # \_\_\_\_\_

Horizontal Ball  
Bearing Rotor

Fits and Indicated  
Runout

Job # \_\_\_\_\_ 0 \_\_\_\_\_



Iron Length: \_\_\_\_\_  
Iron Diam.: \_\_\_\_\_  
Slot Depth: \_\_\_\_\_  
Back Iron: \_\_\_\_\_  
# Vent Holes: \_\_\_\_\_  
Vent Hole Diam: \_\_\_\_\_

Make: \_\_\_\_\_ H.P. \_\_\_\_\_ Volts: \_\_\_\_\_  
Model: \_\_\_\_\_ Amps. \_\_\_\_\_ Cyc. \_\_\_\_\_  
R.P.M. \_\_\_\_\_ Frame: \_\_\_\_\_ SN: \_\_\_\_\_

**Exhibit B-8**

**Progress and Status Report Form**

**City of Houston**

Public Works & Engineering Department

Blower Repair Service Contract

*Sample Only, Actual Form is subject to change by CTR after Award of the Contract*

	Work	Work		Fac.						Impeller Type		Date	Shop			Person		Cost	Expend.
Release	Order	Order	E.I.	#	Fac.	Manufac.	Model	Serial	H.P.		Problem	In	Job	Inspect	Test	Called	Allocated	Of	To
Number	#	Date	#	Name		#	#					Shop	#	Date	Date	Date	Amount	Repair	Date
																	\$	\$	\$

**Exhibit B-9**

**Invoice Checklist Report Form**

City of Houston  
Public Works & Engineering Department  
Blower Repair Service Contract

*Sample Only, Actual Form is subject to change by CTR after Award of the Contract*

"Company Name" / (Blower) / Contract # 460000XXXX			
a) Facility Name:		Facility #	
b) Date:			
c) UDR Review Date:			
<b>Comments:</b>			
<b>Instructions</b>			
1) Check mark "X" selected items listed below. 2) Sign and date at the bottom of form			
Item Number	Contract Requirements Description	Contractor Review	UDR Review
1	City Contract Number, and Ordinance Number		
2	Contractor Job Number		
3	Contractor's name and address		
4	Contractor's representative name, signature and date		
5	City facility name, number and address where service was provided		
6	Detailed description of services rendered		
7	Equipment Identification Number		
8	City Equipment Release Number		
9	City Work Order Number		
10	Subcontractor's invoices with description of work performed, hours and parts cost		
11	Detailed labor hours and rates as stated in the "Fee Schedule" (when applicable)		
12	City delivery and pickup tickets		
13	UL Re-certification for explosion-proof units (when applicable)		
14	Subtotal cost for parts and labor separately		
15	Shop Test/Acceptance Form, Teardown and Recommended Repair form, Equipment Release authorization form, Recommended Repair Estimate Form & Final Repair Cost Form		
16	All unit prices for labor and Parts are easily identified against the quoted contract pricing		
17	Invoice charged to correct job #		

\_\_\_\_\_  
Contractor's Signature

\_\_\_\_\_  
Date



**Exhibit B-11**  
**Rotary Lobe Blower,**  
**Blower Teardown Report**  
Page 1 of 7

Teardown Date: \_\_\_\_\_ Contractor's Job #: \_\_\_\_\_

City of Houston Contract No.: \_\_\_\_\_ Contractor: \_\_\_\_\_

Facility No: \_\_\_\_\_ City's WO No.: \_\_\_\_\_ Manufacturer: \_\_\_\_\_

**Model #:** \_\_\_\_\_ **Serial No:** \_\_\_\_\_ **EI #:** \_\_\_\_\_

---

**Any Comments & Recommendations Prior to Tear Down:** (staple photographs to blank piece of paper and attach to this tear down sheet) \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

---

**Blower Configuration:** (looking at the blower from the drive end)

Blower Drive: Top\_\_\_\_ Bottom\_\_\_\_ Left\_\_\_\_ Right\_\_\_\_

Blower Discharge: Top\_\_\_\_ Bottom\_\_\_\_ Left\_\_\_\_ Right\_\_\_\_

Gear End: Drive End\_\_\_\_ Driven End\_\_\_\_

(Remember to match mark head plates, cylinder, lobes, bearing carriers, etc.)

Comments & Recommendations: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Rotary Lobe Blower  
Blower Teardown Report  
Page 2 of 7**

Teardown Date: \_\_\_\_\_

Contractor's Job #: \_\_\_\_\_

**Lobe Clearances:**

Inlet:	_____	_____	_____	_____
	Spec.	Drive End	Middle	Driven End
Center:	_____	_____	_____	_____
	Spec.	Drive End	Middle	Driven End
Discharge:	_____	_____	_____	_____
	Spec.	Drive End	Middle	Driven End
Head Plate Drive End:				
Drive Lobe:	_____	_____	_____	_____
		Spec.	Reading #1	Reading #2
Driven Lobe:	_____	_____	_____	_____
		Spec.	Reading #1	Reading #2
Head Plate Aft End:				
Drive Lobe:	_____	_____	_____	_____
		Spec.	Reading #1	Reading #2
Driven Lobe:	_____	_____	_____	_____
		Spec.	Reading #1	Reading #2

**Run out & Backlash:**

Gear Run out: \_\_\_\_\_

	Spec.	Drive Gear	Driven Gear
--	-------	------------	-------------

Gear Backlash: \_\_\_\_\_

	Spec.	12 o'clock	3 o'clock	6 o'clock	9 o'clock
--	-------	------------	-----------	-----------	-----------

Input Shaft Run out:      Spec \_\_\_\_\_ Actual \_\_\_\_\_

**Rotary Lobe Blower  
Blower Teardown Report  
Page 3 of 7**

Teardown Date: \_\_\_\_\_ Contractor's Job #: \_\_\_\_\_

**Shaft Dimensions:**

	<u>Spec.</u>	<u>12 o'clock</u>	<u>3 o'clock</u>
Drive Lobe:			
Bearing Area Drive End:	_____	_____	_____
Bearing Area Driven End:	_____	_____	_____
Seal Area Drive End:	_____	_____	_____
Seal Area Driven End:	_____	_____	_____
Laby Area Drive End:	_____	_____	_____
Laby Area Driven End:	_____	_____	_____
	_____	_____	_____
	_____	_____	_____

Comments & Recommendations: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

	<u>Spec.</u>	<u>12 o'clock</u>	<u>3 o'clock</u>
Driven Lobe:			
Bearing Area Drive End:	_____	_____	_____
Bearing Area Driven End:	_____	_____	_____
Seal Area Drive End:	_____	_____	_____
Seal Area Driven End:	_____	_____	_____
Laby Area Drive End:	_____	_____	_____
Laby Area Driven End:	_____	_____	_____
	_____	_____	_____
	_____	_____	_____

Comments & Recommendations: \_\_\_\_\_  
\_\_\_\_\_

**Rotary Lobe Blower  
Blower Teardown Report  
Page 4 of 7**

Teardown Date: \_\_\_\_\_ Contractor's Job #: \_\_\_\_\_

**Drive Lobe - Run out & Overall Dimensions:**

x Dimension:            Spec \_\_\_\_\_            Actual \_\_\_\_\_

y Dimension:            Spec \_\_\_\_\_            Actual \_\_\_\_\_

Comments & Recommendations: \_\_\_\_\_

**Driven Lobe - Run out & Overall Dimensions:**

x Dimension:            Spec \_\_\_\_\_            Actual \_\_\_\_\_

y Dimension:            Spec \_\_\_\_\_            Actual \_\_\_\_\_

Comments & Recommendations: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Dimensions - Bearing Bores, Bearing Carriers & Seal Bores:**

	<u>Spec.</u>	<u>12 o'clock</u>	<u>3 o'clock</u>
Pos. #1 Drive End, Drive Lobe:			
Head Plate Brg Bore	_____	_____	_____
Carrier Small OD	_____	_____	_____
Carrier Large OD	_____	_____	_____
Carrier Brg ID Front	_____	_____	_____
Carrier Brg ID Back	_____	_____	_____
Head Plate Laby Bore	_____	_____	_____
Seal Bore #1	_____	_____	_____
Seal Bore #2	_____	_____	_____

Comments & Recommendations: \_\_\_\_\_

**Rotary Lobe Blower, Blower Teardown Report**  
Page 5 of 7

Teardown Date: \_\_\_\_\_

Contractor's Job #: \_\_\_\_\_

---

**Dimensions - Bearing Bores, Bearing Carriers & Seal Bores (cont.):**

	<u>Spec.</u>	<u>12 o'clock</u>	<u>3 o'clock</u>
Pos. #2 Drive End, Driven Lobe:			
Head Plate Brg Bore	_____	_____	_____
Carrier Small OD	_____	_____	_____
Carrier Large OD	_____	_____	_____
Carrier Brg ID Front	_____	_____	_____
Carrier Brg ID Back	_____	_____	_____
Head Plate Laby Bore	_____	_____	_____
Seal Bore #1	_____	_____	_____
Seal Bore #2	_____	_____	_____

Comments & Recommendations: \_\_\_\_\_

Pos. #3 Shft End, Drive Lobe:

Head Plate Brg Bore	_____	_____	_____
Carrier Small OD	_____	_____	_____
Carrier Large OD	_____	_____	_____
Carrier Brg ID Front	_____	_____	_____
Carrier Brg ID Back	_____	_____	_____
Head Plate Laby Bore	_____	_____	_____
Seal Bore #1	_____	_____	_____
Seal Bore #2	_____	_____	_____

