

Purchase Order

DO NOT INVOICE TO THIS ADDRESS
City and County of Denver

Purchasing Division
 201 West Colfax Avenue Dept.304
 Denver, CO 80202
 United States
 Phone: 720/913-8100 Fax: 720/913-8101



Purchase Order PWOPS-0000012703	Date 01/25/2017	Revision	Page: 1 of 6
Payment Terms Net30	Freight Terms DESTINATION	Ship Via Common	
Buyer Miskell, Andrew - Purchasing	Phone 720/913-8159	Origin REG	

Vendor: 0000031445 Phone: 303/675-0111 Fax: 303/675-0888

RUSH TRUCK CENTERS OF COLORADO INC
 5165 VASQUEZ BLVD
 DENVER CO 80216
 United States

Ship To:
 DPW Fleet Maintenance
 5440 Roslyn
 Building C, Door C-6
 Denver CO 80216
 United States

Bill To:
 Accounts Payable
 201 West Colfax Ave Dept 908
 invoices@denvergov.org
 720/913-8811
 Denver CO 80202
 United States

Tax Exempt? Y **Tax Exempt ID:** 98-02890-000

Line-Sch	Vendor Part#/Description	Mfg ID	Quantity	UOM	PO Price	Extended Amt	Due Date
1 - 1	2017 Peterbilt 320 Amrep Barrel Loaders Refuse Body, 30 cu yd. capacity		9.00	EA	\$247,403.85	\$2,226,634.65	10/31/2017

See requirements per City and County of Denver Specification
 Bid 6993/ PO Exhibit

Configuration: #1
 Cab and Chassis: \$138,961.00
 Battery Minder: \$595 (Upgraded for 2016)
 Refuse Body: \$105,047.85
 Sundries: No Additional Charge
 Complete Vehicle: \$244,603.85
 Additional Options Purchased:
 Section 4.8.D- Ecco-Camera System: \$2,200.00
 Section 4.8.I- Sign Boards: \$600.00
 Grand Total Each Refuse Truck: \$247,403.85

Req ID: 0000057735

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Vendor to fill in and submit attached Exhibit-Vehicle Check-In.
 Delivery will NOT be considered complete without it.

Agency Contact: Gary Bales | (720) 337-1197 | Gary.Bales@denvergov.org

Vendor Contact: Rush Truck - Damon Cummings | 719-660-8749 | CummingsD1@RushEnterprises.com
 Hardline Equipment - Walt Von Duhn | (303) 500-2176 | Waltv@HardlineEquipment.com

Delivery: Monday through Friday between 8:00am and 1:00pm.
 Location:

CITY AND COUNTY OF DENVER
 Fleet Management
 5440 Roslyn St. Building C
 Denver, CO 80216
 Coordinate delivery: Call (720) 865-3903

Title to Read:
 City and County of Denver
 201 W. Colfax Avenue Dept 304
 Denver, CO 80202

Documents to be Provided Upon Delivery:
 Application for Title, State of Colorado
 Odometer Statement

Ref #s: 17-070, 17-071, 17-072, 17-073, 17-077, 17-083, 17-715, 17-716, and 17-717

Chartfield String: 842000-11804-5053400

REFER TO EXHIBITS "A and B" FOR SERVICE DESCRIPTION AND PRICING ONLY.

VENDOR: You must contact the agency contact listed above to confirm this order.

Purchase Order price listed herein includes all shipping and handling.

All invoicing must match the purchase order exactly and contain the purchase order number. All invoices must be sent directly to the bill to address listed on the purchase order, this address may be different than the ship to address. Changes to this purchase are not valid without prior approval from purchasing.

For additional questions regarding this purchase order and the terms herein contact: Andrew Miskell | 720-913-8159 | andrew.miskell@denvergov.org

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ALL INVOICING AND CORRESPONDENCE MUST CONTAIN THE PURCHASE ORDER NUMBER IN FULL (PWOPS####)

Authorizing Bill 16-1032

Purchase Made Under the Provisions of Section 20-63(A) of the Revised Municipal Code. Formal Procedure

Purchase Made Under the Provisions of Section 20-64(A)(1) of the Revised Municipal Code. Sole Source

Purchase Made Under the Provisions of Section 20-64(A)(4) of the Revised Municipal Code. Standardization

This Purchase Order is contingent on City Council action in accordance with 3.2.6(e) of the City Charter and is void without such action.

Total PO Amount

\$2,226,634.65

Any Discrepancies must be reconciled with the Purchasing Division Buyer before this order is filled.

This Purchase Order may contain an item or items issued pursuant to a Master Purchase Order(s) ("MPO") previously agreed to between the City and the Vendor. All of the terms and conditions of the MPO(s) referenced above shall govern the purchase of the related item(s). The Vendor acknowledges and agrees by accepting this Purchase Order: a) that for any item referencing an MPO and where the terms and conditions stated in this Purchase Order differ from the MPO(s) the PO terms are void and of no effect [unless agreed to in a separate written or electronic acknowledgment between the Vendor and the Director of Purchasing] and b) that where there is no MPO referenced above, the Vendor agrees to be bound by all of the terms and conditions of this Purchase Order.

If this purchase order is for a task order, the terms and conditions of the applicable City contract shall govern.

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TERMS AND CONDITIONS

GENERAL CONDITIONS OF PURCHASE:

1. Non-Exclusive: This Purchase Order is non-exclusive. City does not guarantee any minimum purchase other than as provided herein
2. Inspection and Acceptance: Vendor shall perform all services in accordance with the standard of care exercised by highly competent vendors who perform like or similar services. City may inspect all goods/services prior to acceptance. Payment does not constitute acceptance. Vendor shall bear the cost of any inspection/testing that reveal goods/services that are defective or do not meet specifications. City's failure to accept or reject goods/services shall not relieve Vendor from its responsibility for such goods/services that are defective or do not meet specifications nor impose liability on City for such goods/services. If any part of the goods/services are not acceptable to City, City may, in addition to any other rights it may have at law or in equity: (1) make a warranty claim; (2) repair and/or replace the goods or substitute other services at Vendor's expense; or (3) reject and return the goods at Vendor's cost and/or reject the services at Vendor's expense for full credit. Any rejected goods/services are not to be replaced without written authorization from City, and any such replacement shall be on the same terms and conditions contained in this Purchase Order.
3. Shipping, Taxes and Other Credits and Charges: Vendor shall procure all permits and licenses; pay all charges, taxes and fees; and give all notices necessary and incidental to the fulfillment of this Purchase Order and all cost thereof have been included in the prices contained herein. City shall not be liable for the payment of taxes, late charges or penalties of any nature, except as required by D.R.M.C. § 20-107, et seq. The price of all goods/services shall reflect all applicable tax exemptions. City's Federal Registration No. is 84-6000580 and its State Registration No. is 98-02890. All pricing is F.O.B. destination unless otherwise specified. Shipments must be marked with Vendor's name, the Purchase Order number, and contain a delivery or packing slip. Vendor shall not impose any charges for boxing, crating, parcel post, insurance, handling, freight, express or other similar charges or fees. Vendor shall notify City in writing of any price decreases immediately, and City shall receive the benefit thereof on all unshipped items. Vendor shall comply with any additional delivery terms specified herein. Vendor shall be responsible for the cleanup and reporting of any contamination (environmental or otherwise) or spillage resulting from the delivery and/or unloading of goods within twenty-four (24) hours of the contamination or spillage or sooner if required by law. Vendor shall pay all sales and use taxes levied by City on any tangible personal property built into the goods/services. Vendor shall obtain a Certificate of Exemption from the State of Colorado Department of Revenue prior to the purchase of any materials to be built into the goods/services and provide a copy of the Certificate to City prior to final payment.
4. Risk of Loss: Vendor shall bear the risk of loss, injury or destruction of goods prior to delivery to City. Loss, injury or destruction shall not release Vendor from any obligation hereunder.
5. Invoice: Each invoice shall include: (i) the purchase order number; (ii) individual itemization of the goods/services; (iii) per unit price, extended and totaled; (iv) quantity ordered, back ordered and shipped; (v) an invoice number and date; (vi) ordering department's name and "ship to" address; and (vii) agreed upon payment terms set forth herein.
6. Payment: Payment shall be subject to City's Prompt Payment Ordinance D.R.M.C. § 20-107, et-seq, after City accepts the goods/services. City's payment obligations hereunder, whether direct or contingent, shall extend only to funds appropriated by the Denver City Council for the purpose of this Purchase Order, encumbered for the purpose of this Purchase Order and paid into the Treasury of City. Vendor acknowledges that: (i) City does not by this Purchase Order, irrevocably pledge present cash reserves for payments in future fiscal years; and (ii) this Purchase Order is not intended to create a multiple-fiscal year direct or indirect debt or financial obligation of City. City may setoff against any payments due to Vendor any claims and/or credits it may have against Vendor under this Purchase Order.
7. Amendments/Changes: Only the Manager of General Services or his delegate is authorized to change or amend this Purchase Order by a formal written change order. Any change or amendment that would cause the aggregate payable under this Purchase Order to exceed the amount appropriated and encumbered for this Purchase Order is expressly prohibited and of no effect. Vendor shall verify that the amount appropriated and encumbered is sufficient to cover any increase in cost due to changes or amendments. Goods/services provided without such verification are provided at Vendor's risk. The Vendor has no authority to bind City on any contractual matters.
8. Warranty: Vendor warrants and guarantees to City that all goods furnished under this Purchase Order are free from defects in workmanship and materials, are merchantable, and fit for the purposes for which they are to be used. For any goods furnished under this Purchase Order which become defective within twelve (12) months (unless otherwise specified) after date of receipt by City, Vendor shall either, at City's election and to City's satisfaction, remedy any and all defects or replace the defective goods at no expense to City within seven (7) days of receipt of the defective goods or accept the defective goods for full credit and payment of any return shipping charges. Vendor shall be fully responsible for any and all warranty work, regardless of third party warranty coverage. Vendor shall furnish additional or replacement parts at the same prices, conditions and specifications delineated herein.
9. Indemnification/Limitation of Liability: Vendor shall indemnify and hold harmless City (including but not limited to its employees, elected and appointed officials, agents and representatives) against any and all losses (including without limitation, loss of use and costs of cover), liability, damage, claims, demands, actions and/or proceedings and all costs and expenses connected therewith (including without limitation attorneys' fees) that arise out of or relate to any claim of infringement of patent, trademark, copyright, trade secret or other intellectual property right related to this Purchase Order or that are caused by or the result of any act or omission of Vendor, its agents, suppliers, employees, or representatives. Vendor's obligation shall not apply to any liability or damages which result solely from the negligence of City. City shall not be liable for any consequential, incidental, indirect, special, reliance, or punitive damages or for any lost profits or revenues, regardless of the legal theory under which such liability is asserted. In no event shall City's aggregate liability exceed the agreed upon cost for those goods/services that have been accepted by City under this Purchase Order up to the Total Purchase Order Amount. Notwithstanding anything contained in this Purchase Order to the contrary, City in no way limits or waives the rights, immunities and protections provided by C.R.S. § 24-10-101, et seq.
10. Termination: City may terminate this Purchase Order, in whole or in part, at any time and for any reason immediately upon written notice to Vendor. In the event of such a termination, City's sole liability shall be limited to payment of the amount due for the goods/services accepted by City. Vendor acknowledges the risks inherent in this termination for convenience and expressly accepts them. Termination by City shall not constitute a waiver of any claims City may have against Vendor.
11. Interference: Vendor shall notify the Director of Purchasing immediately of any condition that may interfere with the performance of Vendor's obligations under this Purchase Order and confirm such notification in writing within twenty-four (24) hours. City's failure to respond to any such notice shall in no way act as a waiver of any rights or remedies City may possess.
12. Venue, Choice of Law and Disputes: Venue for all legal actions shall lie in the District Court in and for City and County of Denver, State of Colorado, and shall be governed by the laws of the State of Colorado as well as the Charter and Revised Municipal Code, rules, regulations, Executive Orders, and fiscal rules of City. All disputes shall be resolved by administrative hearing, pursuant to the procedure established by D.R.M.C. § 56-106. Director of Purchasing shall render the final determination.

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13. Assignment/No Third Party Beneficiary: Vendor shall not assign or subcontract any of its rights or obligations under this Purchase Order without the written consent of City. In the event City permits an assignment or subcontract, Vendor shall continue to be liable under this Purchase Order and any permitted assignee or subcontractor shall be bound by the terms and conditions contained herein. This Purchase Order is intended solely for the benefit of City and Vendor with no third party beneficiaries

14. Notice: Notices shall be made by Vendor to the Director of Purchasing and by City to Vendor at the addresses provided herein, in writing sent registered, return receipt requested.

15. Compliance With Laws: Vendor shall observe and comply with all federal, state, county, city and other laws, codes, ordinances, rules, regulations and executive orders related to its performance under this Purchase Order. City may immediately terminate this Purchase Order, in whole or in part, if Vendor or an employee is convicted, plead nolo contendere, or admits culpability to a criminal offense of bribery, kickbacks, collusive bidding, bid-rigging, antitrust, fraud, undue influence, theft, racketeering, extortion or any offense of a similar nature.

16. Insurance: Vendor shall secure, before delivery of any goods/services, the following insurance covering all operations, goods and services provided to City. Vendor shall keep the required insurance coverage in force at all times during the term of the Purchase Order, or any extension thereof, during any warranty period, and for three (3) years after termination of this Purchase Order. The required insurance shall be underwritten by an insurer licensed to do business in Colorado and rated by A.M. Best Company as "A-"VIII or better. Each policy shall contain a valid provision or endorsement requiring notification to the City in the event any of the required policies be canceled or non-renewed before the expiration date thereof. Such written notice shall be sent to the parties identified in the Notices section of this Agreement. Such notice shall reference the City contract number listed on the signature page of this Agreement. Said notice shall be sent thirty (30) days prior to such cancellation or non-renewal unless due to non-payment of premiums for which notice shall be sent ten (10) days prior. If such written notice is unavailable from the insurer, contractor shall provide written notice of cancellation, non-renewal and any reduction in coverage to the parties identified in the Notices section within three (3) business days of such notice by its insurer(s) and referencing the City's contract number. If any policy is in excess of a deductible or self-insured retention, City must be notified by Vendor. Vendor shall be responsible for the payment of any deductible or self-insured retention. The insurance coverages specified in this Purchase Order are the minimum requirements, and these requirements do not lessen or limit the liability of Vendor. Risk Management reserves the right to require additional policies and/or limits based on agreement scope of work. Vendor shall provide a copy of this Purchase Order to its insurance agent or broker. Vendor may not commence services or work relating to the Purchase Order prior to placement of coverage. Contractor certifies that the attached certificate of insurance attached to the Purchase Order documents, preferably an ACORD certificate, complies with all insurance requirements of this Purchase Order. The City's acceptance of a certificate of insurance or other proof of insurance that does not comply with all insurance requirements set forth in this Purchase Order shall not act as a waiver of Vendor's breach of this Purchase Order or any of the City's rights or remedies under this Agreement. The City's Risk Management Office may require additional proof of insurance, including but not limited to policies and endorsements. Vendor's insurer shall name as Additional Insured to its Commercial General Liability and Business Auto Liability policies the City and County of Denver, its elected and appointed officials, employees and volunteers. Vendor's insurer shall waive subrogation rights against the City. All sub-contractors and sub-consultants (including independent contractors, suppliers or other entities providing goods/services required by this Purchase Order) shall be subject to all of the requirements herein and shall procure and maintain the same coverages required of Vendor. Vendor shall include all such entities as insureds under its policies or shall ensure that they all maintain the required coverages. Vendor shall provide proof of insurance for all such entities upon request by City. For Worker's Compensation Insurance, Vendor shall maintain the coverage as required by statute for each work location and shall maintain Employer's Liability insurance with limits of \$100,000 for each bodily injury occurrence claim, \$100,000 for each bodily injury caused by disease claim, and \$500,000 aggregate for all bodily injuries caused by disease claims. Vendor expressly represents to City, as a material representation upon which City is relying, that none of the Vendor's officers or employees who may be eligible under any statute or law to reject Workers' Compensation Insurance shall effect such rejection during any part of the term of this Purchase Order, and that any such rejections previously effected, have been revoked. Vendor shall maintain Commercial General Liability coverage with limits of \$1,000,000 for each occurrence, \$1,000,000 for each personal and advertising injury claim, \$2,000,000 products and completed operations aggregate, and \$2,000,000 policy aggregate. Vendor shall maintain Business Auto Liability coverage with limits of \$1,000,000 combined single limit applicable to all owned, hired and non-hired vehicles used in performing services under this Purchase Order. For Commercial General Liability coverage, the policy must provide the following: (i) That this Purchase Order is an Insured Contract under the policy; (ii) Defense costs in excess of policy limits; (iii) A severability of interests, separation of insureds or cross liability provision; and (iv) A provision that coverage is non-contributory with other coverage or self-insurance provided by City. For claims-made coverage, the retroactive date must be on or before the first date when any goods or services were provided to City. Vendor must advise the City in the event any general aggregate or other aggregate limits are reduced below the required per occurrence limits. At their own expense, and where such general aggregate or other aggregate limits have been reduced below the required per occurrence limit, the Contractor will procure such per occurrence limits and furnish a new certificate of insurance showing such coverage is in force.