Comments & Recommendations: \_\_\_\_\_

**Rotary Lobe Blower  
Blower Teardown Report  
Page 6 of 7**

Teardown Date: \_\_\_\_\_

Contractor's Job #: \_\_\_\_\_

---

Pos. #4 Aft End, Driven Lobe:

Head Plate Brg Bore \_\_\_\_\_

Carrier Small OD \_\_\_\_\_

Carrier Large OD \_\_\_\_\_

Carrier Brg ID Front \_\_\_\_\_

Carrier Brg ID Back \_\_\_\_\_

Head Plate Laby Bore \_\_\_\_\_

Seal Bore #1 \_\_\_\_\_

Seal Bore #2 \_\_\_\_\_

Comments & Recommendations: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

---

**Flatness Test:**

	<u>Spec.</u>	<u>Reading #1</u>	<u>Reading #2</u>
Drive Lobe:			
Drive End:	_____	_____	_____
Aft End:	_____	_____	_____
Driven Lobe:			
Drive End:	_____	_____	_____
Aft End:	_____	_____	_____

Comments & Recommendations: \_\_\_\_\_

\_\_\_\_\_

**Rotary Lobe Blower  
Blower Teardown Report  
Page 7 of 7**

Teardown Date: \_\_\_\_\_

Contractor's Job #: \_\_\_\_\_

---

**Flatness Test: (cont.)**

Drive Head Plate \_\_\_\_\_  
\_\_\_\_\_

Aft Head Plate \_\_\_\_\_  
\_\_\_\_\_

---

**Miscellaneous Information:**

Cylinder Condition & Recommendations: \_\_\_\_\_  
\_\_\_\_\_

Oil Pump Condition & Recommendations: \_\_\_\_\_  
\_\_\_\_\_

Mechanical Seal Condition & Recommendations: \_\_\_\_\_  
\_\_\_\_\_

Other Comments & Recommendations: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Exhibit B-12

**Multi-Stage Centrifugal  
Blower Teardown Report**  
Page 1 of 3

Teardown Date: \_\_\_\_\_  
\_\_\_\_\_

Contractor's Job #:

City of Houston Contract No.: \_\_\_\_\_  
\_\_\_\_\_

Contractor:

Facility No: \_\_\_\_\_ City's WO No.: \_\_\_\_\_ Manufacturer: \_\_\_\_\_

**Model #:** \_\_\_\_\_ **Serial No.:** \_\_\_\_\_ **EI #:** \_\_\_\_\_

**Shaft Information:**

Inlet Drive \_\_\_\_\_ or

Discharge Drive \_\_\_\_\_

Average Dimension/Variance \_\_\_\_\_  
Total Indicated Runout \_\_\_\_\_  
Description of Damage & Recommendations \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Multi-Stage Centrifugal Blower Teardown Report

Page 2 of 3

Teardown Date: \_\_\_\_\_

Contractor's Job #: \_\_\_\_\_

### Discharge Bearing Housing

ID @ 12:00 o'clock \_\_\_\_\_

ID @ 3:00 o'clock \_\_\_\_\_

Average ID \_\_\_\_\_

Spec. ID \_\_\_\_\_

Comments and Recommendations:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

### Inlet Bearing Housing

ID @ 12:00 o'clock \_\_\_\_\_

ID @ 3:00 o'clock \_\_\_\_\_

Average ID \_\_\_\_\_

Spec. ID \_\_\_\_\_

Comments and Recommendations:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Impeller Information:** (begin numbering impellers at the discharge\_\_\_ or inlet\_\_\_ end)

#	Impeller Number	BC/ Rad	Fab/ Cast	No. of Cast	ID@ Shim	ID@ 12:00	ID 3:00	ID Avg.	NDT Spec	Use Y/N	Repair	
											Y/N	Y/N
1	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
2	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
3	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
4	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
5	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
6	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
7	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
8	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
9	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

Results of Visual Inspection and NDT including Repair Recommendations if any:

\_\_\_\_\_  
 \_\_\_\_\_

## Multi-Stage Centrifugal Blower Teardown Report

Page 3 of 3

Teardown Date: \_\_\_\_\_

Contractor's Job #: \_\_\_\_\_

**Housing Information:** (begin numbering housings at the discharge\_\_\_ or inlet\_\_\_ end)

Housing	NDT Y/N	OK Y/N	If No Describe in Detail (use space provided below if needed)
1	---	---	_____
2	---	---	_____
3	---	---	_____
4	---	---	_____
5	---	---	_____
6	---	---	_____
7	---	---	_____
8	---	---	_____

General Comments, Elaborations of Above if Necessary and Recommendations:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Discharge Labyrinth Seal** (if applicable)      **Inlet Labyrinth Seal** (if applicable)

ID @ 12:00 o'clock \_\_\_\_\_

ID @ 12:00 o'clock \_\_\_\_\_

ID @ 3:00 o'clock \_\_\_\_\_

ID @ 3:00 o'clock \_\_\_\_\_

Average ID \_\_\_\_\_

Average ID \_\_\_\_\_

Spec. ID: \_\_\_\_\_

Spec. ID: \_\_\_\_\_

Reuse: \_\_\_\_\_ Replace: \_\_\_\_\_

Reuse: \_\_\_\_\_ Replace: \_\_\_\_\_

Other Observations and Recommendations: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
Technician

\_\_\_\_\_  
Foreman

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date



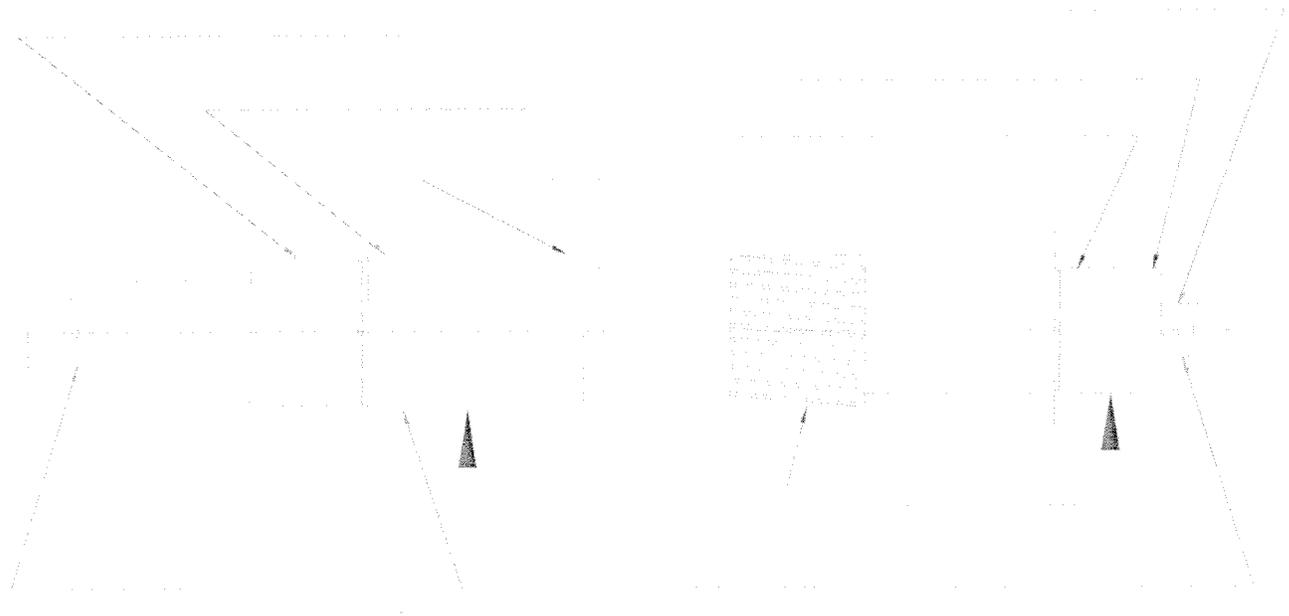
**Blower Teardown Report**  
**Single Stage Centrifugal**  
Page 2 of 6

Teardown Date: \_\_\_\_\_

Contractor's Job #: \_\_\_\_\_

**High Speed Shaft Information:**

Dimension: 12:00/3:00



Total Indicated Run-out \_\_\_\_\_

Description of Damage & Recommendations \_\_\_\_\_

**Impeller Speed Calculation:**

Low Speed Teeth \_\_\_\_\_ / High Speed Teeth \_\_\_\_\_ x Motor Speed \_\_\_\_\_ = \_\_\_\_\_

**Blower Teardown Report  
Single Stage Centrifugal**

Page 3 of 6

Teardown Date: \_\_\_\_\_

Contractor's Job #: \_\_\_\_\_

**High Speed Bore - Main Housing:**

**Drive Side ID Impeller Side ID**

12:00 \_\_\_\_\_ 12:00 \_\_\_\_\_  
3:00 \_\_\_\_\_ 3:00 \_\_\_\_\_  
Avg. \_\_\_\_\_ Avg. \_\_\_\_\_  
Spec \_\_\_\_\_ Spec \_\_\_\_\_

OK \_\_\_\_\_ or Repair \_\_\_\_\_

Comments & Recommendations:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Low Speed Bore - Main Housing:**

**Drive Side ID Impeller Side ID**

12:00 \_\_\_\_\_ 12:00 \_\_\_\_\_  
3:00 \_\_\_\_\_ 3:00 \_\_\_\_\_  
Avg. \_\_\_\_\_ Avg. \_\_\_\_\_  
Spec \_\_\_\_\_ Spec \_\_\_\_\_