17. Severability: If any provision of this Purchase Order, except for the provisions requiring appropriation and encumbering of funds and limiting the total amount payable by City, is held to be invalid, illegal or unenforceable by a court of competent jurisdiction, the validity of the remaining portions or provisions shall not be affected if the intent of City and Vendor can be fulfilled.

18. Survival: All terms and conditions of this Purchase Order which by their nature must survive termination/expiration shall so survive. Without limiting the foregoing, Vendor's insurance, warranty and indemnity obligations shall survive for the relevant warranty or statutes of limitation period plus the time necessary to fully resolve any claims, matters or actions begun within that period. Bonds shall survive as long as any warranty period.

19. No Construction Against Drafting Party: No provision of this Purchase Order shall be construed against the drafter.

20. Status of Vendor/Ownership of Work Product: Vendor is an independent contractor retained on a contractual basis to perform services for a limited period of time as described in Section 9.1.1E(x) of the Charter of City. Vendor and its employees are not employees or officers of City under Chapter 18 of the D.R.M.C. for any purpose whatsoever. All goods, deliverables, hardware, software, plans, drawings, reports, submittals and all other documents or things furnished to City by Vendor shall become and are the property of City, without restriction.

21. Records and Audits: Vendor shall maintain for three (3) years after final payment hereunder, all pertinent books, documents, papers and records of Vendor involving transactions related to this Purchase Order, and City shall have the right to inspect and copy the same.

22. Remedies/Waiver: No remedy specified herein shall limit any other rights and remedies of City at law or in equity. No waiver of any breach shall be construed as a waiver of any other breach.

23. No Discrimination in Employment: Vendor shall not refuse to hire, discharge, promote or demote, or to discriminate in matters of compensation against any person otherwise qualified, solely because of race, color, religion, national origin, gender, age, military status, sexual orientation, marital status, or physical or mental disability; and Vendor shall insert the foregoing provision in any subcontracts hereunder.

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24. Use, Possession or Sale of Alcohol or Drugs: Vendor shall cooperate and comply with the provisions of Executive Order 94. Violation may result in City terminating this Purchase Order or barring Vendor from City facilities or from participating in City operations.

25. Conflict of Interest: No employee of City shall have any personal or beneficial interest in the goods/services described in this Purchase Order; and Vendor shall not hire or contract for services any employee or officer of City which would be in violation of City's Code of Ethics, D.R.M.C. §2-51, et seq. or the Charter §§ 1.2.8, 1.2.9, and 1.2.12.

26. Advertising and Public Disclosure: The Vendor shall not include any reference to the Purchase Order or to services performed or goods purchased pursuant to the Purchase Order in any of the Vendor's advertising or public relations materials without first obtaining the written approval of the Director of Purchasing.

27. NO EMPLOYMENT OF ILLEGAL ALIENS TO PERFORM WORK UNDER THE AGREEMENT: a. This Agreement is subject to Division 5 of Article IV of Chapter 20 of the Denver Revised Municipal Code, and any amendments (the "Certification Ordinance"). b. The Contractor certifies that: (1) At the time of its execution of this Agreement, it does not knowingly employ or contract with an illegal alien who will perform work under this Agreement. (2) It will participate in the E-Verify Program, as defined in § 8 17.5-101(3.7), C.R.S., to confirm the employment eligibility of all employees who are newly hired for employment to perform work under this Agreement. c. The Contractor also agrees and represents that: (1) It shall not knowingly employ or contract with an illegal alien to perform work under the Agreement. (2) It shall not enter into a contract with a subconsultant or subcontractor that fails to certify to the Contractor that it shall not knowingly employ or contract with an illegal alien to perform work under the Agreement. (3) It has confirmed the employment eligibility of all employees who are newly hired for employment to perform work under this Agreement, through participation in the E-Verify Program. (4) It is prohibited from using the E-Verify Program procedures to undertake pre-employment screening of job applicants while performing its obligations under the Agreement, and that otherwise requires the Contractor to comply with any and all federal requirements related to use of the E-Verify Program including, by way of example, all program requirements related to employee notification and preservation of employee rights.

(5) If it obtains actual knowledge that a subconsultant or subcontractor performing work under the Agreement knowingly employs or contracts with an illegal alien, it will notify such subconsultant or subcontractor and the City within three (3) days. The Contractor will also then terminate such subconsultant or subcontractor if within three (3) days after such notice the subconsultant or subcontractor does not stop employing or contracting with the illegal alien, unless during such three-day period the subconsultant or subcontractor provides information to establish that the subconsultant or subcontractor has not knowingly employed or contracted with an illegal alien. (6) It will comply with any reasonable request made in the course of an investigation by the Colorado Department of Labor and Employment under authority of § 8-17.5-102(5), C.R.S. or the City Auditor, under authority of D.R.M.C. 20-90.3. d. The Contractor is liable for any violations as provided in the Certification Ordinance. If Contractor violates any provision of this section or the Certification Ordinance, the City may terminate this Agreement for a breach of the Agreement. If the Agreement is so terminated, the Contractor shall be liable for actual and consequential damages to the City. Any such termination of a contract due to a violation of this section or the Certification Ordinance may also, at the discretion of the City, constitute grounds for disqualifying Contractor from submitting bids or proposals for future contracts with the City.

28. In order to receive payment, a complete and responsive invoice must be submitted as required by the City's Prompt Payment Ordinance Article VII of Chapter 20, D.R.M.C., which includes clearly stating the City-generated purchase order or contract number on the invoice and complying with the City's invoicing instructions, including delivery of the invoice to the proper City official or agency.

29. Warranty: Vendor warrants and guarantees to City that all goods furnished under this Purchase Order are free from defects in workmanship and materials, are merchantable, and fit for the purposes for which they are to be used and that any professional services associated with the goods, or stand alone professional services under \$10,000, shall be performed in a workmanlike and professional manner, with the degree of skill and judgment normally exercised by recognized professionals performing services of the same or substantially similar nature. For any goods or services which are, or become defective within twelve (12) months (unless otherwise specified) after date of receipt by City, Vendor shall at no expense to City, at City's election and to City's satisfaction, either remedy any and all defects or replace the defective goods within seven (7) days of receipt of the defective goods or accept the defective goods for full credit and payment of any return shipping charges. Vendor shall be fully responsible for any and all warranty work, regardless of third party warranty coverage. Vendor shall furnish additional or replacement parts at the same prices, conditions and specifications delineated herein.

Authorized Signature

CCD EXHIBIT A - PO # PWOPS 12703



rushtruckcenters.com

Rush Truck Center – Denver | 6955 E 50th Ave. | Commerce City, Colorado 80022 | 303-291-6300 direct | 888-895-7383 toll free

City & County of Denver
201 West Colfax Ave.
Dept. 304
Denver, CO. 80202

January 11, 2017

Attn: Gary Bales

Below is in reference to proposal #6993. Purchase of the Peterbilt 320 cab and chassis' with the AMREP AMHASLTPO-19, 37 yd. refuse body. We agree and will abide by all original specifications and all revisions listed in proposal #6993 dated 2015-2016.

AMREP refuse body meets or exceeds all specs in proposal #6993

2017 pricing	\$105,047.85
Sign boards	\$ 600.00
ECCO camera system	\$ 2,200.00

Peterbilt 320 cab & chassis meets or exceeds all specs on proposal #6993

2017 pricing	\$138,961.00
Battery minder	\$ 595.00


Total per unit that match proposal #6993 \$247,403.85

Gary Johnson

General Regional Manager
Rush Truck Center of Denver
6955 E. 50th. Ave.
Denver, CO. 80022
303-291-6300



**CCD EXHIBIT B - PO# PWOPS 12703
(9) BARREL LOADERS - ORDER JAN '17**

RETURN TO: Department of General Services PURCHASING DIVISION 201 West Colfax Avenue Department 304, 11 th Floor Denver, CO 80202 Phone: (720) 913-8100 FAX: (720) 913-8101	CITY AND COUNTY OF DENVER  DENVER THE BLUE HORN CITY MICHAEL HANCOCK M. YOR	Department of General Services PURCHASING DIVISION www.denvergov.org/purchasing Buyer: Michael Romero 720-913-8122 JAMES P. MCINTYRE DIRECTOR OF PURCHASING
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FORMAL PROPOSAL

Formal Proposal No. 6993

Four (4) Automated Barrel Loader Refuse Trucks
33,000+ GVWR

SCHEDULE OF EVENTS

• Proposal Issued	September 27, 2012
• Deadline to Submit Additional Questions	October 8, 2012 12:00 P.M. Local Time
• Response to Written Questions	October 11, 2012
• Proposal Due Date	October 17, 2012 3:00 P.M. Local Time

Vendor offers to furnish to the City and County of Denver the materials, supplies, products or services requested in accordance with the specifications and subject to the Terms and Conditions described herein.

VENDOR SIGN HERE

Company Name: *Plym Truck Center / Coaling, Inc.*
4116 Park Truck Center Denver

By: *Michael Bassal*
(Printed or Typed Name)
[Signature]
(Signature)

Signature constitutes acceptance of all Terms and Conditions listed on this form and all documents attached.

THIS PROPOSAL MUST BE RETURNED IN A SEALED ENVELOPE WITH THE PROPOSAL NUMBER AND PROPOSAL TITLE ON THE ENVELOPE.

HardLine | Equipment

7500 Dahlia Street
Commerce City, Colorado 80022
303-500-2176 Phone
303-655-8298 Fax
info@HardLineequipment.com

To Whom it may Concern,
HardLine Equipment Company takes exception to
7.2 Defective Unit/Defective Fleet Protocol
Amrep and HardLine Equipment are not able to participate in the warranty.

Section 4.2 and 4.3

Amrep complies with the current specification. Amrep will work diligently to assure that the equipment will be delivered and is working at the highest possible standards.

Thank You
Walt vonDuhn



HardLine | Equipment

7500 Dahlia Street
Commerce City, Colorado 80022
303-500-2176 Phone
303-655-8298 Fax
info@Hardlineequipment.com

Section 7.2

HardLine Equipment and Amrep take Exception to Section 7.2 Defective Unit/Defective Fleet Protocol

Section 3.7 D #4 & 5

Attached Pictures of In Cab controls are samples that have minimized job related problems.

Section 4.1 & 4.2

Amrep does comply to the intent of quality and protection, no crimp connections, use of circuit breakers, factory sealed wiring harnesses whenever possible and all properly secured.

Amrep does comply to the intent of fasteners, hydraulic systems, fabricated parts and welds as to their desired level of quality and will work whenever possible with the City of Denver to address and meet each item listed below.

Section 4.6-D #3

Trash does not fall on hopper floor.

Section 4.6 D #5

Attached drawing should answer dimensional questions.

Section 4.6 D #9-e

Amrep design believes skip weld provides more strength with less heat. Can provide continuous weld if required.

Section 4.6 K #10&11

Amrep uses self lubricating rollers but design does not require adjustable rollers or wear strips.

Amrep uses self locking nyloc nuts front and c-clips and pins in rear.

Amrep lift arm can easily be lubricated from the ground.

Section 4.6 P 8 & 9

Will work with City of Denver to design ergonomic controls for all the city drivers with in the space allowed by the chassis manufacturer.

Section 4.8 B

Amrep has not built or designed a system of this type for safety issues associated with an automated system working in a confined space.

Thank You

Walt vonDuhn

HardLine Equipment



Romero, Michael P. - Purchasing

From: Walt Vonduhn [waltvonduhn@aol.com]
Sent: Monday, November 05, 2012 9:18 AM
To: Romero, Michael P. - Purchasing
Subject: Re: Action Item!: Additional Information Required-City and County of Denver Bid 6993-4 Barrel Loaders

Categories: Important

Michael,
You inquired about the single pricing on the cylinder and if that price was included in the quote? The price per cylinder was given as a directive to price the different size cylinder seperatly. This is included in the bottom line price.

Thank You
Walt vonDuhn
HardLine Equipment
303-500-2176

-----Original Message-----

From: Romero, Michael P. - Purchasing <Michael.Romero@denvergov.org>
To: waltvonduhn@aol.com (Hardline Equipment) <waltvonduhn@aol.com>
Sent: Mon, Nov 5, 2012 8:22 am
Subject: Action Item!: Additional Information Required-City and County of Denver Bid 6993-4 Barrel Loaders

> Walt is the \$5,072.72 included in the \$100,190 or in addition to it. (Line 7.a-Page 29 of City Specification)

[REDACTED]

CITY AND COUNTY OF DENVER
Technical Specifications and Bid Items

For a
Recycle/Trash Barrel Loader Truck

1.0

General Description

A new current model year heavy-duty automated recycle/trash barrel loader truck. The truck shall be a cab over engine with as low of entry as possible right seated/ right hand drive to accommodate as primary use the automated barrel loading of either residential recycle materials or residential trash. The truck shall be powered by a turbo-charged diesel engine, a 66,000 GVWR (plate certified) with 30-yard automated barrel loader body. The truck shall be single right-hand drive with left side passenger seat. Collection operations shall be conducted from the right side seated position. The truck shall be suitable for a minimum of 6 years service (1,000 pick ups/day, 5 days/week) by Solid Waste Management in mixed material (paper, cardboard, mixed containers including glass, aluminum and steel containers) automated barrel recycle operations and also in automated barrel loading of residential trash. The truck's recycle/ trash body shall operate at maximum efficiency and speed when the truck engine is at "low idle" approximately 800-rpm or less, revving engine shall not increase pick up or compaction speed /efficiency. The truck shall be a hydraulic push-out trash eject type, no tip to dump ejection systems. The truck shall be fully equipped and road ready, easily capable of transporting a fully packed minimum 30 yard load over the road into automated recycling systems in recycling stations and, into trash transfer facilities or into landfills.

1.1

Standard Factory Equipment

All standard factory equipment shall be included with the vehicle/equipment; no deletions of standard factory equipment will be permitted unless specifically superseded in these specifications. Accessories not specifically mentioned herein but necessary to furnish a complete unit ready for use shall also be included.

1.2

Government Requirements (where applicable)

The vehicle/equipment shall be built to, and perform in accordance with, all the requirements of the latest edition of the following standards and specifications:

- FHWA, Federal Highway Administration
- SAE, Society of Automotive Engineers Specifications
- FMVSS, Federal Motor Vehicle Safety Standards
- DOT, Department of Transportation Regulations
- AWS, American Welding Society Standards
- PUC, Public Utilities Commission (Colorado)

1.3 Workmanship and Durability

Workmanship throughout the vehicle/equipment shall conform to the highest standards. Durability shall be sufficient to allow safe and efficient operation of the equipment/vehicle.

1.4 Completion of Bid Items and Alternates

Vendor shall complete each line item in "Offered Equipment" and "Cost" columns in the following manner:

- A. Provide vehicle/equipments technical information: in "Offered Equipment" provide technical information as requested and provide cost of item in "Cost" column.
- B. Included Standard Equipment: in "Offered Equipment" column provide technical information as requested for standard equipment in, "Cost" column write NC for "No Charge".
- C. Differences: in "RED" ink in "Offered Equipment" column adjacent to Description of Equipment provide information on the item being offered, in "Cost" column provide cost if there is a bid item cost.
- D. Vendors shall break out and list costs for each specification section. Failure to break out proposed costs may cause proposal to be non-responsive. Breakout costs will be used for comparisons clarifying cost issues and if deletions to the specifications need to be made.
- E. Failure to enter information into any column could result in the proposal being considered non-responsive.

1.5 Major Areas of Concern

	Description of Concern
<p>A.</p> <p>Right Side Operator Cab Area to include:</p> <ol style="list-style-type: none"> 1. Steering wheel belly room. 2. Shoulder leg and hip room. 3. Head room 4. Operator's vision. 5. Floor height and step distances. 6. Ergonomic layout of vehicle and recycle body controls. 7. Ease and speed of operation of collection and packing functions. 	
<p>B.</p> <p>Maneuverability:</p> <p>The ability of the truck to effectively, safely and efficiently maneuver in Denver's space restricted alleys, transverse alley-to-street drainage depressions and make tight turns either into or out of alleys from narrow high crowned streets with vehicles parked in the streets</p>	
<p>C.</p> <p>Ability to efficiently load</p> <ol style="list-style-type: none"> 1. Plastic barrels/carts 2. Loading width for space restricted alleys 3. Loading height and barrel/cart travel to avoid overhead utility lines/wires and private property. 	

Loader Refuse Trucks
CONFIGURATION #1

D.	Mirror width for use in narrow and obstructed areas to include:
1.	Overall extended mirror width.
2.	Minimum mirror width.
3.	Ability for mirrors to be hit by obstructions (branches etc) and absorb the hit without damage.
4.	Ability for mirrors to be reset or adjusted into position without operator leaving operator's station.
E.	Warranty:
1.	Ability and cost to obtain a 5-year warranty on cab and chassis.
2.	Ability and cost to obtain a 5-year warranty on barrel loader body, hydraulic pump, hydraulic motors, hydraulic cylinders and controls.
3.	Location of warranty providers.
F.	Service Ability:
1.	Ability to easily service cab and chassis items that require regular (yearly or less) servicing and maintenance.
2.	Ability to easily service barrel loader body components/items that require regular (yearly or less) adjusting, servicing and maintenance.

2.0

2.1

Build Status of Vehicles:

Contractor and all sub vendors after receipt of the City's purchase order shall provide:

The primary Contractor (prime vendor) shall be responsible for providing within 15 business days to the City a "Preliminary Build Status Plan" to include but not limited to:

1. The "Build Status Plan" shall include sufficient detail to assure that the ordered units will meet specifications and be built to the highest quality standards and be delivered on time.
2. Placement date of initial order with the cab and chassis manufacture.
3. Cab and chassis manufacturer's date of order acceptance. Written order confirmation is required.
4. Placement date of initial order with the body manufacture.
5. Body manufacturer's date of order acceptance. Written order confirmation is required.
6. Build date for cab and chassis to include start date and completion date.
7. Build date for body to include start date and completion date.
8. Delivery date of the cab and chassis to the sub vendor's body manufacturer.
9. Beginning and completion dates for installation of the body on the cab and chassis.
10. Ship date for the completed vehicle (cab and chassis with body) from sub vendor's body manufacturer to Denver and which location shipped to.
11. Contractor and sub vendors local vehicle preparation time.
12. Delivery of a completed vehicle meeting specifications to the City.

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2.2 The Contractor shall contact all sub vendors:

The Contractor shall contact all sub-contractors providing accessories and equipment for the vehicle (s) and provide the sub-contractors with the a list of all accessories and equipment, manufacturer's order confirmation, order number, vehicle specifications, build date and delivery date to dealer from the vehicle manufacturer on the ordered vehicle. It is the primary selling dealer's responsibility to assure that the sub-contractors orders the accessories and equipment and has the items in stock and is prepared to install the accessories and equipment items when the vehicle arrives at the dealership.

3.0 Basic Requirements or Approved Equal.

When a brand/model is referenced in the specifications unless it is stated as "No Approved Equal" it is only a statement of expected quality; comprehensive information in relation to proposed alternative products shall be provided with the bid so a full technical comparison/ assessment can be made.

3.1 Basic Vehicle or Approved Equal

	Description of Equipment	Offered Equipment	Cost
A.	<p>Low floor height cab over engine with, front hinged doors with electric roll up/down windows,</p> <ol style="list-style-type: none"> 1. Tandem axle 66,000 lb. GVWR (plate certified), 2. Wheelbase approximate 223 inch, to accommodate the new exhaust after treatment devices. 3. Effective (clean) cab to axle approximate 210-inch, 4. After frame 60" and 5. Front tire cut angle 50° 6. Wall-to-Wall turning diameter 81 ft. 7. Both the cab and chassis and body vendors shall verify wheelbase is appropriate for truck and specified body. 	<p>Make: <u>PETERBILT</u> Model: <u>920</u></p> <p>Rating: <u>66,000</u> lbs</p> <p>Wheelbase: <u>210</u> "</p> <p>C to A: <u>192</u> "</p> <p>A F: <u>60</u> "</p> <p>Cut Angle: Left <u>50</u> ° Right <u>50</u> °</p> <p>Turn Dia. : Left <u>79.8</u> ft Right <u>79.4</u> ft</p>	<p>\$ <u>113,579</u></p>
B.	<p>Right side operator position configuration is very important for operator comfort and efficiency. The right side operator position shall accommodate operators of various physical sizes providing good visibility, steering wheel/belly clearance, and shoulder width room. Also all the controls for operating the attached equipment shall be in an ergonomic layout/configuration that promotes minimal operator movement, operator comfort and operation efficiency.</p>	<p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	

Vendor/Sub Vendor: Dash Truck Centers

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<p>C.</p> <p>1. Rating 66,000-lbs. GVWR minimum, 2. Heavy-duty 110,000-psi full channel heat-treated steel, with main frame 2,086,000 in-lb. RBM and deep frame section 3,235,000 in-lb. minimum.</p>	<p>Frame Rating: <u>66,000</u> -lbs Yield Strength: <u>120,000</u> psi Section Modulus/rail: <u>17.8</u> in³ Frame RBM/rail: <u>2,136,000</u> lbf-in</p>	<p>\$ <u>517</u></p>
<p>D.</p> <p>All components that require regular servicing shall be easy to access and be located as much as possible to protect the components from road splash. Access to rear engine mounts or transmission removal should not require the removal of electrical wiring, hydraulic hoses, air tanks or air dryers. Air dryer shall be easy and quick to access for servicing.</p>	<p><input checked="" type="radio"/> Yes No</p>	<p>\$ <u>INC</u></p>
<p>E.</p> <p>Towing Provisions: 1. Tow hooks, two front and two rear, frame mounted. 2. Air brake 3/8" female quick-connect hook up system on right front of the vehicle for wrecker air brake connection. Quick-connectors shall be easily accessible and protected behind the bumper and angled rearward away from the bumper so that hose connection is not difficult. 3. A check valve shall be provided at the vehicles air tank to prevent air loss.</p>	<p><input checked="" type="radio"/> Yes No Make: <u>Quick Connect</u> Model: <u>3/1'</u></p>	<p>\$ <u>500</u></p>
<p>F.</p> <p>Keying: 1. Keys keyed alike Ignition, Door, (same) and Toolboxes (same), 2 standard sets per vehicle. 2. Additional 5 key sets 3. If the City has similar make and model trucks in fleet the trucks shall be keyed the same as existing trucks.</p>	<p>Price per additional key set: \$ _____ X 5= _____ <input checked="" type="radio"/> Yes No</p>	<p>\$ NC \$ <u>INC</u> \$ <u>INC</u></p>

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3.2

Engine or Approved Equal

A.	Description of Equipment	Offered Equipment	Cost
<p>Engine: Cummins ISX-11.9 liter, VGT turbocharged diesel engine, rated at 330 hp @ 2,100 rpm, torque 1,350 lb/ft @ 1,200 rpm, 2,100 rpm governed includes: 1. Engine shall utilize DEF (diesel exhaust fluid) to meet current EPA regulations and reduce NOx 2. Engines shall be electronically controlled with following components: a. Engine protection system to monitor low oil pressure, high coolant temperature and low coolant level that will prevent component damage with manual over-ride on truck engine. b. Low oil pressure. c. High oil temperature. d. High coolant temperature. e. Low coolant level. f. High transmission oil temperature. g. Idle shutdown timer. h. Speed limiter top gear and cruise. 3. Computer controlled fast idle and PTO protection. 4. Thermos bottle stopper-type dipstick. 5. Magnetic drain plug. 6. Delco-Remy 22-SI, 145 amp alternator. 160 AMP 7. Delco-Remy 42 MT, 12v starter with over-crank protection.</p>	<p>Make: <u>Cummins</u> Model: <u>ISX-12</u> HP: <u>330</u> @ <u>1350</u> rpm Torque: <u>1350</u> @ <u>1200</u> rpm Emissions Rating: <u>EPA CERTIFIED</u></p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>Make: <u>PRECON</u> Model: <u>160 AMP</u> Make: <u>PRECON</u> Model: <u>12</u></p>	<p>Make: <u>Chelsea</u> Model: <u>890</u> Location: <u>TOP MOUNT</u></p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>PTO idle rpm: <u>750</u></p> <p style="text-align: center;">Bottom Mount</p>	<p>\$ <u>5186</u></p> <p>\$ <u>N/C</u></p> <p>\$ <u>N/C</u></p> <p>\$ <u>11/C</u></p>
B.	<p>Power Take Off (PTO)</p> <p>1. Transmission direct mounted Chelsea 890 series with hydraulic pumps direct mounted to Chelsea 890 PTO at rear of the transmission. 2. PTO control electrically actuated from inside cab. 3. PTO speed limiter shall be connected to the engine computer not to an external overspeed box (EOS). 4. PTO shall efficiently operate all hydraulic systems at engine "low idle" 750 rpm or less. Increasing engine speed above 800 rpm shall not improve hydraulic operations except when ejecting the trash load.</p>	<p>Make: <u>Chelsea</u> Model: <u>890</u> Location: <u>TOP MOUNT</u></p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>PTO idle rpm: <u>750</u></p> <p style="text-align: center;">Bottom Mount</p>	<p>\$ <u>N/C</u></p> <p>\$ <u>N/C</u></p> <p>\$ <u>11/C</u></p>

Loader Refuse Trucks
CONFIGURATION #1

C.	<p>Filtration:</p> <ol style="list-style-type: none"> Oil: Fleetguard LF3000 full flow/bypass oil filter. Fuel: Racor 690RP12 fuel/water separator with thermostatically controlled fuel line heater. 	<p>Make: <u>FLEETGUARD</u> Model: <u>LF3000</u> Make: <u>DAVCO</u> Model: _____</p>	<p>\$ <u>STD</u> \$ <u>INC</u></p>
D.	<p>Engine Air Intake:</p> <ol style="list-style-type: none"> The air intake shall be on the far left side of the vehicle at cab height. The air intake shall be positioned so that it can not draw in exhaust gases. Air filter dual element dry type with air inlet restriction indicator located in cab 	<p>Yes <input checked="" type="radio"/> <u>NO</u> <u>RIGHT SIDE</u> <u>1 CAB</u> No <input type="radio"/> Make: <u>FY</u> Model: <u>FY6 160617</u></p>	<p>\$ <u>STD</u></p>
E.	<p>Exhaust Meeting 2010-EPA Standards: 2015</p> <ol style="list-style-type: none"> Exhaust discharge shall be on the right side of the vehicle The exhaust after treatment device shall be horizontally mounted above the engine so as to not obstruct maintenance/repairs underneath the truck. Maximum exhaust system height shall not be higher than the highest point on the body or truck. Horizontal with a vertical chrome stack and stainless steel exhaust guard that will easily fit up to Denver's exhaust gas evacuation system. Exhaust discharge shall be above roofline and exhaust gases shall not discolor the body or be drawn into the operator's cab. 	<p>Trap Make: <u>CUMMINS</u> Model: _____ Location: <u>REAR TRUCK 1 CAB</u> <input checked="" type="radio"/> Yes No <input type="radio"/> <input checked="" type="radio"/> Yes No <input type="radio"/> <input checked="" type="radio"/> Yes No <input type="radio"/> 2015/16 UPDATE: 6.Exhaust "90 degree chrome elbow" directed toward outside of body.</p>	<p>\$ <u>STD</u></p>
F.	<p>Fuel Tank:</p> <ol style="list-style-type: none"> Fuel tank 80 gallons minimum, The tank shall frame mounted. Fuel tank may be combined with body supplier's hydraulic tank. 	<p>Size: <u>80</u> gallons Location: <u>LEFT SIDE</u></p>	<p>\$ <u>33</u></p>
G.	<p>Diesel Enhancement Fluid Tank:</p> <ol style="list-style-type: none"> Location behind fuel tank Size 6-gallons minimum Tank fill opening shall be easily identified as "DEF Fluid Only" and shall not accept the entrance of a standard diesel fuel nozzle. 	<p>Location: <u>LEFT SIDE BEHIND CAB</u> DEF Tank Volume: <u>8</u> gallons <input checked="" type="radio"/> Yes No <input type="radio"/></p>	<p>\$ <u>INC</u></p>
H.	<p>Coolant Hoses:</p> <ol style="list-style-type: none"> Gates Blue Stripe hoses With constant torque hose clamps. 	<p>Make: <u>GATES</u> Model: <u>BLUE STRIPE</u> <input checked="" type="radio"/> Yes No <input type="radio"/></p>	<p>\$ <u>STD</u></p>

Loader/Refuse Trucks
CONFIGURATION #1

<p>I.</p>	<p>Fan: 1. Fan clutch heavy-service-duty with automatic fan control. 2. The fan shall operate/ cycle according to engine coolant and transmission coolant temperature.</p>	<p>Make: <u>Heaton</u> Model: <u>2-SPRO</u> <input checked="" type="radio"/> Yes <input type="radio"/> No</p>	<p>\$ <u>570</u></p>
<p>J.</p>	<p>Air System: 1. Air compressor Bendix 18.7-cfm Tu-Flo minimum 2. Air tanks mounted horizontal inside frame. 3. Air drain valves shall be 1/4-turn brass with "Flag" style handle and air blast routed away from the person operating the valve. 4. The drain valves shall be installed in an easy to access and operate position in a central location 5. The valve bracket shall be permanently labeled (engraved): "Drain Air Tanks Daily" 1/2" font size "Air Valve 1" "Air Valve 2" "Air Valve 3" 1/4" font size 6. Air lines shall be color-coded nylon type.</p>	<p>Make: <u>Bendix</u> Model: <u>18.7</u> Capacity: <u>18.7</u> cfm Location: <input checked="" type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Yes <input type="radio"/> No</p>	<p>\$ <u>570</u></p>
<p>K.</p>	<p>Cold weather starting aids on truck engine. 1. Block heater, Phillips "Zero-Start" 120vAC, 1500 Watt, engine coolant temperature controlled to: a. Turn "on" at 40°F engine coolant temperature. b. Turn "off" at 55°F engine coolant temperature. 2. The plug-in station shall have 2 LED indicator lights to: a. Light when plugged into "hot line" to show "hot line is energized." b. Light when engine coolant drops below 40°F. 3. Plug-in shall be mounted next to the driver's door, protected from mechanical and weather damage. Heater plug shall be a male standard grounded 15 amp rated plug. Location to be mutually agreed to at installation. 4. A decal or information plate shall be provided describing how the system functions. The decal/plate shall be heavy-duty UV protected and capable of withstanding pressure washing and other normal vehicle functions. 5. Cold weather starting assist (no either allowed).</p>	<p>Make: <u>Phillips</u> Model: <u>ZERO START</u> On Temperature: <u>40</u> Off Temperature: <u>55</u> <input checked="" type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Yes <input type="radio"/> No Location: <u>DRIVER DOOR</u> <input checked="" type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Yes <input type="radio"/> No</p>	<p>\$ <u>300</u> \$ <u>INC</u> \$ <u>INC</u> \$ <u>INC</u></p>
<p>Type: <u>N/A</u></p>		<p>\$ <u>—</u></p>	

Loader Refuse Trucks
CONFIGURATION #1

3.3 Transmission and Drivetrain or Approved Equal

	Description of Equipment	Offered Equipment	Cost
A.	<p>Transmission: Transmission shall be an Allison New World HD4560-RDS-P, wide ratio, set up for <u>5-speeds</u> with the following components:</p> <ol style="list-style-type: none"> Transmission and rear differential gearing shall be optimized for "Best" fuel economy. The shift point calibrations both primary and secondary shall be factory S-1 set for reducing the shift point below maximum governed speed but the engine shall not drop below the peak torque point. On engines with 2,100 rpm full-load governed speed the shift point is reduced 200 rpm. For engines with higher or lower full-load governed speeds the shift point will need to be determined on a case-by-case basis. Transmission interface wiring for Allison MD/HD transmission. Electric push-button transmission controls shall be located on the "dog house" not under the joystick armrest. Location to be mutually agreed upon. Transynd TES 295 automatic transmission fluid. Allison High-Capacity filters for extended drain interval of 75,000 miles or 36 months. Transmission water-to-oil cooler. Remote mounted transmission filter. Magnetic drain plug. 	<p>Make: <u>Allison</u> Model: <u>4560 RDS</u> Speeds: <input checked="" type="radio"/> 5 No <u>SIX (6) SPEED</u> <input checked="" type="radio"/> No <u>TRANSMISSION</u></p> <p><input checked="" type="radio"/> No <u>TRANSMISSION</u></p> <p><input checked="" type="radio"/> Yes No <u>TRANSMISSION</u></p> <p><input checked="" type="radio"/> Yes No <u>TRANSMISSION</u></p> <p><input checked="" type="radio"/> Yes No <u>TRANSMISSION</u></p> <p><input checked="" type="radio"/> Yes No <u>TRANSMISSION</u></p> <p><input checked="" type="radio"/> Yes No <u>TRANSMISSION</u></p>	<p>\$ <u>1340</u></p> <p>\$ <u>INC</u></p> <p>\$ <u>INC</u></p> <p>\$ <u>INC</u></p> <p>\$ <u>INC</u></p> <p>\$ <u>INC</u></p>
B.	<p>Automatic Work Brake Hold Activated with:</p> <ol style="list-style-type: none"> Service brake automatically applies when the lift arm is activated. Manually very easy to access button or switch. 	<p>No No No</p> <p><input checked="" type="radio"/> Yes No <input checked="" type="radio"/> Yes No <input checked="" type="radio"/> Yes No</p>	<p>\$ <u>421</u></p>
C.	<p>Rear Axles:</p> <ol style="list-style-type: none"> Eaton single reduction, capacity 46,000-lbs. Driver controlled main power divider locking differential. Oil pump. Axle temperature sensor. Axle ratio for approximate 60-mph top speed. Oil seals, Union 76 Triton EP 75W-90 synthetic gear lubricant. Magnetic drain plug. <p>Front Axle:</p> <ol style="list-style-type: none"> Eaton, capacity 20,000-lbs. minimum with oil seals and Union 76 Triton EP 75W-90 synthetic gear lubricant. 	<p>Make: <u>DANA-SPICER</u> Model: <u>D46170</u> Gear ratio: <u>4.56</u></p> <p><input checked="" type="radio"/> No <input checked="" type="radio"/> No</p> <p>Top Speed: <u>60</u> mph level</p> <p><input checked="" type="radio"/> No <input checked="" type="radio"/> No</p>	<p>\$ <u>341</u></p>
D.	<p>Front Axle:</p> <ol style="list-style-type: none"> Eaton, capacity 20,000-lbs. minimum with oil seals and Union 76 Triton EP 75W-90 synthetic gear lubricant. 	<p>Make: <u>DANA SPICER</u> Model: <u>D12000F</u> Capacity: <u>20,000 ±</u></p>	<p>\$ <u>570</u></p>