OK \_\_\_\_\_ or Repair \_\_\_\_\_

Comments & Recommendations:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**High Speed Bore - Cover Plate:**

**Drive Side ID Impeller Side ID**

12:00 \_\_\_\_\_ 12:00 \_\_\_\_\_  
3:00 \_\_\_\_\_ 3:00 \_\_\_\_\_  
Avg. \_\_\_\_\_ Avg. \_\_\_\_\_  
Spec \_\_\_\_\_ Spec \_\_\_\_\_

OK \_\_\_\_\_ or Repair \_\_\_\_\_

Comments & Recommendations:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Low Speed Bore - Cover Plate:**

**Drive Side ID Impeller Side ID**

12:00 \_\_\_\_\_ 12:00 \_\_\_\_\_  
3:00 \_\_\_\_\_ 3:00 \_\_\_\_\_  
Avg. \_\_\_\_\_ Avg. \_\_\_\_\_  
Spec \_\_\_\_\_ Spec \_\_\_\_\_

OK \_\_\_\_\_ or Repair \_\_\_\_\_

Comments & Recommendations:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Thrust Collar Information:**

Description of Damage & Recommendations \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**Blower Teardown Report**  
**Single Stage Centrifugal**  
Page 4 of 6

Teardown Date: \_\_\_\_\_

Contractor's Job #: \_\_\_\_\_

**Shaft Seal - High Speed:**

<b>Laby-Large ID</b>	<b>Laby - Small ID</b>
12:00 _____	12:00 _____
3:00 _____	3:00 _____
Avg. _____	Avg. _____
Spec _____	Spec _____

**Shaft Seal - Low Speed:**

<b>Drive Side ID</b>	<b>Impeller Side ID</b>
12:00 _____	12:00 _____
3:00 _____	3:00 _____
Avg. _____	Avg. _____
Spec _____	Spec _____

**Windback ID Drive Side OD**

12:00 _____	12:00 _____
3:00 _____	3:00 _____
Avg. _____	Avg. _____
Spec _____	Spec _____

OK \_\_\_\_\_ or Repair \_\_\_\_\_

Comments & Recommendations:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Impeller Side OD**

12:00 \_\_\_\_\_  
3:00 \_\_\_\_\_  
Avg. \_\_\_\_\_  
Spec \_\_\_\_\_

**Shaft Seal - High Speed - Housing Bore**

<b>Drive Side ID</b>	<b>Impeller Side ID</b>
12:00 _____	12:00 _____
3:00 _____	3:00 _____
Avg. _____	Avg. _____
Spec _____	Spec _____

OK \_\_\_\_\_ or Repair \_\_\_\_\_

Comments & Recommendations:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

OK \_\_\_\_\_ or Repair \_\_\_\_\_

Comments & Recommendations:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Impeller Information:**

Depth from Face to End of Shaft \_\_\_\_\_ NDT Yes \_\_\_ or No \_\_\_  
Depth from Face to Polygon Landing \_\_\_\_\_  
Axial Float of Impeller \_\_\_\_\_

OD of Laby Seal Fit on Back of Impeller (if applicable) \_\_\_\_\_

Results of Visual Inspection and NDT (if done) and Recommendations:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Blower Teardown Report**  
**Single Stage Centrifugal**  
 Page 5 of 6

Teardown Date: \_\_\_\_\_

Contractor's Job #: \_\_\_\_\_

**High Speed Thrust Bearing**

**Drive Side ID Impeller Side ID**

12:00 \_\_\_\_\_ 12:00 \_\_\_\_\_  
 3:00 \_\_\_\_\_ 3:00 \_\_\_\_\_  
 Avg. \_\_\_\_\_ Avg. \_\_\_\_\_  
 Spec \_\_\_\_\_ Spec \_\_\_\_\_

**Drive Side OD Impeller Side OD**

12:00 \_\_\_\_\_ 12:00 \_\_\_\_\_  
 3:00 \_\_\_\_\_ 3:00 \_\_\_\_\_  
 Avg. \_\_\_\_\_ Avg. \_\_\_\_\_  
 Spec \_\_\_\_\_ Spec \_\_\_\_\_

OK \_\_\_\_\_ or Repair \_\_\_\_\_

Comments & Recommendations:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**High Speed Journal Bearing**

**Drive Side ID Impeller Side ID**

12:00 \_\_\_\_\_ 12:00 \_\_\_\_\_  
 3:00 \_\_\_\_\_ 3:00 \_\_\_\_\_  
 Avg. \_\_\_\_\_ Avg. \_\_\_\_\_  
 Spec \_\_\_\_\_ Spec \_\_\_\_\_

**Drive Side OD Impeller Side OD**

12:00 \_\_\_\_\_ 12:00 \_\_\_\_\_  
 3:00 \_\_\_\_\_ 3:00 \_\_\_\_\_  
 Avg. \_\_\_\_\_ Avg. \_\_\_\_\_  
 Spec \_\_\_\_\_ Spec \_\_\_\_\_

OK \_\_\_\_\_ or Repair \_\_\_\_\_

Comments & Recommendations:

\_\_\_\_\_  
 \_\_\_\_\_  
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 \_\_\_\_\_  
 \_\_\_\_\_

**Polygon Information:**

Point #1 ID \_\_\_\_\_ Point #2 ID \_\_\_\_\_ Point #3 ID \_\_\_\_\_  
 Point #1 OD \_\_\_\_\_ Point #2 OD \_\_\_\_\_ Point #3 OD \_\_\_\_\_  
 Fit #1 \_\_\_\_\_ Fit #2 \_\_\_\_\_ Fit #3 \_\_\_\_\_

Comments & Recommendations:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Blower Teardown Report**  
**Single Stage Centrifugal**  
Page 6 of 6

Teardown Date: \_\_\_\_\_

Contractor's Job #: \_\_\_\_\_

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**Assembly Runout:**

Other Observations and Recommendations: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Technician

\_\_\_\_\_  
Foreman

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date

**EXHIBIT "C"**  
**EQUAL EMPLOYMENT OPPORTUNITY**

1. The contractor, subcontractor, vendor, supplier, or lessee will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, or age. The contractor, subcontractor, vendor, supplier, or lessee will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, religion, color, sex, national origin, or age. Such action will include, but not be limited to, the following: employment; upgrading; demotion or transfer; recruitment advertising; layoff or termination; rates of pay or other forms of compensation and selection for training, including apprenticeship. The contractor, subcontractor, vendor, supplier or lessee agrees to post in conspicuous places available to employees, and applicants for employment, notices to be provided by the City setting forth the provisions of this Equal Employment Opportunity Clause.
2. The contractor, subcontractor, vendor, supplier, or lessee states that all qualified applicants will receive consideration for employment without regard to race, religion, color, sex, national origin or age.
3. The contractor, subcontractor, vendor, supplier, or lessee will send to each labor union or representatives of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided by the agency contracting officer advising the said labor union or worker's representative of the contractor's and subcontractor's commitments under Section 202 of Executive Order No. 11246, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. The contractor, subcontractor, vendor, supplier, or lessee will comply with all provisions of Executive Order No. 11246 and the rules, regulations, and relevant orders of the Secretary of Labor or other Federal Agency responsible for enforcement of the equal employment opportunity and affirmative action provisions applicable and will likewise furnish all information and reports required by the Mayor and/or Contractor Compliance Officer(s) for purposes of investigation to ascertain and effect compliance with this program.
5. The contractor, subcontractor, vendor, supplier, or lessee will furnish all information and reports required by Executive Order No. 11246, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to all books, records, and accounts by the appropriate City and Federal Officials for purposes of investigations to ascertain compliance with such rules, regulations, and orders. Compliance reports filed at such times as directed shall contain information as to the employment practice policies, program, and work force statistics of the contractor, subcontractor, vendor, supplier, or lessee.
6. In the event of the contractor's, subcontractor's, vendor's, supplier's, or lessee's non-compliance with the non-discrimination clause of this contract or with any of such rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part, and the contractor, subcontractor, vendor, supplier, or lessee may be declared ineligible for further City contracts in accordance with procedures provided in Executive Order No. 11246, and such other sanctions may be imposed and remedies invoked as provided in the said Executive Order, or by rule, regulation, or order of the Secretary of Labor, or as may otherwise be provided by law.
7. The contractor shall include the provisions of paragraphs 1-8 of this Equal Employment Opportunity Clause in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontractor or purchase order as the contracting agency may direct as a means of enforcing such provisions including sanctions for noncompliance; provided, however, that in the event the contractor becomes involved in, or is threatened with litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.
8. The contractor shall file and shall cause his or her subcontractors, if any, to file compliance reports with the City in the form and to the extent as may be prescribed by the Mayor. Compliance reports filed at such times as directed shall contain information as to the practices, policies, programs, and employment policies and employment statistics of the contractor and each subcontractor.

**EXHIBIT "D"**  
**DRUG POLICY COMPLIANCE AGREEMENT**

I, Ross Marcoot General Manager as an owner or officer of  
(Name) (Print/Type) (Title)  
Dresser Inc. - Roots Blowers Compressors & Controls (Contractor)  
(Name of Company)

have authority to bind Contractor with respect to its bid, offer or performance of any and all contracts it may enter into with the City of Houston; and that by making this Agreement, I affirm that the Contractor is aware of and by the time the contract is awarded will be bound by and agree to designate appropriate safety impact positions for company employee positions, and to comply with the following requirements before the City issues a notice to proceed:

1. Develop and implement a written Drug Free Workplace Policy and related drug testing procedures for the Contractor that meet the criteria and requirements established by the Mayor's Amended Policy on Drug Detection and Deterrence (Mayor's Drug Policy) and the Mayor's Drug Detection and Deterrence Procedures for Contractors (Executive Order No. 1-31).
2. Obtain a facility to collect urine samples consistent with Health and Human Services (HHS) guidelines and a HHS certified drug testing laboratory to perform the drug tests.
3. Monitor and keep records of drug tests given and the results; and upon request from the City of Houston, provide confirmation of such testing and results.
4. Submit semi-annual Drug Policy Compliance Declarations.