Loader Refuse Trucks
CONFIGURATION #1

Description of Equipment	Offered Equipment	Cost
<p>E. Springs: 1. Front leaf with graphite impregnated spring pin bushings. Front: capacity 20,000-lbs. minimum. 2. Rear Hendrickson HMX-460 Haulmaax vari-rate spring system. Rear: capacity 46,000-lbs. minimum.</p>	<p>Make: <u>PETERBILT</u> Model: <u>20000</u> Capacity: <u>20000</u> - lbs Make: <u>HENDRICKSON</u> Model: <u>HAULMAAX</u> Capacity: <u>46000</u> - lbs</p>	<p>\$ <u>570</u> \$ <u>397</u></p>
<p>F. Brakes: 1. Bendix, 17" disc front, model ADB22x extended service brakes with non-asbestos brake pads. 2. Bendix, 17" disc rear, model ADB225 extended service brakes with non-asbestos brake pads. 3. Brake chambers type 2824, size 24 chamber.</p>	<p>Front Make: <u>BENDIX</u> Model: <u>ADB22X</u> Disc Size: _____ in Rear Make: <u>BENDIX</u> Model: <u>ADB22X</u> Front Chamber: _____ Rear Chamber: _____</p>	<p>\$ <u>570</u></p>
<p>G. Anti-Lock Brake System / Automatic Traction Control system: 1. Anti-Lock Brake System (ABS): Eaton 6S/6M with ATC, 6-channel with (6 sensors & 6 modulators) and 5-9 psi crack pressure relay valve. 2. Automatic Traction Control (ATC) shall work in conjunction with the Eaton ABS brake system in low traction situations limiting torque to least loaded tire allowing most loaded tire to receive torque and pull the vehicle. The ATC system in conjunction with the Interaxle Driveline Lock shall provide traction control very similar to the Driver Controlled Differential Lock system. 3. Interaxle Driveline Lock (IADL) to lock front and rear drive axles together. The interaxle differential lock shall be automatically locked via the ATC or manually locked by the driver. The IADL switch shall activate a flashing LED warning light. 4. Air lines shall be color-coded nylon type.</p>	<p>Make: <u>EATON</u> Model: <u>6S/6M</u> <input checked="" type="radio"/> Yes No <input checked="" type="radio"/> Yes No <input checked="" type="radio"/> Yes No</p>	<p>\$ <u>INC</u> \$ <u>137</u> \$ <u>570</u> \$ <u>570</u></p>
<p>H. Air Dryer, (No Approved Equals) 1. Bendix AD-IP with heated steel reservoir, automatic moisture ejector and cable operated air tank drain valves accessible from outside of vehicle. 2. Air dryer shall be installed on the outside of the frame rail in a location that is easy access and does not exceed 15-minutes to service unit.</p>	<p>Make: <u>BENDIX</u> Model: <u>ADIS-EP</u> <input checked="" type="radio"/> Yes No</p>	<p>\$ <u>271</u> \$ <u>INC</u></p>
<p>I. Driveline: 1. Eaton Permalube type U-joints.</p>	<p>Make: <u>DANA-SPICER</u> Model: <u>1510</u></p>	<p>\$ <u>570</u></p>

J.	Power Steering: 1. TRW with 2-qt. reservoir.	Make: <u>SABER</u> Model: <u>SP110 DUAL</u> Reservoir Size: <u>2qt</u>	\$ <u>445</u>
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3.4 Electrical System or Approved Equal

	Description of Equipment	Offered Equipment	Cost
A.	Alternator: 1. Alternator shall be a heavy duty, internally regulated, output 160-amp minimum.	Make: <u>PACCAR</u> Model: <u>160AMP</u>	\$ <u>18</u>
B.	Batteries: 1. Three Group 31 "maintenance free" batteries with a total CCA of 1950 minimum. 2. Battery location frame mounted left hand side. 3. Battery shut-off switch easy to see and access. 4. Jump start provision easy to access. 5. Battery cables (00) stranded copper minimum.	Make: <u>PACCAR</u> Model: <u>PREMIUM</u> Quantity: <u>3</u> CCA's: <u>2100</u> Location: <u>LEFT SIDE BACK-UP</u> <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> No Cable Size: <u>00</u>	\$ <u>570</u> \$ <u>351</u> \$ <u>94</u> \$ <u>570</u>
C.	Circuit protection: 1. Circuit breakers with manual reset, no fuses. 2. Circuit breaker panel shall be easy to access. 3. Circuit breaker panel shall be clearly labeled for easy identification.	Type Protection: <u>CIRCUIT BREAKER</u> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	\$ <u>570</u>
D.	Wiring: 1. Wiring shall be color coded with hot stamped wire numbers. 2. All wiring shall be run in sealed wiring looms to reduce corrosion from magnesium chloride products	<input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> No	\$ <u>570</u>
E.	Body Builders Junction Box: 1. Body builder's junction box shall be mounted behind the cab 2. Terminal shall be marked for easy identification.	Location: <u>BACK FRAME</u> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	\$ <u>199</u>
F.	Back Up Alarm: 1. Back up alarm 107 dB, SAE type B, fully sealed, back-up alarm system wired into vehicle's backup light system using OEM plug-in adapter. 2. The alarm shall be mounted out of the vehicle's rear wheel splash area.	dBa rating: <u>107</u> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	\$ <u>27</u>

2016 update: PulseTech XC-Parallel Charger P/N 100X013 Sourced and Installed: \$595

Loader Refuse Trucks
CONFIGURATION #1

G.	Cab and Chassis Lights: 1. Halogen sealed beam headlights, 12v. 2. Daytime running lights. 3. Wiring shall be sealed modular plug-in type. 4. Marker lights LED type.	<input checked="" type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Yes <input type="radio"/> No Type: <u>LED</u>	\$ <u>43</u>
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3.5 Cooling System or Approved Equal

	Description of Equipment	Offered Equipment	Cost
A.	Cooling system with coolant recovery tank capable of maintaining engine manufacturer's recommended operating temperatures at an elevation of 6,800' in 120° F low humidity ambient conditions shall be provided.	<input checked="" type="radio"/> No	\$ <u>570</u>
B.	Coolant protection shall be -34° F.	Coolant Type: _____ Protection Level: <u>-34</u> °	\$ <u>570</u>
C.	Fleetguard coolant filter WF2071.	Make: <u>PRESQUAM</u> Model: <u>WF2071</u>	\$ <u>570</u>

3.6

Tires and Wheels or Approved Equal

	Description of Equipment	Offered Equipment	Cost
A.	Tires: 1. Tires 315/80R22.5, tubeless, 20-ply, load range L. 2. Front: Michelin XZUS, Steer Tires. 3. Rear dual: Michelin XZUS, Steer Tires	Make: <u>Michelin</u> Model: <u>XZUS</u> Make: <u>Michelin</u> Model: <u>XZUS XDY-3</u>	\$ <u>580</u> \$ <u>3712</u>
B.	Wheels: 1. Disc, 10-hole, Hub piloted type, Single nut, Meets ISO Standard 4107. 2. White powder-epoxy-coated finish. 3. Front 22.5" x 9". 4. Rear 22.5" x 9"	Make: <u>ACCURIDE</u> Model: <u>22.5X7</u> <input checked="" type="radio"/> Yes <input type="radio"/> No Size: <u>22.5</u> x <u>9</u> Size: <u>22.5</u> x <u>9</u>	\$ <u>712</u>
	Aluminum Front and Rear Wheels		

3.7

Interior or Approved Equal

	Description of Equipment	Offered Equipment	Cost
A.	Right Side Operating Controls: 1. Vehicle operation shall be only from right side of vehicle. 2. Right side driver's controls shall be ergonomically laid out for maximum driver efficiency in operating the automated collection body in either recycle material of residential trash pick up.	Location: <u>Right Side</u> <input checked="" type="radio"/> Yes <input type="radio"/> No	\$ <u>765</u>

Loader Refuse Trucks
CONFIGURATION #1

Description of Equipment	Offered Equipment	Cost
<p>3. Since the vehicle will be used in automated recycle and residential trash collection with a "operate at idle" hydraulic system and a ergonomic multi-position joystick the transmission shifter location needs to be in a location the driver can easily access but not in the conventional location directly adjacent to the driver where it will be covered by the automated body's joystick control. With an "operate at idle" hydraulic system the driver will not be required to shift the vehicle into "neutral" at each collection and after collection back into "drive" to proceed to next stop.</p> <p>4. Doors:</p> <ol style="list-style-type: none"> Left and right doors shall be front hinged. Left and right doors shall have electric full roll up/down windows. 	<p>Shifter Obstructed: Yes <input type="radio"/> No <input checked="" type="radio"/></p> <p>Shifter Location: _____</p> <p>Joystick Location: <u>Body MF</u> <u>SHIFTER LOCATION DEFINED UPON LOCATION AND SIZE OF THE BODY WITH CONTROL PANEL.</u></p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> Yes <input type="radio"/> No</p>	<p>\$ <u>INC</u></p> <p>\$ <u>STD</u></p>
<p>B. Driver Viewing Environment/Area:</p> <ol style="list-style-type: none"> Requested SAE J1750 and SAE J1050a "Target Evaluation" method operator view area information must be submitted with bid for evaluation. Failure to submit the requested information may make bid non-responsive. Vendor using the "Target Evaluation" method shall provide with bid, top view drawings with dimensions of the visibility values from the operator's seat at eye level for operators of the following percent quartile sizes: <ol style="list-style-type: none"> 5th % male height 1554 mm or 61.18" 50th % male height 1668 mm or 65.67" 95th % male height 1783 mm or 70.20" Drawings shall be on 11" x 17" paper ("B" size drawing paper) for easier reading. Good operator exterior visibility is a major safety concern and increasing operator viewing area and eliminating "blind spots" is beneficial to the City 	<p>Drawings Provided: <input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p><u>ATTACHED LIMITED SAE J1750.</u> <u>PETERBUT DOES NOT HAVE SAE J1050A</u> <u>DATA FOR STD.</u> <u>CAB IS BEING MODIFIED AT THIS TIME</u></p> <p>Paper Size: <u>11</u> " X <u>17</u> "</p> <p>Provide Materials: <u>SAE J1750</u></p>	<p>\$ _____</p>
<p>C.</p> <ol style="list-style-type: none"> Required Submittals with Bid: Requested information must be submitted with bid for evaluation. Failure to submit the requested information may make bid non-responsive. 	<p>Provide Materials: <u>SAE J1750</u></p>	<p>\$ _____</p>

Vendor/Sub Vendor: Peterbilt Trucks

Description of Equipment	Offered Equipment	Cost
<p>2. Vendor shall provide with bid, drawings with dimensions and photographs of the proposed cab interior for review.</p> <p>3. Interior dimensions measured:</p> <ul style="list-style-type: none"> a. Belly Room: seat back to steering wheel. b. Leg Room: seat front edge to brake pedal. c. Head Room: seat cushion to ceiling. d. Torso Room: Width from door to doghouse or other obstruction. e. Seat fore/aft travel: f. Seat height travel: g. Steering Wheel Knuckle Clearance: distance to closest object h. Floor Height: measured ground to cab floor. i. Cab Step Heights: measured from ground. j. Steering Wheel Tilt and Telescoping: <p>4. Location of transmission shifter: should not be obstructed by automated barrel loader's joystick.</p>	<p>Seat full forward: <u>11</u>" Seat full back: <u>16</u>" Seat full forward: <u>6</u>" Seat full back: <u>12</u>" Seat full lowered: <u>43</u>" Seat full raised: <u>51</u>" Smallest measurement: <u>23</u>" Travel: <u>3</u>" Travel: <u>2</u>" Clearance: <u>4</u>" Height: <u>35</u>" 1st Step: <u>15</u>" 2nd Step: <u>26 1/2</u>" Tilt: <u>5</u>° Telescoping distance: <u>0</u>" Yes No</p>	<p>\$ <u>570</u></p>
<p>D. Engine Cover "Doghouse"</p> <ul style="list-style-type: none"> 1. The engine cover "doghouse" shall be recessed to accommodate the ergonomic positioning of the automated barrel loader controls. 2. The vehicle manufacturer shall work with the body supplier to assure that the controls are the most ergonomic possible to assure operator comfort and reduce repetitive motion injuries. 3. The transmission shifter shall not be obstructed by the automated barrel loader joystick. The transmission shifter should be located in a location convenient to the operator but not directly adjacent to the driver's side. Since the vehicle has "operate at idle" hydraulic system the transmission does not require shifting into and out of "neutral" at each stop. 4. The City has operators of varying statures and adjustable controls will minimize on-the-job related physical problems. 5. The City, body vendor and the vehicle supplier shall mutually determine control locations after Contract award. 	<p><input checked="" type="radio"/> Yes No <input checked="" type="radio"/> Yes No <input checked="" type="radio"/> Yes No <input checked="" type="radio"/> Yes No</p>	<p>\$ <u>---</u></p>
<p>E. Upfitter's Switch Panel:</p> <ul style="list-style-type: none"> 1. The vehicle manufacturer shall provide for the automated body manufacture an upfitter's switch panel for automated body control switches. 	<p>Yes <input checked="" type="radio"/> No</p>	<p>\$ <u>---</u></p>

Vendor/Sub Vendor: Blue Truck Centers

Loader Refuse Trucks
CONFIGURATION #1

Description of Equipment	Offered Equipment	Cost
<p>2. The panel location shall be in an ergonomic location and shall not require more than 30° head movement and be within easy reach of driver's of various sizes and physiques.</p> <p>3. The switch panel shall have permanently labeled and lighted rocker switches for all optional sundries equipment and lights etc.</p>	<p>Yes <input checked="" type="radio"/> No <input type="radio"/></p> <p>Yes <input checked="" type="radio"/> No <input type="radio"/></p>	
<p>F. Seats:</p> <p>1. Driver's right seat shall be air suspension Bostrom, high back driver's seat, gray vinyl with cloth insert and armrests.</p> <p>2. Left side be spring suspension Bostrom, mid-back seat, gray vinyl with cloth insert and armrests</p>	<p>Make: <u>PETERBILT</u> Model: <u>HIGH BACK</u></p> <p>Make: <u>PETERBILT</u> Model: <u>LOW BACK</u></p>	<p>\$ <u>125</u></p> <p>\$ <u>870</u></p>
<p>G. Instrumentation:</p> <p>1. Instrumentation shall include speedometer, engine hourmeter, tachometer, voltmeter, coolant temperature, oil temperature, oil pressure, fuel level and air pressure with low-pressure alarms (light, audible).</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p>	<p>\$ <u>140</u></p>
<p>H. Floor Covering:</p> <p>1. Floor covering shall be heavy-duty black rubber/vinyl flooring.</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p>	<p>\$ <u>210</u></p>
<p>I. Steering:</p> <p>1. Steering controls shall comfortably accommodate operators of various sizes, from short and small to tall and larger.</p> <p>2. Steering tilt easy to adjust</p> <p>3. Telescoping easy to adjust,</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>Tilt: <input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>Telescoping: Yes <input checked="" type="radio"/> No <input type="radio"/></p>	<p>\$ <u>570</u></p> <p>\$ <u>570</u></p>
<p>J. Air Conditioning:</p> <p>1. Factory installed cab R134A air conditioning</p> <p>2. Cab shall be insulated to include floor, firewall, roof and walls.</p>	<p>Travel In-Out: _____ in</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p>	<p>\$ <u>718</u></p>
<p>K. Radio:</p> <p>1. Radio AM/FM stereo with two speakers.</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p>	<p>\$ <u>149</u></p>
<p>L. Fire Extinguisher:</p> <p>1. Extinguisher ABC, 5-lb. dry type rechargeable</p> <p>2. Installed on the driver's side.</p> <p>3. Location labeled with 1" letters on outside of the cab.</p>	<p>Type: <u>ABC</u></p> <p>Location: <u>DRIVERS SIDE</u></p>	<p>\$ <u>37</u></p>
<p>M. Grab Handles:</p> <p>1. One each on exterior of cab for operator and passenger assist and one interior for passenger.</p> <p>2. Grab handles shall provide adequate clearance to other objects to provide easy access and clearance to prevent pinch or other hazards.</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p>	<p>\$ <u>570</u></p>

Loader Refuse Trucks
CONFIGURATION #1

3.8

Exterior or Approved Equal:

	Description of Equipment	Offered Equipment	Cost
A.	Vendor shall provide with bid drawings with dimensions and photographs of the proposed cab exterior including mirrors for review. Failure to submit the requested information may make bid non-responsive.	Provide Materials: _____ _____ _____	\$ <u>STD</u>
B.	Cab Design: 1. Heavy-duty or severe-duty type with steel or aluminum body. 2. High visibility tilt forward design. 3. Low floor cab over with steps mounted to body. 4. Maximum step height 15".	Body Rating: <u>ALUMINUM</u> Body Material: <u>ALUMINUM</u> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Step Height: _____ in	\$ <u>STD</u>
C.	Front Bumper: 1. The front bumper shall be straight and fit as close to the front of the cab as possible with adequate reinforcement. Bumper shall not be driven back into the cab due to minor impacts. 2. The bumper shall be chrome	Bumper Type: <u>STEEL</u> Reinforced on outside corners: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Bumper Finish: <u>CHROME</u>	\$ <u>176</u> \$ <u>-</u>
D.	Engine Accessibility: 1. Engine fully accessible and serviceable, 2. Cab shall tilt forward for access 3. Tilt shall be by easily operated momentary switch and 12v DC electric pump located on right side of vehicle.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	\$ <u>STD</u>
E.	Splash/Spray Suppression: 1. Spray suppression skirting, Fleet Engineering Inc. 4" brush filament P/N 997-70174, black polyethylene, (800.333.7890) 2. Local distributor: Fleetpride 7725 Dahlia St Commerce City CO (303.288.1166) 3. Skirting shall be installed on the front steer axle wheel housing to reduce road spray from being thrown up onto the truck's rearview mirrors.	Brand: <u>FLEET</u> P/N: <u>997-70174</u> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	\$ <u>500</u>
F.	Paint: 1. Polyurethane paint equal to DuPont Imron 5000, Color "Bright White", 2 coats applied to all non-stainless steel components following manufacturer's procedures. 2. Preparation to include: a. Removing all mill scale and slag. b. Variprime 615S self-etching primer or approved equal.	Make: <u>DUPONT</u> Type: <u>IMRON</u> Color: <u>WHITE</u> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	\$ <u>STD</u>

Vendor/Sub Vendor: Russ Taylor Center

Loader Refuse Trucks
CONFIGURATION #1

<p>c. Treating bare metal with manufacturer's conditioners and conversion coatings or approved equal. d. Paint to be applied with all body members painted.</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p>
<p>G.1. Mirrors: "No Approved Equal" Rear view mirrors Moto Mirror Model 7-5400 "Flat Back Traditional" 7" x 16" motor head, remote, heated, stainless steel left and right mounted on the cab. 2. Convex 8" stainless steel mirrors mounted under primary mirrors. 3. A left hand down mirror shall also be provided to cover front and side blind spot for shorter drivers under 5'-6" tall. 4. Overall cab width including mirrors 112" maximum.</p>	<p>Overall mirror full extended width: <u>110</u> inches Overall mirror width with left side mirror folded <u>104</u> inches</p> <p>Make: <u>Moto Mirrors</u> Model: <u>WETCBASV</u></p> <p>\$ <u>210</u> \$ <u>210</u></p>

2015/16 Update:

1. REVISED. Rear view mirrors to be Velvac, V Max, Dual Pane with Top Hat (Chrome) Right Side part # 717454, Left Side part # 717455, remote operated, heated, left and right mounted on the door.

<p>INITIAL CAB AND CHASSIS SUB TOTAL COST</p>	<p>\$ 137,961</p>
<p>MANUFACTURER/ DEALER DISCOUNT(S) (As Applicable)</p>	<p><\$ <u> </u> ></p>
<p>FINAL CAB AND CHASSIS SUB TOTAL COST</p>	<p>\$ 137,961</p>

4.0 Dealer Provided Optional Equipment FEBRUARY 2016 Price: \$139,556 D.R.M.C 20-64(A4) inclusive of Battery Minder Added for March 2015 (\$137,961 + \$1000 Market Adjustment + \$595 Battery Minder)

4.1 Electrical Systems:

- A. All non-factory wire connections (splices, connectors, etc.) shall be soldered and shrink tube insulated with adhesive/melttable sealant, thick wall polyolefin shrink tubing (3M EPS-300 or equal). No non-factory crimp connections allowed. No cutting or splicing into the factory wiring harnesses allowed.
- B. All accessories (strobe lights, operator controls, light bar, etc.) shall be wired through a 12-vDC constant-duty solenoid and controlled by bus bar mounted and permanently labeled auto-resetting circuit breakers. The solenoid shall be wired to the key switch.
- C. All dealer/vendor installed items, which require connecting into the vehicle's electrical system shall be done using an OEM factory modified wiring kit whenever possible.
- D. All non-factory wiring shall be encased in a totally sealed wiring harness (no plastic split loom) to prevent corrosion from magnesium chloride. The wiring harness shall be well secured to the truck with neoprene aircraft stainless steel tubing clamps. Rubber grommets shall be used at all areas where the wiring passes through areas that could damage the wiring. Unprotected wiring in any application is unacceptable. Electrical cables and wiring harnesses shall be neatly run and clamped with neoprene aircraft stainless steel tubing clamps. Clamp spacing shall not exceed 18-inches.
- F. Dielectric grease shall be applied to all electrical plug terminals and connections to reduce corrosion.

Push Truck Centers
Vendor/Sub Vendor:

** Note: Amrep does comply to the intent of Fastners, Hydraulic Systems, Fabricated Parts and Welds as to their desired level of quality and will work wherever possible with the City of Denver to address and meet each item listed below.

Formal Proposal No.6993

Loader Refuse Trucks
CONFIGURATION #1

4.2 Fasteners:

- A. Grade 5 (SAE or USS) or 8.8 (metric) minimum, bolts, nuts, washers minimum. Vendor shall use Grade 8 or 10.9 for all critical areas or where good engineering practice suggests.
- B. All fasteners shall be zinc plated to prevent corrosion.
- C. Anti-Seize: all fasteners shall have Fel Pro C5A Anti-Seize compound applied before assembly to prevent corrosion, rusting, galling and aid in equipment servicing and repair.
- D. All fasteners shall be of appropriate length, diameter and strength (grade) for the application.
- E. Bolts and screws shall extend a minimum of 1-1/2 threads beyond the nut and maximum of 6 threads past the nut.
- F. Flat washers shall be used under bolt heads and nuts.
- G. Lock nuts (nylon insert, metal, slotted, castle nuts) shall be used lock-washers are not acceptable.

4.3 Hydraulic Systems:

- A. All hydraulic circuits shall be pressure relief protected.
- B. Hydraulic hoses shall be Parker ST 451 (tight bend radius) 2-wire braid hose meeting SAE-100R17 specifications where the hose meets operational criteria or approved equal.
- C. Hydraulic hoses shall have swivel fittings on both ends. Hose ends shall be located to facilitate easy component replacement.
- D. High-pressure hydraulic hose shall not be used for suction lines.
- E. Close/tight radius 90° elbow fittings shall not be used if short, medium or long drop steel stem 90° elbow fittings can be used. Over use of 90° elbows shall not be permitted.
- F. Hydraulic hoses and rigid lines shall be run parallel where possible; routing shall look neat and well planned.
- G. Rubber cushioned metal hydraulic clamps shall be used on all hydraulic ridged lines and hoses at proper intervals for supporting the line/hose 36" maximum distance. Clamps shall be securely mounted to the equipment.
- H. Hydraulic hoses and lines shall not be routed near exhaust, close to rotating components or over, around or through sharp edges. Rubber grommets shall be used at all areas where the hydraulic lines through areas that could damage the lines.
- I. Galvanized fittings and thread tape shall not be used.
- J. Hydraulic hoses shall be covered with protective spiral nylon anti-chaffing wrap or sock type protective sleeves at all areas where chafing/rubbing could cause premature wear/failure.
- K. Hydraulic oil tanks shall magnetic drain plug, oil level and temperature gauge.
- L. Hydraulic hoses over 4' long shall be labeled on both ends for easy identification.
- M. Shut off valves 1/4-turn on each side of filter.

4.4 All fabricated parts, brackets etc. shall have all sharp corners, edges etc. radiused or rounded for safety.

4.5 Welds:

- A. All welds shall meet AWS (American Welding Society) standards for the type weld, material joined and welding method.
- B. Weld joints shall have proper design and fit for the application.
- C. Welds joints shall have proper penetration and be smooth in appearance with no undercuts or overlaps at edge of weld.
- D. Weld joints shall be properly prepared with cut ends ground to remove all slag, create a smooth surface with no porosity and beveled end.
- E. Welds shall be full length to prevent "rust bleed" from non-welded seams.

4.6 Compactor Barrel Loader Body or Approved Equal

When a brand/model is referenced in the specifications unless it is stated as "No Approved Equal" it is only a statement of expected quality; comprehensive information in relation to proposed alternative products shall be provided with the bid so a full technical comparison/ assessment can be made.

Description of Equipment	Offered Equipment	Cost
<p>A. Manufacturer Qualifications:</p> <ol style="list-style-type: none"> Units shall be completely assembled, mounted and ready for operation. Parts not detailed shall be constructed in accordance with the best standard practice of the industry at the time of construction. Only new models in current production, which are catalogued by the manufacturer and for which printed literature and specifications are available, will be accepted. The loader body shall be the product of a manufacturer actively engaged in the production of automated side loading refuse collection vehicles of this size and capacity as specified. The City may consider only those bidders who can demonstrate that a minimum of 100 units have been manufactured and have been in use for (1) year. Name (s) of users and contact personnel shall be supplied with bid. All accessories not specifically mentioned herein, but necessary to furnish a complete unit ready for use shall also be included. 	<p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p>	<p>2015/16 Update</p> <p>7. Fleet Management along with the Local Dealer will identify specific parts needed to be stocked on the Local Dealers shelf. Manufacture will supply these parts for the local dealer prior to delivery.</p>
<p>B. A current year, new automated recycle/trash barrel side loader refuse body meeting ANSI Safety Standard Z245.1 standards of at least 30-cubic yard capacity, with push-out full ejection of trash loads and a low-height lift, non-kick out trash barrel lift for use in narrow alleys with many side and overhead obstructions or approved equal, installed with the following equipment:</p>	<p>Make: Amrep Model: AMHASLTPO-19</p> <p>Body Capacity: 37 yds³</p> <p>Tailgate Capacity: 3 yds³</p> <p>Trash expulsion Method: Full Push-out Non-kick Out Can Lift</p>	<p>\$ N/C</p>
<p>C. Vendors shall within 45 days of contract award submit drawings to the City showing that the truck will have no interference problems associated with the placement of all major components to include but not be limited to: System, body lift cylinders, front/rear bumpers, air filter, exhaust system, air dryer, air tanks, fuel tank, battery box, daily fluid checks/fills, hopper, hopper cover, tailgate drip pan, elevator, carriage, hydraulic tank, hydraulic valves, steps/ladders, electrical junction box, access doors, tool holders etc.</p>	<p>Yes X No</p>	

Vendor/Sub Vendor: *Bush Truck Loader*
Apple Inc Equipment

Description of Equipment	Offered Equipment	Cost
<p>D. The compactor body shall be:</p> <ol style="list-style-type: none"> 1. Capacity, 27.5 cu yds excluding loading hopper, approximate 2. Body design, rounded rectangular shape curved sides mounted length wise on the truck chassis setup for right side barrel loading. 3. Hopper floor shall be level with the main body floor to allow full ejection of all materials. 4. Material: <ol style="list-style-type: none"> a. Body Dimensions, <ol style="list-style-type: none"> 1) Hopper capacity, 2.5 cubic yards, approximate 2) Maximum width of the body and pick up arm in down pick up position shall not exceed 102" width. No portion of the arm in down pick up position shall stick out past the truck or trash body. The pick up arm shall be "zero grab" capable, pick up barrels at the side of the truck without extending the pick up arm. 3) Length of body, hopper and arm, 267", approximate 4) Body height above ground, 12' 6" maximum 5) Height lift arm dump 30-90-gal. above ground, shall not exceed 14'-0" or 168". 6) Lift arm reach, 0" to 109" (9'-1") full extension to center of barrel. 7) The grabber shall grip containers at a height of 24" from bottom of the barrel b. Body Materials (minimum requirements) <ol style="list-style-type: none"> 1) Hopper Floor: 1/4" Hardox 450 steel 145,000 psi yield. 2) Hopper Sidewall: 4 mm Hardox 450 steel 145,000 psi yield. 3) Body Floor: 3/16" Hardox 450 steel 145,000 psi yield. 4) Body Sidewalls: 1/8" Hardox 450 steel 145,000 psi yield. 5) Body Roof: 1/8" Hardox 450 steel 145,000 psi yield. 6) Tailgate: 1/8" Hardox 450 steel 145,000 psi yield... 7) Body Posts: 2" x 2" x 1/4" formed steel, 2 required, 1 at front of the body/hopper and 1 at rear of body/door 	<p>Accurate Data Must Be Provided Body Capacity: <u>29.5</u> yds³³ Body Shape: <u>rounded rectangular</u></p> <p>Level Floor: Yes <input checked="" type="checkbox"/> No Note: Trash does not fall on hopper floor.</p> <p>Hopper Capacity: <u>5.5</u> yds³ Body Width: <u>102</u> in Total Width in Down Pick Up Position: <u>102</u> inches</p> <p>Body Length: <u>276</u> in ** in ** Includes rear door @37" Body Height: <u>146</u> in Max 90 gallon barrel dump height: <u>168</u> in see Attached Drawing. Maximum arm reach: <u>109</u> in Grab Height: <u>12-21</u> in Lowest height depends on how far out the arm is.</p> <p>Steel Specs: Steel Type: <u>Hardox 450</u> Thickness: <u>1/4"</u> Yield: <u>145,000</u> psi Steel Type: <u>Hardox 450</u> Thickness: <u>4mm</u> Yield: <u>145,000</u> psi Steel Type: <u>Hardox 450</u> Thickness: <u>3/16"</u> Steel Type: <u>Hardox 450</u> Thickness: <u>1/8"</u> Yield: <u>145,000</u> psi Steel Type: <u>Hardox</u> Thickness: <u>1/8"</u> Yield: <u>145,000</u> psi Steel Type: <u>Hardox 450</u> Thickness: <u>1/8"</u> Yield: <u>145,000</u> psi Steel Type: <u>Formed</u> Thickness: <u>1/4"</u> Yield: <u>80,000</u> psi</p>	

Vendor/Sub Vendor: Risa Truck Center
Hardware Super

Description of Equipment	Offered Equipment	Cost
<p>8) Longitudinal Member: 8" x 2" x 0.180" wall structural steel tube, 2 required, 1 each on lower side of body extending from front to rear body posts</p> <p>9) Cross Members: 5 required minimum a. 2 members: 6" x 2" x 3/16" b. 1 member: 8" x 2" x 3/16" c. 2 members: 2" x 2" x 3/16" d. Cross members shall be on lower side of body extending from front to rear body posts and full body width e. Cross members shall be fully and continuously welded to the hopper and body floors</p> <p>10) The body design and construction shall ensure that "No" body or component distortion occurs when the body is repeatedly packed at full rated capacity.</p>	<p>Structural Tubing Yield: <u>58,000</u> psi Thickness: <u>1/4"</u></p> <p>Steel Type: <u>Structural Tubing A500 Grd. B</u> Size: <u>6"</u> x <u>2"</u> x <u>3/16"</u> Size: <u>8"</u> x <u>2"</u> x <u>3/16"</u> Size: <u>2"</u> x <u>2"</u> x <u>3/16"</u> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Note: <u>Rounded body allows the cross members between longitudinalinals .</u></p> <p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Amrep Design believes skip weld provides greater strength with less heat. Can provide continuous weld if required. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	
<p>E. Hopper:</p> <ol style="list-style-type: none"> The hopper capacity shall be approximately 5 yds³ Hopper floor shall be flat The hopper floor rear section (entrance into body) shall extend out into the main body approximately 18" past the vertical front wall to provide additional wear resistance. Hopper Sump: <ol style="list-style-type: none"> The hopper on its front side shall have a transverse sump to allow cleaning out of debris that accumulates behind the packer blade and collect liquids. Clean-out doors on both sides of the body Hopper sump doors shall be approximately 14" x 13" Hopper sump door hinges shall be front hinged and corrosion resistant Doors shall be sealed to prevent liquids from leaking. The door latches shall be easy and quick to operate. A clean out tool with easy to use and access storage brackets shall be provided. Exact location shall be mutually determined at installation 	<p>Hopper Capacity: <u>5.5</u> yds³ Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Floor Distance into Body: <u>24"</u> ** in</p> <p>**Trash does not fall on hopper floor but on Eject Blade which extends 24" into packer.</p> <p>Sump Size: <u>10"</u> x <u>4"</u> average x 90" wide Sump Volume: <u>16</u> gallons *Note: Amrep design has four doors Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Clean Out Door Size: <u>10"</u> x <u>36"</u> Total: 2 doors ea. side. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Material: <u>Mild Steel - 12</u> gauge *Bottom doors are sealed w/over center clamps. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Latch Type: <u>Over Center</u> and rubber tension straps Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>\$ <u>N/C</u></p>