I affirm on behalf of the Contractor that full compliance with the Mayor's Drug Policy and Executive Order No. 1-31 is a material condition of the contract with the City of Houston.

I further acknowledge that falsification, failure to comply with or failure to timely submit declarations and/or documentation in compliance with the Mayor's Drug Policy and/or Executive Order No. 1-31 will be considered a breach of the contract with the City and may result in non-award or termination of the contract by the City of Houston.

Date \_\_\_\_\_

Contractor Name Dresser Inc.

Signature  \_\_\_\_\_

Title General Manager

**EXHIBIT "E"**  
**CONTRACTOR'S CERTIFICATION OF NO SAFETY IMPACT POSITIONS**  
**IN PERFORMANCE OF A CITY CONTRACT**

I, \_\_\_\_\_  
(Name)(Print/Type) (Title)

as an owner or officer of \_\_\_\_\_ (Contractor) have authority to bind the Contractor with respect to its bid, and I hereby certify that Contractor has no employee safety impact positions as defined in §5.18 of Executive Order No. 1-31 that will be involved in performing this City Contract. Contractor agrees and covenants that it shall immediately notify the City's Director of Personnel if any safety impact positions are established to provide services in performing this City Contract.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Contractor Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

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**CONTRACTOR'S CERTIFICATION OF NON-APPLICATION OF**  
**CITY OF HOUSTON DRUG DETECTION AND DETERRENCE PROCEDURES**  
**FOR CONTRACTORS**

I, \_\_\_\_\_  
(NAME) (PRINT/TYPE)

as an owner or officer of \_\_\_\_\_ (Contractor) have authority to bind the Contractor with respect to its bid, and I hereby certify that Contractor has fewer than fifteen (15) employees during any 20-week period during a calendar year and also certify that Contractor has no employee safety impact positions as defined in 5.18 of Executive Order No. 1-31 that will be involved in performing this City Contract. Safety impact position means a Contractor's employment position involving job duties that if performed with inattentiveness, errors in judgment, or diminished coordination, dexterity, or composure may result in mistakes that could present a real and/or imminent threat to the personal health or safety of the employee, co-workers, and/or the public.

\_\_\_\_\_  
DATE

\_\_\_\_\_  
CONTRACTOR NAME

\_\_\_\_\_  
SIGNATURE

\_\_\_\_\_  
TITLE

**EXHIBIT "F"  
DRUG POLICY COMPLIANCE DECLARATION**

I, Ross Marcoot General Manager as an owner or officer of  
 (Name) (Print/Type) (Title)  
Dresser Inc - Roots Blowers Compressors & Controls (Contractor or Vendor)  
 (Name of Company)

have personal knowledge and full authority to make the following declarations:

This reporting period covers the preceding 6 months from 1/1 to 6/30, 2013.

RM  
Initials  
 A written Drug Free Workplace Policy has been implemented and employees notified. The policy meets the criteria established by the Mayor's Amended Policy on Drug Detection and Deterrence (Mayor's Policy).

RM  
Initials  
 Written drug testing procedures have been implemented in conformity with the Mayor's Drug Detection and Deterrence Procedures for Contractors, Executive Order No. 1-31. Employees have been notified of such procedures.

RM  
Initials  
 Collection/testing has been conducted in compliance with federal Health and Human Services (HHS) guidelines.

RM  
Initials  
 Appropriate safety impact positions have been designated for employee positions performing on the City of Houston contract. The number of employees in safety impact positions during this reporting period is 13.

RM  
Initials  
 From 1/1/13 to 6/30/13 the following test has occurred  
 (Start date) (End date)

	Random	Reasonable Suspicion	Post Accident	Total
Number Employees Tested	0	0	0	0
Number Employees Positive	0	0	0	0
Percent Employees Positive	0	0	0	0

RM  
Initials  
 Any employee who tested positive was immediately removed from the City worksite consistent with the Mayor's Policy and Executive Order No. 1-31.

RM  
Initials  
 I affirm that falsification or failure to submit this declaration timely in accordance with established guidelines will be considered a breach of contract.

I declare under penalty of perjury that the affirmations made herein and all information contained in this declaration are within my personal knowledge and are true and correct.

\_\_\_\_\_  
 (Date)

Ross Marcoot  
 (Typed or Printed Name)  
[Signature]  
 (Signature) General Manager  
 (Title)

**EXHIBIT "G"  
FEES AND COSTS**

<b>Rotary Lobe (Positive Displacement): Dresser-Roots</b>							
Item #	Description		YEAR 1	YEAR 2	YEAR 3	OPT YR 1	OPT YR 2
<b>Item #</b>	<b>Overhaul/Repair (as defined in Specification)</b>	<b>U/M</b>	<b>Unit Price (\$)</b>	<b>Unit Price (\$)</b>	<b>Unit Price (\$)</b>	<b>Unit Price (\$)</b>	<b>Unit Price (\$)</b>
1	Fractional hp - 50hp	Each	\$6,500.00	\$7,000.00	\$7,300.00	\$7,600.00	\$8,000.00
2	51hp - 100hp	Each	\$13,000.00	\$13,500.00	\$14,000.00	\$14,500.00	\$15,000.00
3	101hp - 250hp	Each	\$14,000.00	\$15,000.00	\$15,500.00	\$16,000.00	\$16,500.00
4	251hp - 400hp	Each	\$28,000.00	\$37,000.00	\$37,500.00	\$38,000.00	\$38,500.00
5	401hp - Greater hp	Each	\$30,000.00	\$41,000.00	\$41,500.00	\$42,000.00	\$43,000.00
<b>Item #</b>	<b>Align Unit to drive-shaft of motor, using alignment tool</b>	<b>U/M</b>	<b>Unit Price (\$)</b>	<b>Unit Price (\$)</b>	<b>Unit Price (\$)</b>	<b>Unit Price (\$)</b>	<b>Unit Price (\$)</b>
6	Fractional hp - 50hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
7	51hp - 100hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
8	101hp - 250hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
9	251hp - 400hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
10	401hp - Greater hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
<b>Item #</b>	<b>Preventive Maintenance (PM) per Unit</b>	<b>U/M</b>	<b>Unit Price (\$)</b>	<b>Unit Price (\$)</b>	<b>Unit Price (\$)</b>	<b>Unit Price (\$)</b>	<b>Unit Price (\$)</b>
11	Fractional hp - 50hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
12	51hp - 100hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
13	101hp - 250hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
14	251hp - 400hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
15	401hp - Greater hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
<b>Item #</b>	<b>Predictive Maintenance (PdM) per Unit</b>	<b>U/M</b>	<b>Unit Price (\$)</b>	<b>Unit Price (\$)</b>	<b>Unit Price (\$)</b>	<b>Unit Price (\$)</b>	<b>Unit Price (\$)</b>
16	Fractional hp - 50hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
17	51hp - 100hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
18	101hp - 250hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
19	251hp - 400hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
20	401hp - Greater hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
<b>Item #</b>	<b>Labor Rates</b>	<b>U/M</b>	<b>Unit Price (\$)</b>	<b>Unit Price (\$)</b>	<b>Unit Price (\$)</b>	<b>Unit Price (\$)</b>	<b>Unit Price (\$)</b>
21	Standard Labor Rate	Hour	\$133.00	\$139.00	\$146.00	\$153.00	\$160.00
22	Field Labor Rate	Hour	\$170.00	\$179.00	\$188.00	\$197.00	\$207.00
23	Field Overtime/Emergency Labor Rate	Hour	\$255.00	\$268.00	\$281.00	\$295.00	\$310.00
24	Electrical & Controls Labor Rate	Hour	\$180.00	\$189.00	\$198.00	\$208.00	\$218.00
25	Electrical & Controls Overtime/Emergency Labor Rate	Hour	\$270.00	\$284.00	\$298.00	\$313.00	\$328.00
26	Mechanical Labor Rate	Hour	\$170.00	\$179.00	\$188.00	\$197.00	\$207.00
27	Mechanical Overtime/Emergency Labor Rate	Hour	\$255.00	\$268.00	\$281.00	\$295.00	\$310.00
28	Machining Standard Labor Rate (In-Shop)	Hour	\$130.00	\$133.00	\$136.00	\$139.00	\$143.00
29	Machining Overtime/Emergency Labor Rate (In-Shop)	Hour	\$170.00	\$175.00	\$180.00	\$185.00	\$186.00
30	Non-Repair Cost	Each	\$1,000.00	\$1,000.00	\$1,050.00	\$1,100.00	\$1,155.00
31	Crane Rigging (Contractor Owned)	Each	\$56.00	\$59.00	\$62.00	\$65.00	\$68.00
32	Transportation of Unit to (Contractor's) Facility	Each	\$850.00	\$893.00	\$938.00	\$985.00	\$1,034.00
33	Return Unit to City's (Wastewater) Facility	Each	\$850.00	\$893.00	\$938.00	\$985.00	\$1,034.00
34	Disconnect Unit, connect piping, and other associated equipment & Remove unit	Each	\$1,360.00	\$1,428.00	\$1,499.00	\$1,574.00	\$1,653.00
35	Install Unit, connect its piping, controls, couple to drive shaft, align unit and perform 4-Test Run	Each	\$2,720.00	\$2,856.00	\$2,999.00	\$3,149.00	\$3,306.00
36	Chroming of Shaft	Each	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00
37	Non-Destructive Test (NDT)	Each	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00
<b>Item #</b>	<b>Description</b>		<b>Estimated Total (\$)</b>	<b>Discount / Mark-Up (.xx)</b>			
38	Parts and Material		\$50,000.00	20%	20%	20%	20%
39	OEM Distributor Parts & Material		\$25,000.00	-15%	-15%	-15%	-15%
40	Cost to Replace a Unit		\$50,000.00	-15%	-15%	-15%	-15%
41	Other Services		\$25,000.00	20%	20%	20%	20%

<b>Rotary Lobe (Positive Displacement):Misc.</b>							
	Description		YEAR 1	YEAR 2	YEAR 3	OPT YR 1	OPT YR 2
<b>Item #</b>	<b>Overhaul-Repair (as defined in Specification)</b>	<b>U/M</b>	<b>Unit Price (\$)</b>				
1	Fractional hp - 50hp	Each	\$6,500.00	\$7,000.00	\$7,300.00	\$7,600.00	\$7,600.00
2	51hp - 100hp	Each	\$13,000.00	\$13,500.00	\$14,000.00	\$14,500.00	\$14,500.00
3	101hp - 250hp	Each	\$14,000.00	\$15,000.00	\$15,500.00	\$16,000.00	\$16,000.00
4	251hp - 400hp	Each	\$28,000.00	\$37,000.00	\$37,500.00	\$38,000.00	\$38,000.00
5	401hp - Greater hp	Each	\$30,000.00	\$41,000.00	\$41,500.00	\$42,000.00	\$42,000.00
<b>Item #</b>	<b>Align Unit to drive-shaft of motor, using alignment tool</b>	<b>U/M</b>	<b>Unit Price (\$)</b>				
6	Fractional hp - 50hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
7	51hp - 100hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
8	101hp - 250hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
9	251hp - 400hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
10	401hp - Greater hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
<b>Item #</b>	<b>Preventive Maintenance (PM) per Unit</b>	<b>U/M</b>	<b>Unit Price (\$)</b>				
11	Fractional hp - 50hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
12	51hp - 100hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
13	101hp - 250hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
14	251hp - 400hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
15	401hp - Greater hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
<b>Item #</b>	<b>Predictive Maintenance (PdM) per Unit</b>	<b>U/M</b>	<b>Unit Price (\$)</b>				
16	Fractional hp - 50hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
17	51hp - 100hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
18	101hp - 250hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
19	251hp - 400hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
20	401hp - Greater hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
<b>Item #</b>	<b>Labor Rates</b>	<b>U/M</b>	<b>Unit Price (\$)</b>				
21	Standard Labor Rate	Hour	\$133.00	\$139.00	\$148.00	\$153.00	\$160.00
22	Field Labor Rate	Hour	\$170.00	\$179.00	\$188.00	\$197.00	\$207.00
23	Field Overtime/Emergency Labor Rate	Hour	\$255.00	\$268.00	\$281.00	\$295.00	\$310.00
24	Electrical & Controls Labor Rate	Hour	\$180.00	\$189.00	\$198.00	\$208.00	\$218.00
25	Electrical & Controls Overtime/Emergency Labor Rate	Hour	\$270.00	\$284.00	\$298.00	\$313.00	\$328.00
26	Mechanical Labor Rate	Hour	\$170.00	\$179.00	\$188.00	\$197.00	\$207.00
27	Mechanical Overtime/Emergency Labor Rate	Hour	\$255.00	\$268.00	\$281.00	\$295.00	\$310.00
28	Machining Standard Labor Rate (In-Shop)	Hour	\$130.00	\$133.00	\$138.00	\$139.00	\$143.00
29	Machining Overtime/Emergency Labor Rate (In-Shop)	Hour	\$170.00	\$175.00	\$180.00	\$185.00	\$186.00
30	Non-Repair Cost	Each	\$1,000.00	\$1,000.00	\$1,050.00	\$1,100.00	\$1,155.00
31	Crane Rigging (Contractor Owned)	Each	\$56.00	\$59.00	\$62.00	\$65.00	\$68.00
32	Transportation of Unit to (Contractor's) Facility	Each	\$850.00	\$893.00	\$938.00	\$985.00	\$1,034.00
33	Return Unit to City's (Wastewater) Facility	Each	\$850.00	\$893.00	\$938.00	\$985.00	\$1,034.00
34	Disconnect Unit, connect piping, and other associated equipment & Remove unit	Each	\$1,366.00	\$1,428.00	\$1,499.00	\$1,574.00	\$1,653.00
35	Install Unit, connect its piping, controls, couple to drive shaft, align unit and perform 4- Test Run	Each	\$2,720.00	\$2,856.00	\$2,999.00	\$3,149.00	\$3,306.00
36	Chroming of Shaft	Each	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00
37	Non-Destructive Test (NDT)	Each	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00
<b>Item #</b>	<b>Description</b>	<b>Estimated Total (\$)</b>	<b>Discount / Mark-Up (.xx)</b>				
38	Parts and Material	\$50,000.00	20%	20%	20%	20%	20%
39	OEM Distributer Parts & Material	\$25,000.00	20%	20%	20%	20%	20%
40	Cost to Replace a Unit	\$50,000.00	15%	15%	15%	15%	15%
41	Other Services	\$25,000.00	20%	20%	20%	20%	20%

Single-Stage Centrifugal / Dresser							
Item #	Description		YEAR 1	YEAR 2	YEAR 3	OPT YR 1	OPT YR 2
<b>Item #</b>	<b>Overhaul/Repair (as defined in Specification)</b>	<b>U/M</b>	<b>Unit Price (\$)</b>				
1	Fractional hp - 50hp	Each	\$12,000.00	\$12,500.00	\$13,000.00	\$13,500.00	\$14,000.00
2	51hp - 100hp	Each	\$12,000.00	\$12,500.00	\$13,000.00	\$13,500.00	\$14,000.00
3	101hp - 250hp	Each	\$25,000.00	\$25,000.00	\$27,000.00	\$28,000.00	\$29,000.00
4	251hp - 400hp	Each	\$30,000.00	\$31,000.00	\$32,000.00	\$33,000.00	\$34,000.00
5	401hp - Greater hp	Each	\$45,000.00	\$46,000.00	\$47,000.00	\$48,000.00	\$49,000.00
<b>Item #</b>	<b>Align Unit to drive-shaft of motor, using alignment tool</b>	<b>U/M</b>	<b>Unit Price (\$)</b>				
6	Fractional hp - 50hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
7	51hp - 100hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
8	101hp - 250hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
9	251hp - 400hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
10	401hp - Greater hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
<b>Item #</b>	<b>Preventive Maintenance (PM) per Unit</b>	<b>U/M</b>	<b>Unit Price (\$)</b>				
11	Fractional hp - 50hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
12	51hp - 100hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
13	101hp - 250hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
14	251hp - 400hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
15	401hp - Greater hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
<b>Item #</b>	<b>Predictive Maintenance (PdM) per Unit</b>	<b>U/M</b>	<b>Unit Price (\$)</b>				
16	Fractional hp - 50hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
17	51hp - 100hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
18	101hp - 250hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
19	251hp - 400hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
20	401hp - Greater hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
<b>Item #</b>	<b>Labor Rates</b>	<b>U/M</b>	<b>Unit Price (\$)</b>				
21	Standard Labor Rate	Hour	\$133.00	\$139.00	\$146.00	\$153.00	\$160.00
22	Field Labor Rate	Hour	\$170.00	\$179.00	\$188.00	\$197.00	\$207.00
23	Field Overtime/Emergency Labor Rate	Hour	\$255.00	\$268.00	\$281.00	\$295.00	\$310.00
24	Electrical & Controls Labor Rate	Hour	\$180.00	\$189.00	\$198.00	\$208.00	\$218.00
25	Electrical & Controls Overtime/Emergency Labor Rate	Hour	\$270.00	\$284.00	\$298.00	\$313.00	\$328.00
26	Mechanical Labor Rate	Hour	\$170.00	\$179.00	\$188.00	\$197.00	\$207.00
27	Mechanical Overtime/Emergency Labor Rate	Hour	\$255.00	\$268.00	\$281.00	\$295.00	\$310.00
28	Machining Standard Labor Rate (In-Shop)	Hour	\$130.00	\$133.00	\$136.00	\$139.00	\$143.00
29	Machining Overtime/Emergency Labor Rate (In-Shop)	Hour	\$170.00	\$175.00	\$180.00	\$185.00	\$186.00
30	Non-Repair Cost	Each	\$1,000.00	\$1,000.00	\$1,050.00	\$1,100.00	\$1,155.00
31	Crane Rigging (Contractor Owned)	Each	\$56.00	\$59.00	\$62.00	\$65.00	\$68.00
32	Transportation of Unit to (Contractor's) Facility	Each	\$850.00	\$893.00	\$938.00	\$985.00	\$1,034.00
33	Return Unit to City's (Wastewater) Facility	Each	\$850.00	\$893.00	\$938.00	\$985.00	\$1,034.00
34	Disconnect Unit, connect piping, and other associated equipment & Remove unit	Each	\$1,360.00	\$1,428.00	\$1,499.00	\$1,574.00	\$1,653.00
35	Install Unit, connect its piping, controls, couple to drive shaft, align unit and perform 4-Test Run	Each	\$2,720.00	\$2,856.00	\$2,999.00	\$3,149.00	\$3,306.00
36	Chroming of Shaft	Each	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00
37	Non-Destructive Test (NDT)	Each	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00
<b>Item #</b>	<b>Description</b>	<b>Estimated Total (\$)</b>	<b>Discount / Mark-Up (.xx)</b>				
38	Parts and Material	\$50,000.00	20%	20%	20%	20%	20%
39	OEM Distributor Parts & Material	\$25,000.00	-10%	-10%	-10%	-10%	-10%
40	Cost to Replace a Unit	\$50,000.00	0%	0%	0%	0%	0%
41	Other Services	\$25,000.00	20%	20%	20%	20%	20%