Vendor/Sub Vendor: Russ Truck Boston
Amrep Equipment

Loader Refuse Trucks
CONFIGURATION #1

<p>F.</p> <p>Hopper Cover:</p> <ol style="list-style-type: none"> 1. A hopper cover shall be provided that seals the hopper/body area and prevents loose material from being sucked out of the hopper/body when the trash truck is traveling along roads at City or highway speeds. 2. The hopper shall hydraulically fold out of the hopper front wall to seal the hopper area. 3. The hopper cover shall be either PVC plastic or metal however the cover needs to be easy to change out/repair in case of damage 4. When the hopper cover is in the down/hopper covered position the loading functions shall be disabled to prevent dumping on top of the hopper cover. 	<p>Yes X No</p> <p>Describe Function: <u>Folds out of hopper front wall.</u></p> <p>Material: <u>12 gauge steel skin over steel frame</u></p> <p>Yes X No</p>	<p>\$ <u>N/C</u></p>
<p>G.</p> <p>Packing and Ejection Mechanism:</p> <ol style="list-style-type: none"> 1. Packer plate shall be actuated by horizontally opposed and crossed telescopic hydraulic cylinders. 2. Pack panel shall have an auto-pack that is actuated with a completed cycle of the pick up arm. 3. The auto-pack shall be able to be easily set on the main control panel for: <ol style="list-style-type: none"> a. Pack every pick up cycle b. Pack every 3rd pick up cycle 4. A container dump lock out shall prevent dumping behind the packer plate. 5. The pack panel shall: <ol style="list-style-type: none"> a. The packer panel face and top surface shall be 1/4" AR400 minimum for wear resistance. b. The packing panel shall exert 70,000-lb force minimum across its entire face to highly compact the load. c. For packing the panel shall travel into the main body a sufficient distance for proper packing and to prevent trash fall-back into the hopper. 6. Packer panel follower plate shall be: <ol style="list-style-type: none"> a. Multi-piece folding design that retracts/stores inside the hopper on the front wall of the hopper. b. The follower plate shall utilize heavy-duty greaseless piano type hinges between the follower plates c. Constructed with a steel frame, 10-gauge steel, 50,000 psi yield minimum. 	<p>Yes X No</p> <p>Yes X No</p> <p>Switch Location: <u>Main Control Panel</u></p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes - no dumping back of packer panel.</p> <p>Material: <u>Hardox AR400</u> Thickness: <u>1/4"</u></p> <p>Packing Force: <u>70,000</u> lbs/in² min.</p> <p>Pack Distance into the Hopper: <u>24"</u> in</p> <p>Amrep Design has lower blade to prevent trash falling back into hopper.</p> <p>Number of Panels: <u>2</u></p> <p>Storage Location: <u>Inside Hopper</u></p> <p>Hinge Type: <u>Piano Type</u></p> <p>Lubrication Required: Yes No X</p> <p>Thickness: <u>3/8"</u> Yield: <u>50,000psi</u></p> <p>Reinforced Steel Plate, no frame required.</p>	<p>\$ <u>N/C</u></p> <p>\$ <u>N/C</u></p> <p>\$ <u>N/C</u></p>

Vendor/Sub Vendor: Disc Truck System
Harold Ave Equipment

Loader Refuse Trucks
CONFIGURATION #1

<p>d. The cover sheet shall be 10-gauge steel, 50,000 psi yield minimum and easy to replace when damaged. e. The follower panel plates shall run inside wall mounted tracks and a center support using permanently lubricated rollers for reduced maintenance. f. The packer follower plate shall have a protective shield that will keep trash from bypassing between the packer panel and the follower plate, get in front of the pack panel where the compaction cylinders are housed.</p>	<p>Reinforced Steel Plate, No Frame required Thickness: <u>3/8"</u> Yield: <u>50,000psi</u> How Fastened: <u>Studs in blade, plate bolted down</u> Roller Type: <u>Steel</u> Roller Number: <u>2</u> Size: <u>2"</u> dia x <u>6"</u> w & <u>1.25"</u>d. x <u>5"</u>w \$ <u>N/C</u> Permanently Lubricated: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Shield Material: <u>Rubber Wiper</u> \$ <u>N/C</u></p>
<p>7. Hydraulic cylinders that are in a location where they can be in contact with the trash or are subject to mechanical damage shall have nitrated piston rods with a positive-contact M2 tool steel scraper blade to shave off burrs, trash and other materials that could damage the cylinder seals, packing or other cylinder components, or "approved equal design" 8. Cylinders shall be single stage, with packing force as follows: 1st stage: 70,000 lbs minimum. 9. Packing mechanism shall be designed so that no contact to the tailgate can occur during loading or ejecting of refuse. 10. The packing panel shall be reinforced with formed cross members so no distortion occurs during operation. 11. Packer Panel Track:</p>	<p>Make: <u>Amrep</u> Model: <u>509-2362</u> Cylinder Warranty: <u>2 years</u> Rod Material: <u>Chrome Plated Steel Rod</u> Scraper Blade Material: <u>Dual Floating Bronze</u> \$ <u>N/C</u> offered "As Equal" cylinder Force: <u>70,000 psi-lb force @ 2000 psi</u> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes - Reinforced packer panel Material: <u>AR500</u> Thickness: <u>1/4" top</u> <u>5/16-3/8" Chromium sides and bottom</u> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> How Replaced: <u>Torch out weld back in.</u></p>
<p>H. Retention Teeth (Sharks Teeth): 1. Steel recycle material/trash retention teeth 9 teeth required on a 7" spacing located just inside the material receiver body to help prevent compacted materials from dropping back into the hopper. 2. Teeth shall be heavy gauge triangular shaped steel welded to the body.</p>	<p>Quantity of Teeth: <u>9</u> Tooth Size: <u>4"</u> \$ <u>N/C</u> Amrep design uses steel panel to block 1/3 of hopper opening to hold trash in place Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> *Amrep will provide teeth if required.</p>
<p>I. Compacted Trash Ejection System: 1. Load ejection shall be a combination of the packer panel and the ejection panel working together in an efficient manner to fully eject the load to include:</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Describe Ejection Cycle: <u>As Described Below</u> <u>2 sweeps of packer panel and 3</u> <u>sweeps of ejection panel minimum</u> \$ <u>N/C</u></p>

Vendor/Sub Vendor: Rush Truck Centers
Franklin Gayle

<p>Truck Engine Speed @ Ejection: <u>1200</u> rpm</p> <p>Amrep Full Pushout operates as described here. We also offer a second program with added passes of both blades to add to trash removal.</p> <p>Note: Ejections cylinders do not "pack" but only push trash out of rear door open there is minimal resistance.</p> <p>1st Stage Force: <u>47,492</u>psi-lb force @ <u>1800</u> psi 2nd Stage Force: <u>31,792</u>psi-lb force @ <u>1800</u> psi 3rd Stage Force: <u>19,232</u>psi-lb force @ <u>1800</u> psi</p>	<p>\$ <u>N/C</u></p>
<p>a. Truck engine increases rpm to approximately 1,200 rpm for ejection cycle only.</p> <p>b. The packer panel cycling thru 2 full pack cycles and stopping in the full rear position to help block compacted trash from falling back into the hopper.</p> <p>c. The ejection panel traveling rearward approximately 1/3 of body distance to make partial load ejection.</p> <p>d. Truck pulls forward sufficient distance to provide a clear dump area behind the truck for a second ejection push.</p> <p>e. The ejection panel traveling approximately 2/3 of body distance to make a 2nd partial load ejection.</p> <p>f. Truck pulls forward sufficient distance to provide a clear dump area behind the truck for a second ejection push.</p> <p>g. The ejection panel traveling full body length to make final and complete load ejection.</p> <p>h. Ejection panel and packer panel retract to home or ready to use position</p> <p>2. Ejection cylinders shall have three stages, with packing force as follows:</p> <p>a. 1st stage: 119,000 lbs.</p> <p>b. 2nd stage: 97,000 lbs.</p> <p>c. 3rd stage: 76,000 lbs.</p>	<p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p>
<p>J. Tailgate:</p> <p>1. Operation, lock/unlock, raise and lowered using two hydraulic cylinders, minimum.</p> <p>2. Hydraulic operated locks :</p> <p>a. Locks at 9 tailgate point's minimum shall secure tailgate door lock.</p> <p>b. Outside of body tailgate locks: 2 required</p> <p>c. Inside body side locks 4 required, 2 per side</p> <p>d. Bottom tailgate locks 3 required</p> <p>e. Locks shall automatically actuate when rear door lift cylinders are actuated.</p> <p>3. Tailgate shall be strong enough not to deform or crack during use.</p> <p>4. Tailgate shall have an easy to replace one-piece rubber gasket. The gasket shall extend across the entire bottom and up the sides a minimum of 24".</p>	<p>\$ <u>N/C</u></p> <p>\$ <u>N/C</u></p> <p>\$ <u>N/C</u></p> <p>\$ <u>N/C</u></p> <p>\$ <u>N/C</u></p> <p>\$ <u>N/C</u></p>

*Best Truck/Buyer
Hardware Equipment*

Vendor/Sub Vendor:

7.1. Tailgate in open position maximum height to be no greater than 19' 11".

12.1 License plate light and bracket located on tailgate.12.1

Loader Refuse Trucks
CONFIGURATION #1

<p>5. Tailgate trough/catch basin shall be provided to catch liquid leakage.</p> <ol style="list-style-type: none"> The trough shall self empty when the tailgate is raised for load ejection. A 2" NPT dia bung shall be provided for draining liquids without raising the tailgate. <p>6. Tailgate unlatched alarm; light/buzzer shall indicate when door is unlatched.</p> <p>7. Tailgate safety prop rods shall be provided to hold the tailgate manually open.</p> <p>8. Tailgate hydraulic lines shall have restrictors to prevent sudden tailgate descent.</p> <p>9. Underride protection, shall be bolt on type, DOT approved.</p> <p>10. All tailgate hinge points shall be easily greaseable from the ground.</p> <p>11. Center mounted Truck Lite LED brake light shall be provided.</p> <p>12. Whelen Model L360 Super LED 360° beacon with branch guard L360BGB, (1) required shall be mounted on top of tailgate.</p> <p>13. Tailgate mounted safety lights sides shall be</p> <ol style="list-style-type: none"> Whelen IONSMC -Wide Angle LED color (Amber) safety lights (4 required). The lights shall be located 1/3rd and 2/3rd up the tailgate just inside the outer edge of the tailgate on each side 	<p>Yes - Drip Catch Standard.</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p> <p>Make: <u>Truck Lite</u> Model: <u>91 (7" LED)</u></p> <p>Make: <u>Whelen</u> Model: <u>L360</u></p> <p>Make: <u>Whelen</u> Model: <u>IONSMC - LED</u></p> <p>Location: <u>outer edge, side of tailgate</u> <u>1/3 & 2/3 up sides of tailgate.</u></p>	<p>\$ <u> </u> N/C</p> <p>\$ <u> </u> N/C</p> <p>\$ <u> </u> N/C</p> <p>\$ <u> </u> N/C</p>
<p>K. Container Loading System:</p> <ol style="list-style-type: none"> Orientation, right or curb side of body. Loading arm system shall consist primarily of an extension/retraction arm, a container gripping system and a tracked lift/lower and dump track system or an approved equal with zero (negligible) barrel kick out. The truck will pick up in very narrow alleys with close obstructions on sides and overhead. A drawing showing the full sweep arc for a 90-gallon plastic barrel shall accompany the bid. The drawing shall show the sweep of all corners of the plastic barrel. Failure to provide an adequate drawing may make the bid non-responsive Performance: <ol style="list-style-type: none"> Cycle time <ol style="list-style-type: none"> Retracted zero reach: 8 to 10 seconds, from pick-up through raise, dump, lower, and release. 	<p>Orientation Side: <u>Curb Side</u></p> <p>Yes - As Described</p> <p>Yes X No See Attached Drawing.</p> <p>Retracted Cycle Time: <u>8-10</u> seconds</p>	<p>\$ <u> </u> N/C</p>

Vendor/Sub Vendor: Push Truck Centers
Hardware Equipment

Hydraulic lift system/Cart Assembly is to be driven by a chain connected to a hydraulic cylinder behind the arm. The hydraulic cart consists of two hydraulic cylinders to drive the gripper cart assembly up and down. Lifting/Loading mechanism must not require adjustment.

<p>2) Full 84" reach: 15 seconds, from pick-up through raise, dump, lower, and release.</p> <p>b. Container grippers shall pick up all City used 32, 60, standard City 95 -gallon and 110-gallon plastic containers with a 36" clearance circle around the container.</p> <p>c. The container dump movement shall keep the trash barrel essentially level with no bottom end of container kick out that could damage adjacent property (zero clearance). The truck will pick up in very narrow alleys with close obstructions on sides and overhead</p> <p>d. The pick up arm shall be "zero grab" capable, pick up barrels at the side of the truck without extending the pick up arm.</p> <p>e. Hydraulic inhibitor shall prevent dumping on top of the hopper cover.</p> <p>5. Lift/Lower system shall:</p> <p>a. Track system for vertical lift of containers or approved equal design.</p> <p>b. Hydraulic motor lift system with barrel grabber assembly climbing a heavy-duty chain running between the tracks or approved equal.</p> <p>c. Lifting capacity, 750 lbs (constant through lifts) at full extension.</p> <p>d. Barrel lift system shall have a brake system capable of stopping a full load (750 lbs) in any part of the lift/dump cycle and holding the weight without any settling.</p> <p>6. Loader arm shall pick up, dump, and return to ground 32, 60, standard City 95 -gallon and 110-gallon plastic containers. Operation shall be performed without the operator leaving the cab.</p> <p>7. Loader Arm Construction:</p> <p>a. The loader arm to vertical mast shall be fully welded on all sides with chamfered weld joints to assure full and deep penetration at all joints.</p> <p>b. The connection between the slide-out roller tube and mast shall have all heavy-duty bearing attachment points heavily braced/reinforced to prevent cracking/failure due to flexure.</p> <p>8. Loader arm shall be actuated by 2 hydraulic cylinders (extension/retraction and grip/release) and 1 hydraulic motors (raise/lower):</p>	<p>Full Reach Cycle Time: <u>8-15</u> seconds</p> <p>Container Sizes Grippers will safely and efficiently <u>32, 60, 95, and 110" gallon</u></p> <p>Clear Radius Required: <u>36</u> inches</p> <p>Held Level - See drawing of can being dumped for clearances.</p> <p>Kick Out: <u>Zero</u> inches</p> <p>Yes X No</p> <p>Yes X No Note: Chain lifts barrel assembly between tracks.</p> <p>Yes X No</p> <p>Yes No</p> <p>Lifting Capacity: <u>750</u> lbs</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p> <p>\$ <u>N/C</u></p> <p>\$ <u>N/C</u></p> <p>\$ <u>N/C</u></p> <p>\$ <u>N/C</u></p> <p>\$ <u>N/C</u></p> <p>\$ <u>N/C</u></p>
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2015/16 UPDATE

7.C.c. Loader Arm to be constructed of a one piece "C" channel with the following dimensions: 112"x8"x20". No welds required.

Vendor/Sub Vendor: Baso Truck Center
Hydraulic Equipment

2015/16 UPDATE

8. Loader arm shall be actuated by 8 hydraulic cylinders:
 - a. Cart Dump Cylinders (2ea) - Dimensions: 3" Bore x 1.25" Rod x 10" Stroke
 - b. Cart lift/lower Cylinders (2ea) – Dimensions: 2.5" Bore x 1.25" Rod x 24" Stroke
 - c. Cart Leveling Cylinders (2ea) –Dimensions: 4.5" Bore x 4" stroke x 1.25" rod
 - d. Carriage extend/retract Cylinder (1ea) – Dimensions: 2" Bore x1.25" Rod x 52" Stroke
 - e. Barrel Grabber Cylinder (1ea) –Dimensions: 2.5" Bore x 1.25" Rod x 5" Stroke
 - f. The loader arm shall incorporate an interlock to prevent dumping outside of the hopper or releasing the container.
 - g. The arm when fully retracted shall have a pneumatic lock that holds the arm docked preventing inadvertent drift out of the arm with PTO "ON" or "Off"

Loader Refuse Trucks
CONFIGURATION #1

	<p>a. <u>Extension from retracted position to center of 95-gallon container shall be 84" minimum.</u></p> <p>b. <u>Hydraulic cylinder functions: arm extend/retract and container grip/release)</u></p> <p>c. <u>Hydraulic motor functions: raise/lower and dump container.</u></p> <p>d. <u>The loader arm shall incorporate an interlock to prevent dumping-outside-of-the-hopper-or-releasing-the-container.</u></p> <p>e. <u>The arm when fully retracted shall have a pneumatic lock that holds the arm docked preventing inadvertent drift out of the arm with PTO "ON" or "Off"</u></p> <p>9. Loader arm shall have a spill shield to direct container spillage into the hopper and not on to the ground during dumping.</p> <p>10. Loader arm in-and-out travel shall be roller mounted.</p> <p>a. Rollers shall travel on hardened steel wear strips and be mounted on eccentric mounts for wear adjustment. Wear adjustment shall be easy and quick to accomplish.</p> <p>b. The loader arm support rollers shall be 1-piece full width to fully support the loader arm on its outer perpendicular walls and prevent tube crushing and adjustment problems.</p> <p>c. Bearing adjustment shall be locked with castle nuts and cotter keys.</p> <p>d. Rollers shall be permanently lubricated.</p> <p>11. Lift arm manifold for hand/manual lubrication system shall be provided. The system shall be easy to access from the ground.</p>	<p>Extension Distance: <u>84</u> inches minimum</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes No X- Amrep uses self lubricating rollers, but design does not require wear strips or adjusting rollers</p> <p>Yes X No</p> <p>Yes No X- Amrep uses self locking nuts front and "C-Clips" & pins in rear.</p> <p>Yes rollers are self lubricating</p> <p>Yes X No</p> <p>Yes No X- Amrep lift arm easy manually lube from the ground.</p>	<p>\$ <u>N/C</u></p> <p>\$ <u>N/C</u></p> <p>\$ <u>N/C</u></p> <p>\$ <u>N/C</u></p> <p>\$ <u>N/C</u></p> <p>\$ <u>N/C</u></p> <p>\$ <u>N/C</u></p> <p>\$ <u>N/C</u></p> <p>\$ <u>N/C</u></p> <p>\$ <u>N/C</u></p> <p>\$ <u>N/C</u></p> <p>\$ <u>N/C</u></p> <p>\$ <u>N/C</u></p>
L.	<p>Gripper Mechanism:</p> <p>1. The container gripper shall have an adjustable hydraulic circuit limiting the radial force applied to the container.</p> <p>2. The grippers in down ready fully retracted ready position shall not increase the overall truck width past the 102" wide limit</p> <p>3. Gripper shall be a heavy-duty high-friction rubber contact point that will not damage containers.</p> <p>4. The grippers design shall be radiused (rounder) to match the City's barrel radius have zero finger overlap for increased loading clearance to reduce damage to City trash, recycle barrels and property</p> <p>5. Self-leveling to keep containers level through compete travel of the outer boom.</p>	<p>Truck Width Grippers @ Ready: <u>102</u> inches</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p>	<p>\$ <u>N/C</u></p> <p>\$ <u>N/C</u></p>

*Rush Truck Center
Hardware Gripper*

Vendor/Sub Vendor:

9. Grippers shall not release the container during the dumping process and re-grip container at the beginning of the dump process.
 10. Gripper Mechanism hydraulic hoses that protrude outside of Gripper Mechanism must be substantially shielded from damage or preferably, modifications made to the junction block which removes the hydraulic lines from area of concern.

Formal Proposal No.6993
 Loader Refuse Trucks
 CONFIGURATION #1

	<p>6. The standard grippers shall be provided and capable of handling the City's round 32, 60 and standard City 95-gallon and 110-gallon containers.</p> <p>7. Grippers shall grip the container at approximately 24" above the bottom of the barrel</p> <p>8. The grippers shall rotate on tapered roller bearings.</p> <p>9. Grippers shall not release the container during the dumping process.</p>	<p>Yes X No</p> <p>Barrel Grip Height: 10-21 inches minimum, 24" okay Varies as arm reaches outward. Yes X No Yes X No</p> <p>\$ N/C</p>
<p>M. Service Hoist System:</p> <ol style="list-style-type: none"> The service hoist lift system shall provide excellent access to truck components located under the trash body The service hoist system shall lift the front of the body up above the truck frame rail approximately 36" minimum for access The hoist system shall be powered by a 12vDC hydraulic pump with sufficient power to raise a fully loaded trash body. The system shall use hydraulic oil from the main hydraulic oil tank. A trash body anti-lowering safety pins or legs shall be provided: <ol style="list-style-type: none"> The pin/legs shall lock the trash body preventing lowering of the body. The pin/legs shall be sufficient to support 3X's the fully loaded weight of the body incase truck maintenance is required and the trash load cannot be ejected Pin storage in a sleeve, that the pin cannot fall/vibrate etc. out of shall be provided. The pin shall be attached to the hoist/trash body/chassis with chain/cable to prevent loss. Safety legs shall rest in a saddle to prevent bouncing around. 	<p>Yes X No</p> <p>Lift Height @ front: 36 inches</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p> <p>Safety Factor: 3X's</p> <p>Note: Amrep offers standard safety legs hinged to bottom of body. Can provide a second set to rest in saddle if required.</p>	<p>\$ N/C</p> <p>\$ N/C</p> <p>\$ N/C</p>
<p>N. Hydraulic system: Operate at Standard Low Idle.</p> <ol style="list-style-type: none"> Hydraulic pumps 2 required (body, arm) PTO "hot shift" driven thru a Chelsea 890 series direct drive off the transmission. The gear pumps shall have an automatic pump oil bypass system in normal bypass mode when the hydraulic system is not energized. Hydraulic system shall be Parker Hannifin Corporation designed and certified and use as many as possible Parker components to assure compatibility of the system and 3 year Parker warranty for using a complete Parker system. Hydraulic components shall be warranted in Denver CO by a local Denver Parker representative. 	<p>Number of Pumps: 2</p> <p>Transmission Direct Drive: Yes X No</p> <p>Make: Chelsea Model: 890</p> <p>Oil Bypass: Yes X No</p> <p>Parker Hannifin Corp. Certification and 3-Year Warranty shall be provided with bid. No certification or warranty info may make bid non-compliant</p> <p>Local Denver Parker Warranty Yes X No</p> <p>Local Parker Warranty Vendor: Hardline Equipment</p> <p>Tandem Gear Pumps P75 and P50</p>	<p>\$ N/C</p> <p>\$ N/C</p> <p>\$ N/C</p> <p>\$ N/C</p>

Hardline Equipment
 Vendor/Sub Vendor: Hardline Equipment

Loader Refuse Trucks
CONFIGURATION #1

<p>800RPM</p> <p>3. Hydraulic system shall operate all hydraulic functions except load ejection at engine low idle speed (750 rpm) and shall not require shifting transmission out of "Drive" gear or applying "Parking" brake. Increasing engine speed shall not increase system speed or pressures. For ejecting the trash load the engine rpm may increase to 1,200 rpm, (ejection function only not load packing)</p> <p>4. The hydraulic gear pump circuits shall be split into 2 separate hydraulic circuits with independent valve bodies (no cross feed).</p> <p>a. Larger gear pump circuit shall control the pack and ejection circuit</p> <p>b. Small gear pump circuit shall control the arm circuits</p> <p>5. Operating pressure.</p> <p>a. Body: 2,500 psig maximum.</p> <p>b. Grabber arm: 2,500 psig maximum</p> <p>6. Hydraulic valves shall have LED lights on valve coils to aid in troubleshooting the system.</p> <p>7. Hydraulic Cylinders shall:</p> <p>a. Be properly sized to efficiently and continuously perform their function without any cylinder degradation.</p> <p>b. The trash ejection cylinders, tailgate cylinders and any other cylinders that are in a location where they can be in contact with the trash or are subject to mechanical damage shall have nitrated piston rods with a positive-contact M2 tool steel scraper blade to shave off burrs, trash and other materials that could damage the cylinder seals, packing or other cylinder components.</p> <p>8. Hydraulic reservoir located on left side in front of left front dual tires.</p> <p>9. Hydraulic Reservoir:</p> <p>a. Capacity 55-gallons minimum.</p> <p>b. Pressurized 5 psig minimum (prevent pump cavitation).</p> <p>c. Oil level and temperature gauge.</p> <p>d. Suction and pressure shut-off valves very easy to access and operate.</p> <p>e. Magnetic drain plug.</p> <p>f. Bung for Future Hydraulic Oil Pre-heater System</p> <p>1) Possible future installation bung for an Arctic Fox Hydra</p>	<p>Note: Arm Works in Gear at Idle.</p> <p>Pump Operating Speed: 750 rpm</p> <p>Pump Output: 20-29 gpm @ 750 rpm</p> <p>Does System Require Higher Ejection rpm Yes X No</p> <p>Maximum Flow Rate: 29 gpm on arm p75 pump</p> <p>Maximum Flow Rate: 20 gpm on packer P50 pump</p> <p>Yes X No Backwards; Large Pump works Arm, small pump packer.</p> <p>Hydraulic Operating Pressure: 1800 psig</p> <p>Yes X No</p> <p>Make: Amrep Model: All Amrep</p> <p>List Cylinders and Provide Cylinder Cost:</p> <p>1) Packer: 1 stage \$ 687.10</p> <p>2) Ejection: 3 stage \$ 2540.27</p> <p>3) Extension \$ 302.10</p> <p>4) Gripper \$ 163.44</p> <p>5) Level \$ 269.02 \$5,072.72</p> <p>6) Tailgate \$ 443.06</p> <p>7) Hopper Cover \$ 378.51 Included in</p> <p>8) Service Hoist \$ 289.22 body total.</p> <p>Location: Left Side Frame Mounted</p> <p>Hydraulic Reservoir Size: 60 gallons</p> <p>Yes No X</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p> <p>Total Cylinder Cost for eight (8) Cylinders \$ 5,072.72</p> <p>included in body total.</p>	<p>\$ N/C</p> <p>\$ N/C</p> <p>\$ N/C</p> <p>\$ N/C</p> <p>\$ N/C</p> <p>\$ N/C</p> <p>\$ N/C</p> <p>\$ N/C</p>
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Ask Truck Center
HARDWARE

Vendor/Sub Vendor:

Loader Refuse Trucks
CONFIGURATION #1

<p>Liner H-4000 hydraulic fluid warmer.</p> <ol style="list-style-type: none"> 2) Tank bung shall be schedule 80 2" NPT female thread coupling. 3) Bung shall be welded to 0.250" thick 8" dia steel tank reinforcing ring. 4) The bottom edge of the tread section of the bung and hydraulic oil pre-heater shall be 1 1/2" off the bottom of the tank. 5) The baffles shall be suitable to accept a 24" long heater element and provide a 1" clearance all the way around the element. <p>10. Hydraulic oil shall be ISO Grade 32 multi-viscosity with a -40°F pour point.</p> <p>11. Hydraulic system shall maintain oil temperature at no more than 90°F above ambient temperature.</p> <p>12. Hydraulic Filtration,</p> <ol style="list-style-type: none"> a. Pressure line Parker model: WPF 7,000 psig rated with 7-micron absolute tandem type (2 required, 1 per pump) b. Return line replaceable Parker 7-micron absolute with bypass mode indicator light, easy to access for replacement. c. Suction strainer 100-micron. <p>13. The hydraulic pump suction line shall be steel tubing with hydraulic hose sections at both the pump and tank end for vibration isolation. The suction line shall be routed for maximum ground clearance and damage protection. Hose swivel ends shall be used on all connections.</p> <p>14. Hydraulic system test ports shall be provided for each circuit. Test port connections shall be compatible with the Parker Hannifin PD type connector.</p> <p>15. All hydraulic hoses shall be Parker series ST 451 extra-high-abrasion resistant hoses to reduce hose failure from hose cover damage. Hydraulic hoses shall have swivel ends on each end.</p> <p>16. All hydraulic hoses and tubing shall be neatly routed, shielded and secured/supported to prevent chaffing under truck.</p> <p>17. A hydraulic oil recirculation filter system connection system shall be provided with the following:</p>	<p>Yes X No</p> <p>Amrep can weld in place the proper Bung/Adapter for the Artic Fox H1000 Hydraulic Oil element.</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p> <p>Filter Size: <u>5</u> microns Make: <u>Parker</u> Model: <u>WPF4</u></p> <p>Filter Size: <u>5</u> microns Make: <u>Parker</u> Model: <u>KLS/KLT</u> w/Indicator light</p> <p>Yes X No</p> <p>Yes X No</p> <p>Make: <u>Parker</u> Model: <u>451 "TC"</u> We use all Parker Hoses & Fittings</p> <p>Yes X No</p> <p style="text-align: right;">\$ <u>N/C</u></p> <p style="text-align: right;">\$ <u>N/C</u></p> <p style="text-align: right;">\$ <u>N/C</u></p> <p style="text-align: right;">\$ <u>N/C</u></p> <p style="text-align: right;">\$ <u>N/C</u></p> <p style="text-align: right;">\$ <u>N/C</u></p>
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Vendor/Sub Vendor: Durr Truck Cover Hardware Equipment

Loader Refuse Trucks
CONFIGURATION #1

	<p>a. The suction and return tubes shall be 1" ID and be installed on the tank top side on each tank end (cross flow) approximately 4" inside the end caps and extending to within 1/4" off the tank bottom at the lowest point.</p> <p>b. The hydraulic connections shall be 1" Parker FF male (flat face) fittings and orientated so they face to the inside (each other).</p> <p>c. The suction and return lines shall be 1" ID with a 60° cut on the bottom to assure adequate hydraulic oil flow.</p> <p>d. The suction and return lines shall be interchangeable in use so it does not matter which hydraulic tank fitting the filter system suction and return lines are connected to.</p>	<p>Tubing Size: <u>1</u>" ID _____ inches Distance of Tank Bottom: <u>1/4</u> inches</p> <p>Make: <u>Parker</u> Type: <u>Flat Face</u></p> <p>Yes <input checked="" type="checkbox"/> No Yes <input checked="" type="checkbox"/> No</p> <p>\$ <u>N/C</u></p>
<p>O. Electrical:</p> <ol style="list-style-type: none"> 1. All remote electrical inter face connections shall be terminated on stud-type terminal strips or with plug type connectors in a waterproof junction box. 2. Connectors/wires shall be permanently and individually labeled. 3. Permanently laminated electrical schematics shall be affixed inside the cover of the electrical junction box. 4. Dielectric grease shall be applied to all terminals and connectors to prevent corrosion if connector is not waterproof. 	<p>Control System:</p> <ol style="list-style-type: none"> 1. Cab mounted controls shall all be in ergonomic and natural easy to reach locations. The City has operators of varying statures and adjustable controls will minimize on-the-job related physical problems and improve efficiency. Control locations shall be mutually determined after Contract award. 2. Two (2) separate loader arm control systems shall be provided with following: <ol style="list-style-type: none"> a. Joystick controls b. Fingertip controls c. Both systems shall work together or separately without physically switching an operation program or switch. 3. Linear joy stick with short handle and short throw movement arm control to include: <ol style="list-style-type: none"> a. Deadman button/trigger (stop arm movement when released) b. Dump-up/down. c. Grip-squeeze/release 	<p>Yes <input checked="" type="checkbox"/> No Yes <input checked="" type="checkbox"/> No Yes <input checked="" type="checkbox"/> No</p> <p>Yes <input checked="" type="checkbox"/> No Yes <input checked="" type="checkbox"/> No Yes <input checked="" type="checkbox"/> No</p> <p>\$ <u>N/C</u> \$ <u>N/C</u> \$ <u>N/C</u></p>
<p>P. Control System:</p> <ol style="list-style-type: none"> 1. Cab mounted controls shall all be in ergonomic and natural easy to reach locations. The City has operators of varying statures and adjustable controls will minimize on-the-job related physical problems and improve efficiency. Control locations shall be mutually determined after Contract award. 2. Two (2) separate loader arm control systems shall be provided with following: <ol style="list-style-type: none"> a. Joystick controls b. Fingertip controls c. Both systems shall work together or separately without physically switching an operation program or switch. 3. Linear joy stick with short handle and short throw movement arm control to include: <ol style="list-style-type: none"> a. Deadman button/trigger (stop arm movement when released) b. Dump-up/down. c. Grip-squeeze/release 	<p>Yes <input checked="" type="checkbox"/> No Photos or drawings shall be provided with the bid for review. Failure to submit information may make the bid non-compliant See Photos</p> <p>Yes - Joysticks and Door Mtd. Electric rocker switches.</p> <p>Yes <input checked="" type="checkbox"/> No Make: <u>H&M</u> Model: <u>AE-731J</u></p> <p>Yes <input checked="" type="checkbox"/> No Yes <input checked="" type="checkbox"/> No</p> <p>\$ <u>N/C</u></p>	<p>\$ <u>N/C</u> \$ <u>N/C</u> \$ <u>N/C</u></p>