Single-Stage Centrifugal / Hoffman & Lamson							
Item #	Description		YEAR 1	YEAR 2	YEAR 3	OPT YR 1	OPT YR 2
<b>Item #</b>	<b>Overhaul-Repair (as defined in Specification)</b>	<b>U/M</b>	<b>Unit Price (\$)</b>				
1	Fractional hp - 50hp	Each	\$12,000.00	\$12,500.00	\$13,000.00	\$13,500.00	\$14,000.00
2	51hp - 100hp	Each	\$12,000.00	\$12,500.00	\$13,000.00	\$13,500.00	\$14,000.00
3	101hp - 250hp	Each	\$25,000.00	\$26,000.00	\$27,000.00	\$28,000.00	\$29,000.00
4	251hp - 400hp	Each	\$30,000.00	\$31,000.00	\$32,000.00	\$33,000.00	\$34,000.00
5	401hp - Greater hp	Each	\$45,000.00	\$46,000.00	\$47,000.00	\$13,500.00	\$49,000.00
<b>Item #</b>	<b>Align Unit to drive-shaft of motor, using alignment tool</b>	<b>U/M</b>	<b>Unit Price (\$)</b>				
6	Fractional hp - 50hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
7	51hp - 100hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
8	101hp - 250hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
9	251hp - 400hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
10	401hp - Greater hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
<b>Item #</b>	<b>Preventive Maintenance (PM) per Unit</b>	<b>U/M</b>	<b>Unit Price (\$)</b>				
11	Fractional hp - 50hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
12	51hp - 100hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
13	101hp - 250hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
14	251hp - 400hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
15	401hp - Greater hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
<b>Item #</b>	<b>Predictive Maintenance (PdM) per Unit</b>	<b>U/M</b>	<b>Unit Price (\$)</b>				
16	Fractional hp - 50hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
17	51hp - 100hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
18	101hp - 250hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
19	251hp - 400hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
20	401hp - Greater hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
<b>Item #</b>	<b>Labor Rates</b>	<b>U/M</b>	<b>Unit Price (\$)</b>				
21	Standard Labor Rate	Hour	\$133.00	\$139.00	\$146.00	\$153.00	\$160.00
22	Field Labor Rate	Hour	\$170.00	\$179.00	\$188.00	\$197.00	\$207.00
23	Field Overtime/Emergency Labor Rate	Hour	\$255.00	\$268.00	\$281.00	\$295.00	\$310.00
24	Electrical & Controls Labor Rate	Hour	\$180.00	\$189.00	\$198.00	\$208.00	\$218.00
25	Electrical & Controls Overtime/Emergency Labor Rate	Hour	\$270.00	\$284.00	\$298.00	\$313.00	\$328.00
26	Mechanical Labor Rate	Hour	\$170.00	\$179.00	\$188.00	\$197.00	\$207.00
27	Mechanical Overtime/Emergency Labor Rate	Hour	\$255.00	\$268.00	\$281.00	\$295.00	\$310.00
28	Machining Standard Labor Rate (In-Shop)	Hour	\$130.00	\$133.00	\$136.00	\$139.00	\$143.00
29	Machining Overtime/Emergency Labor Rate (In-Shop)	Hour	\$170.00	\$175.00	\$180.00	\$185.00	\$186.00
30	Non-Repair Cost	Each	\$1,000.00	\$1,000.00	\$1,050.00	\$1,100.00	\$1,155.00
31	Crane Rigging (Contractor Owned)	Each	\$56.00	\$59.00	\$62.00	\$65.00	\$68.00
32	Transportation of Unit to (Contractor's) Facility	Each	\$850.00	\$893.00	\$938.00	\$985.00	\$1,034.00
33	Return Unit to City's (Wastewater) Facility	Each	\$850.00	\$893.00	\$938.00	\$985.00	\$1,034.00
34	Disconnect Unit, connect piping, and other associated equipment & Remove unit	Each	\$1,360.00	\$1,428.00	\$1,499.00	\$1,574.00	\$1,653.00
35	Install Unit, connect its piping, controls, couple to drive shaft, align unit and perform 4-Test Run	Each	\$2,720.00	\$2,856.00	\$2,999.00	\$3,149.00	\$3,306.00
36	Chroming of Shaft	Each	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00
37	Non-Destructive Test (NDT)	Each	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00
<b>Item #</b>	<b>Description</b>	<b>Estimated Total (\$)</b>	<b>Discount / Mark-Up (.xx)</b>				
38	Parts and Material	\$50,000.00	20%	20%	20%	20%	20%
39	OEM Distributer Parts & Material	\$25,000.00	20%	20%	20%	20%	20%
40	Cost to Replace a Unit	\$50,000.00	15%	15%	15%	15%	15%
41	Other Services	\$25,000.00	20%	20%	20%	20%	20%

Single-Stage Centrifugal / Miscellaneous							
	Description		YEAR 1	YEAR 2	YEAR 3	OPT YR 1	OPT YR 2
Item #	Overhaul/Repair (as defined in Specification)	U/M	Unit Price (\$)				
1	Fractional hp - 50hp	Each	\$12,500.00	\$12,500.00	\$13,000.00	\$13,500.00	\$14,000.00
2	51hp - 100hp	Each	\$12,500.00	\$12,500.00	\$13,000.00	\$13,500.00	\$14,000.00
3	101hp - 250hp	Each	\$26,000.00	\$26,000.00	\$27,000.00	\$28,000.00	\$29,000.00
4	251hp - 400hp	Each	\$31,000.00	\$31,000.00	\$32,000.00	\$33,000.00	\$34,000.00
5	401hp - Greater hp	Each	\$46,000.00	\$46,000.00	\$47,000.00	\$13,500.00	\$49,000.00
Item #	Align Unit to drive-shaft of motor, using alignment tool	U/M	Unit Price (\$)				
6	Fractional hp - 50hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
7	51hp - 100hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
8	101hp - 250hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
9	251hp - 400hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
10	401hp - Greater hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
Item #	Preventive Maintenance (PM) per Unit	U/M	Unit Price (\$)				
11	Fractional hp - 50hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
12	51hp - 100hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
13	101hp - 250hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
14	251hp - 400hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
15	401hp - Greater hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
Item #	Predictive Maintenance (PdM) per Unit	U/M	Unit Price (\$)				
16	Fractional hp - 50hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
17	51hp - 100hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
18	101hp - 250hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
19	251hp - 400hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
20	401hp - Greater hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
Item #	Labor Rates	U/M	Unit Price (\$)				
21	Standard Labor Rate	Hour	\$133.00	\$139.00	\$146.00	\$153.00	\$160.00
22	Field Labor Rate	Hour	\$170.00	\$179.00	\$188.00	\$197.00	\$207.00
23	Field Overtime/Emergency Labor Rate	Hour	\$255.00	\$268.00	\$281.00	\$295.00	\$310.00
24	Electrical & Controls Labor Rate	Hour	\$180.00	\$189.00	\$198.00	\$208.00	\$218.00
25	Electrical & Controls Overtime/Emergency Labor Rate	Hour	\$270.00	\$284.00	\$298.00	\$313.00	\$328.00
26	Mechanical Labor Rate	Hour	\$170.00	\$179.00	\$188.00	\$197.00	\$207.00
27	Mechanical Overtime/Emergency Labor Rate	Hour	\$255.00	\$268.00	\$281.00	\$295.00	\$310.00
28	Machining Standard Labor Rate (In-Shop)	Hour	\$130.00	\$133.00	\$136.00	\$139.00	\$143.00
29	Machining Overtime/Emergency Labor Rate (In-Shop)	Hour	\$170.00	\$175.00	\$180.00	\$185.00	\$188.00
30	Non-Repair Cost	Each	\$1,000.00	\$1,000.00	\$1,050.00	\$1,100.00	\$1,155.00
31	Crane Rigging (Contractor Owned)	Each	\$56.00	\$59.00	\$62.00	\$65.00	\$68.00
32	Transportation of Unit to (Contractor's) Facility	Each	\$850.00	\$893.00	\$938.00	\$985.00	\$1,034.00
33	Return Unit to City's (Wastewater) Facility	Each	\$850.00	\$893.00	\$938.00	\$985.00	\$1,034.00
34	Disconnect Unit, connect piping, and other associated equipment & Remove unit	Each	\$1,360.00	\$1,428.00	\$1,499.00	\$1,574.00	\$1,653.00
35	Install Unit, connect its piping, controls, couple to drive shaft, align unit and perform 4-Test Run	Each	\$2,720.00	\$2,856.00	\$2,999.00	\$3,149.00	\$3,306.00
36	Chroming of Shaft	Each	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00
37	Non-Destructive Test (NDT)	Each	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00
Item #	Description	Estimated Total (\$)	Discount / Mark-Up (.xx)				
38	Parts and Material	\$50,000.00	20%	20%	20%	20%	20%
39	OEM Distributor Parts & Material	\$25,000.00	20%	20%	20%	20%	20%
40	Cost to Replace a Unit	\$50,000.00	15%	15%	15%	15%	15%
41	Other Services	\$25,000.00	20%	20%	20%	20%	20%

<b>Multi-Stage Centrifugal / Dresser</b>							
	<i>Description</i>		YEAR 1	YEAR 2	YEAR 3	OPT YR 1	OPT YR 2
Item #	<i>Overhaul/Repair (as defined in Specification)</i>	U/M	Unit Price (\$)	Unit Price (\$)	Unit Price (\$)	Unit Price (\$)	Unit Price (\$)
1	Fractional hp - 50hp	Each	\$15,000.00	\$15,500.00	\$16,000.00	\$16,500.00	\$17,000.00
2	51hp - 100hp	Each	\$15,000.00	\$15,500.00	\$16,000.00	\$16,500.00	\$17,000.00
3	101hp - 250hp	Each	\$20,000.00	\$20,500.00	\$21,000.00	\$22,000.00	\$23,000.00
4	251hp - 400hp	Each	\$34,000.00	\$35,000.00	\$36,000.00	\$37,000.00	\$38,000.00
5	401hp - Greater hp	Each	\$40,000.00	\$41,000.00	\$42,000.00	\$43,000.00	\$44,000.00
Item #	<i>Align Unit to drive-shaft of motor, using alignment tool</i>	U/M	Unit Price (\$)	Unit Price (\$)	Unit Price (\$)	Unit Price (\$)	Unit Price (\$)
6	Fractional hp - 50hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
7	51hp - 100hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
8	101hp - 250hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
9	251hp - 400hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
10	401hp - Greater hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
Item #	<i>Preventive Maintenance (PM) per Unit</i>	U/M	Unit Price (\$)	Unit Price (\$)	Unit Price (\$)	Unit Price (\$)	Unit Price (\$)
11	Fractional hp - 50hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
12	51hp - 100hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
13	101hp - 250hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
14	251hp - 400hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
15	401hp - Greater hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
Item #	<i>Predictive Maintenance (PdM) per Unit</i>	U/M	Unit Price (\$)	Unit Price (\$)	Unit Price (\$)	Unit Price (\$)	Unit Price (\$)
16	Fractional hp - 50hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
17	51hp - 100hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
18	101hp - 250hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
19	251hp - 400hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
20	401hp - Greater hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
Item #	<i>Labor Rates</i>	U/M	Unit Price (\$)	Unit Price (\$)	Unit Price (\$)	Unit Price (\$)	Unit Price (\$)
21	Standard Labor Rate	Hour	\$133.00	\$139.00	\$146.00	\$153.00	\$160.00
22	Field Labor Rate	Hour	\$170.00	\$179.00	\$188.00	\$197.00	\$207.00
23	Field Overtime/Emergency Labor Rate	Hour	\$255.00	\$268.00	\$281.00	\$295.00	\$310.00
24	Electrical & Controls Labor Rate	Hour	\$180.00	\$189.00	\$198.00	\$208.00	\$218.00
25	Electrical & Controls Overtime/Emergency Labor Rate	Hour	\$270.00	\$284.00	\$298.00	\$313.00	\$328.00
26	Mechanical Labor Rate	Hour	\$170.00	\$179.00	\$188.00	\$197.00	\$207.00
27	Mechanical Overtime/Emergency Labor Rate	Hour	\$255.00	\$268.00	\$281.00	\$295.00	\$310.00
28	Machining Standard Labor Rate (In-Shop)	Hour	\$130.00	\$133.00	\$136.00	\$139.00	\$143.00
29	Machining Overtime/Emergency Labor Rate (In-Shop)	Hour	\$170.00	\$175.00	\$180.00	\$185.00	\$186.00
30	Non-Repair Cost	Each	\$1,000.00	\$1,000.00	\$1,050.00	\$1,100.00	\$1,155.00
31	Crane Rigging (Contractor Owned)	Each	\$56.00	\$59.00	\$62.00	\$65.00	\$68.00
32	Transportation of Unit to (Contractor's) Facility	Each	\$850.00	\$893.00	\$938.00	\$985.00	\$1,034.00
33	Return Unit to City's (Wastewater) Facility	Each	\$850.00	\$893.00	\$938.00	\$985.00	\$1,034.00
34	Disconnect Unit, connect piping, and other associated equipment & Remove unit	Each	\$1,360.00	\$1,428.00	\$1,499.00	\$1,574.00	\$1,653.00
35	Install Unit, connect its piping, controls, couple to drive shaft, align unit and perform 4-Test Run	Each	\$2,720.00	\$2,856.00	\$2,999.00	\$3,149.00	\$3,306.00
36	Chroming of Shaft	Each	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00
37	Non-Destructive Test (NDT)	Each	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00
Item #	<i>Description</i>		Estimated Total (\$)	Discount / Mark-Up (.xx)			
38	Parts and Material		\$50,000.00	20%	20%	20%	20%
39	OEM Distributor Parts & Material		\$25,000.00	-10%	-10%	-10%	-10%
40	Cost to Replace a Unit		\$50,000.00	0%	0%	0%	0%
41	Other Services		\$25,000.00	20%	20%	20%	20%

## Multi-Stage Centrifugal / Hoffman Lamson

Item #	Description	U/M	YEAR 1	YEAR 2	YEAR 3	OPT YR 1	OPT YR 2
	Overhaul/Repair (as defined in Specification)		Unit Price (\$)				
1	Fractional hp - 50hp	Each	\$15,000.00	\$15,500.00	\$16,000.00	\$16,500.00	\$17,000.00
2	51hp - 100hp	Each	\$15,000.00	\$15,500.00	\$16,000.00	\$16,500.00	\$17,000.00
3	101hp - 250hp	Each	\$20,000.00	\$21,000.00	\$22,000.00	\$23,000.00	\$24,000.00
4	251hp - 400hp	Each	\$25,000.00	\$26,000.00	\$27,000.00	\$28,000.00	\$29,000.00
5	401hp - Greater hp	Each	\$35,000.00	\$36,000.00	\$37,000.00	\$38,000.00	\$39,000.00
Item #	Align Unit to drive-shaft of motor, using alignment tool	U/M	Unit Price (\$)				
6	Fractional hp - 50hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
7	51hp - 100hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
8	101hp - 250hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
9	251hp - 400hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
10	401hp - Greater hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
Item #	Preventive Maintenance (PM) per Unit	U/M	Unit Price (\$)				
11	Fractional hp - 50hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
12	51hp - 100hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
13	101hp - 250hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
14	251hp - 400hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
15	401hp - Greater hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
Item #	Predictive Maintenance (PdM) per Unit	U/M	Unit Price (\$)				
16	Fractional hp - 50hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
17	51hp - 100hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
18	101hp - 250hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
19	251hp - 400hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
20	401hp - Greater hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
Item #	Labor Rates	U/M	Unit Price (\$)				
21	Standard Labor Rate	Hour	\$133.00	\$139.00	\$146.00	\$153.00	\$160.00
22	Field Labor Rate	Hour	\$170.00	\$179.00	\$188.00	\$197.00	\$207.00
23	Field Overtime/Emergency Labor Rate	Hour	\$255.00	\$268.00	\$281.00	\$295.00	\$310.00
24	Electrical & Controls Labor Rate	Hour	\$180.00	\$189.00	\$198.00	\$208.00	\$218.00
25	Electrical & Controls Overtime/Emergency Labor Rate	Hour	\$270.00	\$284.00	\$298.00	\$313.00	\$328.00
26	Mechanical Labor Rate	Hour	\$170.00	\$179.00	\$188.00	\$197.00	\$207.00
27	Mechanical Overtime/Emergency Labor Rate	Hour	\$255.00	\$268.00	\$281.00	\$295.00	\$310.00
28	Machining Standard Labor Rate (In-Shop)	Hour	\$130.00	\$133.00	\$136.00	\$139.00	\$143.00
29	Machining Overtime/Emergency Labor Rate (In-Shop)	Hour	\$170.00	\$175.00	\$180.00	\$185.00	\$188.00
30	Non-Repair Cost	Each	\$1,000.00	\$1,000.00	\$1,050.00	\$1,100.00	\$1,155.00
31	Crane Rigging (Contractor Owned)	Each	\$56.00	\$59.00	\$62.00	\$65.00	\$68.00
32	Transportation of Unit to (Contractor's) Facility	Each	\$850.00	\$893.00	\$938.00	\$985.00	\$1,034.00
33	Return Unit to City's (Wastewater) Facility	Each	\$850.00	\$893.00	\$938.00	\$985.00	\$1,034.00
34	Disconnect Unit, connect piping, and other associated equipment & Remove unit	Each	\$1,360.00	\$1,428.00	\$1,499.00	\$1,574.00	\$1,653.00
35	Install Unit, connect its piping, controls, couple to drive shaft, align unit and perform 4-Test Run	Each	\$2,720.00	\$2,856.00	\$2,999.00	\$3,149.00	\$3,306.00
36	Chroming of Shaft	Each	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00
37	Non-Destructive Test (NDT)	Each	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00
Item #	Description	Estimated Total (\$)	Discount / Mark-Up (.xx)				
38	Parts and Material	\$50,000.00	20%	20%	20%	20%	20%
39	OEM Distributor Parts & Material	\$25,000.00	20%	20%	20%	20%	20%
40	Cost to Replace a Unit	\$50,000.00	15%	15%	15%	15%	15%
41	Other Services	\$25,000.00	20%	20%	20%	20%	20%

Multi-Stage Centrifugal / Miscellaneous							
Item #	Description		YEAR 1	YEAR 2	YEAR 3	OPT YR 1	OPT YR 2
	Overhaul-Repair (as defined in Specification)	U/M	Unit Price (\$)				
1	Fractional hp - 50hp	Each	\$15,000.00	\$15,500.00	\$16,000.00	\$16,500.00	\$16,000.00
2	51hp - 100hp	Each	\$15,000.00	\$15,000.00	\$16,000.00	\$16,500.00	\$16,000.00
3	101hp - 250hp	Each	\$20,000.00	\$21,000.00	\$22,000.00	\$23,000.00	\$22,000.00
4	251hp - 400hp	Each	\$34,000.00	\$35,000.00	\$36,000.00	\$37,000.00	\$36,000.00
5	401hp - Greater hp	Each	\$40,000.00	\$41,000.00	\$42,000.00	\$43,000.00	\$42,000.00
Item #	Align Unit to drive-shaft of motor, using alignment tool	U/M	Unit Price (\$)				
6	Fractional hp - 50hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,544.00
7	51hp - 100hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,544.00
8	101hp - 250hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,544.00
9	251hp - 400hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,544.00
10	401hp - Greater hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,544.00
Item #	Preventive Maintenance (PM) per Unit	U/M	Unit Price (\$)				
11	Fractional hp - 50hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$166.00
12	51hp - 100hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$166.00
13	101hp - 250hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$166.00
14	251hp - 400hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$166.00
15	401hp - Greater hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$166.00
Item #	Predictive Maintenance (PdM) per Unit	U/M	Unit Price (\$)				
16	Fractional hp - 50hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$166.00
17	51hp - 100hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$166.00
18	101hp - 250hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$166.00
19	251hp - 400hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$166.00
20	401hp - Greater hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$166.00
Item #	Labor Rates	U/M	Unit Price (\$)				
21	Standard Labor Rate	Hour	\$133.00	\$139.00	\$146.00	\$153.00	\$146.00
22	Field Labor Rate	Hour	\$170.00	\$179.00	\$188.00	\$197.00	\$188.00
23	Field Overtime/Emergency Labor Rate	Hour	\$255.00	\$268.00	\$281.00	\$295.00	\$281.00
24	Electrical & Controls Labor Rate	Hour	\$180.00	\$189.00	\$198.00	\$208.00	\$198.00
25	Electrical & Controls Overtime/Emergency Labor Rate	Hour	\$270.00	\$284.00	\$298.00	\$313.00	\$298.00
26	Mechanical Labor Rate	Hour	\$170.00	\$179.00	\$188.00	\$197.00	\$188.00
27	Mechanical Overtime/Emergency Labor Rate	Hour	\$255.00	\$268.00	\$281.00	\$295.00	\$281.00
28	Machining Standard Labor Rate (In-Shop)	Hour	\$130.00	\$133.00	\$136.00	\$139.00	\$136.00
29	Machining Overtime/Emergency Labor Rate (In-Shop)	Hour	\$170.00	\$175.00	\$180.00	\$185.00	\$180.00
30	Non-Repair Cost	Each	\$1,000.00	\$1,000.00	\$1,050.00	\$1,100.00	\$1,050.00
31	Crane Rigging (Contractor Owned)	Each	\$56.00	\$59.00	\$62.00	\$65.00	\$62.00
32	Transportation of Unit to (Contractor's) Facility	Each	\$850.00	\$893.00	\$936.00	\$985.00	\$938.00
33	Return Unit to City's (Wastewater) Facility	Each	\$850.00	\$893.00	\$938.00	\$985.00	\$938.00
34	Disconnect Unit, connect piping, and other associated equipment & Remove unit	Each	\$1,360.00	\$1,428.00	\$1,499.00	\$1,574.00	\$1,499.00
35	Install Unit, connect its piping, controls, couple to drive shaft, align unit and perform 4-Test Run	Each	\$2,720.00	\$2,856.00	\$2,999.00	\$3,149.00	\$2,999.00
36	Chroming of Shaft	Each	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00
37	Non-Destructive Test (NDT)	Each	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00
Item #	Description	Estimated Total (\$)	Discount / Mark-Up (.xx)				
38	Parts and Material	\$50,000.00	20%	20%	20%	20%	20%
39	OEM Distributer Parts & Material	\$25,000.00	20%	20%	20%	20%	20%
40	Cost to Replace a Unit	\$50,000.00	15%	15%	15%	15%	15%
41	Other Services	\$25,000.00	20%	20%	20%	20%	20%

<b>Blower Fan</b>							
Item #	Description		YEAR 1	YEAR 2	YEAR 3	OPT YR 1	OPT YR 2
<b>Item #</b>	<b>Overhaul/Repair (as defined in Specification)</b>	<b>U/M</b>	<b>Unit Price (\$)</b>				
1	Fractional hp - 50hp	Each	\$12,000.00	\$12,500.00	\$13,000.00	\$13,500.00	\$14,000.00
2	51hp - 100hp	Each	\$14,000.00	\$14,500.00	\$15,000.00	\$15,500.00	\$16,000.00
3	101hp - 250hp	Each	\$18,000.00	\$18,500.00	\$19,000.00	\$19,500.00	\$20,000.00
4	251hp - 400hp	Each	\$22,000.00	\$22,500.00	\$23,000.00	\$23,500.00	\$24,000.00
5	401hp - Greater hp	Each	\$25,000.00	\$25,500.00	\$26,000.00	\$26,500.00	\$27,000.00
<b>Item #</b>	<b>Align Unit to drive-shaft of motor, using alignment tool</b>	<b>U/M</b>	<b>Unit Price (\$)</b>				
6	Fractional hp - 50hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
7	51hp - 100hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
8	101hp - 250hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
9	251hp - 400hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
10	401hp - Greater hp	Each	\$1,400.00	\$1,470.00	\$1,544.00	\$1,621.00	\$1,700.00
<b>Item #</b>	<b>Preventive Maintenance (PM) per Unit</b>	<b>U/M</b>	<b>Unit Price (\$)</b>				
11	Fractional hp - 50hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
12	51hp - 100hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
13	101hp - 250hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
14	251hp - 400hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
15	401hp - Greater hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
<b>Item #</b>	<b>Predictive Maintenance (PdM) per Unit</b>	<b>U/M</b>	<b>Unit Price (\$)</b>				
16	Fractional hp - 50hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
17	51hp - 100hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
18	101hp - 250hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
19	251hp - 400hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
20	401hp - Greater hp	Each	\$150.00	\$158.00	\$166.00	\$174.00	\$183.00
<b>Item #</b>	<b>Labor Rates</b>	<b>U/M</b>	<b>Unit Price (\$)</b>				
21	Standard Labor Rate	Hour	\$133.00	\$139.00	\$146.00	\$153.00	\$160.00
22	Field Labor Rate	Hour	\$170.00	\$179.00	\$188.00	\$197.00	\$207.00
23	Field Overtime/Emergency Labor Rate	Hour	\$255.00	\$268.00	\$281.00	\$295.00	\$310.00
24	Electrical & Controls Labor Rate	Hour	\$180.00	\$189.00	\$198.00	\$208.00	\$218.00
25	Electrical & Controls Overtime/Emergency Labor Rate	Hour	\$270.00	\$284.00	\$298.00	\$313.00	\$328.00
26	Mechanical Labor Rate	Hour	\$170.00	\$179.00	\$188.00	\$197.00	\$207.00
27	Mechanical Overtime/Emergency Labor Rate	Hour	\$255.00	\$268.00	\$281.00	\$295.00	\$310.00
28	Machining Standard Labor Rate (In-Shop)	Hour	\$130.00	\$133.00	\$136.00	\$139.00	\$143.00
29	Machining Overtime/Emergency Labor Rate (In-Shop)	Hour	\$170.00	\$175.00	\$180.00	\$185.00	\$186.00
30	Non-Repair Cost	Each	\$1,000.00	\$1,000.00	\$1,050.00	\$1,100.00	\$1,155.00
31	Crane Rigging (Contractor Owned)	Each	\$56.00	\$59.00	\$62.00	\$65.00	\$68.00
32	Transportation of Unit to (Contractor's) Facility	Each	\$850.00	\$893.00	\$938.00	\$985.00	\$1,034.00
33	Return Unit to City's (Wastewater) Facility	Each	\$850.00	\$893.00	\$938.00	\$985.00	\$1,034.00
34	Disconnect Unit, connect piping, and other associated equipment & Remove unit	Each	\$1,360.00	\$1,428.00	\$1,499.00	\$1,574.00	\$1,653.00
35	Install Unit, connect its piping, controls, couple to drive shaft, align unit and perform 4-Test Run	Each	\$2,720.00	\$2,856.00	\$2,999.00	\$3,149.00	\$3,306.00
36	Chroming of Shaft	Each	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00
37	Non-Destructive Test (NDT)	Each	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00
<b>Item #</b>	<b>Description</b>	<b>Estimated Total (\$)</b>	<b>Discount / Mark-Up (.xx)</b>				
38	Parts and Material	\$50,000.00	20%	20%	20%	20%	20%
39	OEM Distributor Parts & Material	\$25,000.00	20%	20%	20%	20%	20%
40	Cost to Replace a Unit	\$50,000.00	15%	15%	15%	15%	15%
41	Other Services	\$25,000.00	20%	20%	20%	20%	20%