Vendor/Sub Vendor: Pury Truck Center
Hayline Equipment

Loader Refuse Trucks
CONFIGURATION #1

<p>Yes X No Yes X No Yes X No</p> <p>Location: <u>RH Door Mounted - see photo</u></p> <p>Yes X No Yes X No Yes X No Yes X No Yes X No</p> <p>Armrest Size: <u>4" x 6"</u> x <u>6"</u> Tapered on door plus <u>4"</u> x <u>6"</u> Rectangular Pad on console</p> <p>Adjustment Range UP/Down: <u>4"</u> inches Adjustment Range Fore/Aft: <u>5.5"</u> inches Adjustment LH & RH: <u>2"</u> inches</p> <p>Head Turn Angle: <u>30</u>°</p> <p>Control Console Size: <u>7.5" x 8"</u> x <u>3.5"</u></p> <p>Please see Console Options Photos, the angle will depend on space in the cab, so we will work to get you your 30 degrees.</p> <p>Yes X No Yes X No Yes X No Yes X No Yes X No Yes X No</p> <p>Yes X No Yes X No Yes X No Yes X No Yes X No</p> <p>Joystick Throw Angle: <u>15</u> degrees approx. Make: <u>H&M</u> Model: <u>AE-731J</u></p>	<p>d. Arm-extend/retract</p> <p>4. Finger control switches to include: Momentary 3-position rocker switches (3 required) located on right door with arm rest pad.</p> <p>a. Door switches shall not operate above engine idle speed.</p> <p>b. Dump-up/neutral/down (outer closest to window).</p> <p>c. Grip-squeeze/neutral/release (middle)</p> <p>d. Arm-extend/neutral/retract (inner switch)</p> <p>e. Each switch shall have a permanent engraved symbol on front side of the switch bracket showing the switch function</p> <p>f. The armrest pad shall be approximately 4" wide with a high-density 1/2" thick closed cell foam pad for operator comfort and support</p> <p>g. The armrest and switch assembly shall be easily operator adjustable fore and aft and up/down for operator comfort</p> <p>5. Console control shall be mounted into an easy to see and access location with out turning the head more than 30° to side and without physical stretching to reach. Console shall not obstruct the vision to left side of vehicles for shorter operators seated in the right side operator's position. Console location shall be mutually agreed upon. Console controls and switches shall be in an ergonomic, easy to view and operate position Console controls to include:</p> <p>a. E-stop.</p> <p>b. Packer cycle.</p> <p>c. Automatic packer cycle on/off switch and 1 or 3 cycles.</p> <p>d. Container dump cycle counter.</p> <p>e. Tailgate latch.</p> <p>f. The main panel shall have self-diagnostic troubleshooting capabilities.</p> <p>g. Transmission shifter control.</p> <p>h. Tailgate open/close.</p> <p>i. Master power.</p> <p>j. Work lights.</p> <p>k. Strobe lights.</p> <p>6. The barrel grabber arm controls shall be heavy-duty short height, short throw (approximately 15") "joystick" type with an armrest. The grabber arm controls/armrest shall be multi-position adjustable (up/down, forward/back and in/out) within easy reach of the operator. The City has operators of varying statures and adjustable</p>
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Vendor/Sub Vendor: Fast Truck Center
Freeline Equipment

Loader Refuse Trucks
CONFIGURATION #1

<p>control will minimize on-the-job related physical problems. Control locations shall be mutually determined after Contract award. Control system shall be manufactures standard electric over hydraulic.</p> <p>7.</p> <p>8. Cab Mounted Controls:</p> <ul style="list-style-type: none"> a. Cab mounted controls shall all be in ergonomic and natural, easy to reach locations. b. Controls shall be designed to comfortably and efficiently accommodate an operator making 1,200 dumping operations per day, 6 days per week. c. Controls shall have a life cycle of 5,000,000 cycles minimum. d. Controls shall utilize light touch and short throw devices. e. Controls shall be multi-positional to accommodate a variety of operators. The City has operators of varying statures and adjustable controls will minimize on-the-job related physical problems. Control placement shall accommodate operators from 5'-2" to 6'-4" tall and from slender to large physics. f. The controls shall be easy and quick for the operator to securely position without the use of tools for comfort and efficiency. g. Studies suggest that long periods of repetitive motion coupled with an improper work environment and incorrect operator position may be linked to certain types of physical discomfort or injury. These include Carpal Tunnel Syndrome (CTS), Cumulative Stress Disorder (CSD), Tendonitis and Tenosynovitis. h. The City is providing information sites where ergonomic information is available to help in the proper layout of operator controls. <ul style="list-style-type: none"> 1) Ergonomist Certifying Organizations include: <ul style="list-style-type: none"> a) Oxford Research Institute: 301-865-4506 b) Board of Certified Professional Ergonomists: 360-671- 7601 <p>9. Main control panel shall be solid state design with LED function indicators. Rocker switches shall be back lighted type for easy identification at night.</p>	<p>Control System Type: <u>Electric over air</u> over hydraulic.</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes - H.D. Joystick and door mounted light touch rocker switches. Yes X No Yes X No Yes X No</p> <p>Yes X No</p> <p>Will work with City to design ergonomic controls for all of the City Drivers within the space allowed by the Chassis Cab.</p> <p>Dome Light in Cab to provide light for main control panel, can provide secondary adjustable lite</p> <p>\$ N/C \$ N/C</p>
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Vendor/Sub Vendor: *Hard Time Equipment*

Loader Refuse Trucks
CONFIGURATION #1

<p>10. Controls shall be permanently labeled and lighted for easy night viewing.</p> <p>11. Vendor shall provide:</p> <ul style="list-style-type: none"> a. The City preliminary drawings of the control layout and how the controls are positioned inside the truck cab within 45 days of the contract award. b. Within 120 days of the Contract award the vendor shall provide a preliminary mock up set of controls for review by the City. c. Vendor shall deliver the first article for review, testing and approval before shipping remaining units from the factory. 	<p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p> <p>Can provide first truck or a sample of the console mtd. controls assembly.</p>	<p>\$ <u> </u> N/C</p> <p>\$ <u> </u> N/C</p> <p>\$ <u> </u> N/C</p> <p>\$ <u> </u> N/C</p>
<p>Q. Branch Protection:</p> <p>1. The body shall have tree branch deflector plates to provide protection for:</p> <ul style="list-style-type: none"> a. Grabber arm hoses. b. Rear tailgate hydraulic hoses/lines, wiring and for the grease lines. c. Grabber Arm Side hydraulic hoses and steel plumbing. d. Lights and switches. e. Side sign boards both front and back sides. f. All other components that is vulnerable to damage from tree branches. 	<p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p>	<p>\$ <u> </u> N/C</p> <p>\$ <u> </u> N/C</p> <p>\$ <u> </u> N/C</p> <p>\$ <u> </u> N/C</p> <p>\$ <u> </u> N/C</p> <p>\$ <u> </u> N/C</p>

Vendor/Sub Vendor: First Truck Co. Inc. Equipment

Loader Refuse Trucks
CONFIGURATION #1

<p>R.</p> <p>Vehicle Rear Lights: (No Approved Equals)</p> <ol style="list-style-type: none"> All lights shall be Truck-Lite "Lifetime Warranty" 12vDC, LED type, flush mount, sealed lexan body, grommet insulated with Fit' N Forget multi-pin plugs where possible. Integral Stop/Turn/Tail/ lights mounted in the rear corner post of the dump body model Super 44 P/N 44302R or model 60 P/N 60250R. Third Brake Light use the same used light used for Stop/Turn/Tail light and disable the Turn and Tail light sections. Back up lights Truck-Lite LED, flush mount, sealed lexan body, grommet insulated, multi-pin units model 44 P/N 44206C. Marker lights Truck-Lite LED 3 per side model 10 P/N 10250R or 10250Y or model 30 P/N 30250R or 30250Y. Rear ID bar Truck-Lite LED model 35 P/N 35741R or 35740R. License plate light, Truck-Lite model 15 P/N 15040 Work lights Two (2) Hopper and gripper arm mount LED work lights with lighted on dash mounted control switch. Wiring shall be sealed Fit' N Forget modular plug-in type where possible. Dielectric grease shall be applied to all plug connections and terminals to prevent corrosion. 	<p>Make: <u>Truck-Lite</u> Model: <u>LED</u> \$ <u>N/C</u></p> <p>Make: <u>Truck-Lite</u> Model: <u>Super 44or60</u> \$ <u>N/C</u></p> <p>Make: <u>Truck-Lite</u> Model: <u>Super 44or60</u> \$ <u>N/C</u></p> <p>Make: <u>Truck-Lite</u> Model: <u>44</u> \$ <u>N/C</u></p> <p>Make: <u>Truck-Lite</u> Model: <u>10 or 30</u> \$ <u>N/C</u></p> <p>Make: <u>Truck-Lite</u> Model: <u>35</u> \$ <u>N/C</u></p> <p>Make: <u>Truck-Lite</u> Model: <u>15</u> \$ <u>N/C</u></p> <p>Make: <u>Truck-Lite</u> Model: <u>81380</u> \$ <u>N/C</u></p> <p>Make: <u>Truck-Lite</u> Model: <u>Fit-N-Forget</u> \$ <u>N/C</u></p> <p>Yes X No</p>
<p>S.</p> <p>Paint Main Body:</p> <ol style="list-style-type: none"> Polyurethane paint equal to DuPont Imron 5000, Color "Bright White", 2 coats applied to all non-stainless steel components following manufactures procedures to include: <ol style="list-style-type: none"> Preparation to include: <ol style="list-style-type: none"> Removing all mill scale and slag. Variprime 615S self-etching primer or approved equal. Treating bare metal with manufacturer's conditioners and conversion coatings or approved equal. Paint to be applied with all body members painted. 	<p>Make: <u>Sikens</u> Type: <u>Polyurethane</u> \$ <u>N/C</u></p> <p>Color: <u>"Bright" White to match cab</u></p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p>

Vendor/Sub Vendor: Haroldine Equipment
Rosa Todd Carter

Loader Refuse Trucks
CONFIGURATION #1

<p>T. Special Tailgate Paint:</p> <ol style="list-style-type: none"> 1. Polyurethane paint equal to DuPont Imron 5000, Color: <ol style="list-style-type: none"> a. Top 1/2 of tailgate "Bright White", b. Lower 1/2 of tailgate "Safety Yellow" with: <ol style="list-style-type: none"> 1) Alternating "Safety Yellow" paint 8" wide and 2" wide "White" tape. 2) Tape 2" wide 3M Scotchlite "White" DOT reflective conspicuity tape applied from center out in a "Chevron Pattern" with a top horizontal tape strip separating the tailgate's White and Safety Yellow paint. 2. Preparation to include: 3. Removing all mill scale and slag. 4. Variprime 615S self-etching primer or approved equal. 5. Treating bare metal with manufacturer's conditioners and conversion coatings or approved equal. 6. Paint to be applied with all body members painted. 	<p>Color: <u>Bright White to Match Cab</u> Color: <u>Safety Yellow</u></p> <p>We can add stripes and tape to meet City Fleet Design.</p> <p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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<p>Refuse Body Equipment SUB TOTAL COST</p> <p>\$100,190</p>
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February 2017 Refuse Body Cost:
 \$105,047.85
 (\$100,190 + \$4857.85 Market
 Adjustment)
 D.R.M.C 20-64(A4)

Use Truck Coater
 Vendor/Sub Vendor: Haroldine Equipments

4.7 Sundries Equipment

When a brand/model is referenced in the specifications unless it is stated as "No Approved Equal" it is only a statement of expected quality; comprehensive information in relation to proposed alternative products shall be provided with the bid so a full technical comparison/ assessment can be made.

	Description of Equipment	Offered Equipment	Cost
A.	Driver Height Warning Sign 1. Installed on truck dash providing the travel height of the vehicle. 2. Sign shall be in 1" "white" block letters.	Provide Specs: Large Decal can include height in 1" letters	\$ N/C
B.	Conspicuity Tape: 1. DOT-C2 Standard No. 108 reflective conspicuity tape. 2. Tape shall be on both lower sides and rear of the body. 3. Tape shall be applied in symmetrical pattern from middle of panel outward.	Provide specs: Conspicuity Tape is Standard on side of truck fenders and on rear ICC Bumper will add symmetrical pattern.	\$ N/C
C.	Mud flaps: 1. Mud flaps shall be heavy-duty anti-sail type 2. Installed front and rear on rear wheels.	Provide specs: H.D Anti-sail mud flaps mounted behind front and rear wheels.	\$ N/C \$ N/C
D.	Toolbox: 1. The toolbox shall be easily accessible for storage of the flairs, triangles, tire chains and other small tools. 2. Mounted underneath and attached to the right side of the body. The exact location shall be mutually agreed upon at installation. 3. Size 36" long x 18" high x 18" deep heavy-duty steel with powder coat "black" finish. 4. The door shall be side-mounted bottom hinged. 5. The box shall have a flush mount latch/lock assemble.	Make: <u>Fleming</u> Model: <u>Steel</u> Location: <u>RH Frame Mtd.</u> Size: <u>18"Hx18"Dx36"Long OR AS SPACE</u> Yes X No Yes X No	\$ <u>ALLOWS</u>
E.	Tool Holders: 1. Two shovel/broom holders mounted on curbside of body. 2. Brooms and shovels shall be easy to access, remove and replace in the brackets.	Yes X No Yes X No Yes X No Yes X No	\$ N/C

Vendor/Sub Vendor: Haroldine Equipment
Dash Trucks for 1504

Loader Refuse Trucks
CONFIGURATION #1

F.	<p>Spill Kit:</p> <ol style="list-style-type: none"> 1. A Brady (Sorberent Products Co.) 20-gallon lab pack oil only spill kit PN SKO-20 shall be provided. 2. The 20-gallon "Safety Yellow" polyethylene spill container shall be UN approved for both water and chemical resistance with a screw type top cover. 3. The oil spill kit shall contain the following minimum: <ol style="list-style-type: none"> a. 15" x 19" absorbent pads, 12 required b. 3" x 12' SOCs, 3 required c. 18" x 18" pillows, 2 required d. Nitrile gloves, 1 pair required e. Disposal bags, 3 required f. Goggles, 1 pair required 9. Emergency response handbook, 1 book required 4. The spill kit shall be installed on the truck frame's right/curb side in a mutually agreed upon location at installation. 5. The spill kit mount shall secure the spill kit to the mounting frame so that the kit cannot dislodge during operation and shall have a provision for securing the kit with a standard padlock. 6. The mount system shall not have any sharp corners/areas that could rub thru the spill container during operation. 	<p>Make: <u>Brady</u> Model: <u>SKO-20</u></p> <p>See Brady SKO-20 product details</p> <p>Yes X No Yes X No Yes X No Yes X No Yes X No Yes X No</p> <p>Yes X No</p> <p>Yes X No</p> <p>Yes X No</p>	<p>\$ <u>N/C</u></p>
G.	<p>Tire Chain Holders:</p> <ol style="list-style-type: none"> 1. Special brackets for storing drive wheel tire chains during winter season shall be provided 2. The chain holders shall be close to the drive wheels and easy to lift tire chains onto/off the brackets 3. Exact location shall be mutually agreed upon at installation 	<p>Tire Chain Brackets design and location to be mutually agreed on.</p> <p>Yes X No</p>	<p>\$ <u>N/C</u></p>

<p>Sundries Equipment SUB TOTAL COST</p>	<p>\$ <u>N/C</u></p>
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Included in Refuse Body Cost Above

Base Truck for Year
Vendor/Sub Vendor: *WHEELWIRE EQUIPMENT*

4.8 Optional Equipment/ Inspection Trip Considerations

Do not include Optional Equipment in the total price of the vehicle; however an equipment price must be provided. The City will determine if the equipment is to be purchased.

When a brand/model is referenced in the specifications unless it is stated as "No Approved Equal" it is only a statement of expected quality; comprehensive information in relation to proposed alternative products shall be provided with the bid so a full technical comparison/ assessment can be made.

A.	Description of Equipment	Offered Equipment	Cost
	<p>Retarder System:</p> <p>1. The retarder system shall provide effective vehicle slowing/retardation to a speed of 3 mph or below. The retarder system shall provide at minimum a 50% increase in vehicle foundation brake life. Provide the information for the type of retardation system being offered.</p>	<p>Truck Dealer responsible for all of section A.</p> <p>Make: _____ Model: _____ Provide Brake Horsepower: _____ Provide lowest speed retarder is effective: _____</p>	<p>\$ <u>N/A</u></p>
	<p>2. Transmission output shaft retarder.</p>	<p>Make: <u>THELMA</u> Model: <u>FOCAL MOUNT</u> Provide Brake Horsepower: <u>300</u> Provide lowest speed retarder is effective: <u>2</u></p>	<p>\$ <u>8924</u></p>
	<p>3. Electric driveline retarder</p>	<p>Make: <u>JACOBS</u> Model: <u>C-Brakes</u> Provide Brake Horsepower: <u>300</u> Provide lowest speed retarder is effective: <u>20</u></p>	<p>\$ <u>1670</u></p>
	<p>4. Engine and exhaust/turbo brake combination that does not raise exhaust noise (no Jacobs brakes).</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p>	<p>\$ _____</p>
	<p>5. Retardation shall be activated into 1st stage when the driver removes their foot from the throttle pedal. Stages 2, 3 and 4 shall be progressively activated by the brake pedal before the foundations brakes are engaged.</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p>	<p>\$ _____</p>
	<p>6. Retarded control switches dash mounted with easy access for the driver.</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p>	<p>\$ _____</p>
	<p>a On/Off switch.</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p>	<p>\$ _____</p>
	<p>b High/Low retardation range.</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p>	<p>\$ _____</p>

NOT REQUIRED

Truck Truck Company
Vendor/Sub Vendor: THELMA EQUIPMENT

B.	<p>Auto Dump Feature:</p> <ol style="list-style-type: none"> 1. A PLC (programmable logic controller) controlled system for safe consistent speed productivity, maintaining higher productivity throughout a 10-hour work day and reducing excessive wear to the system by erratic or too fast of operational speeds. 2. System shall after operator moves the arm to the container and grips the container hit and hold a button to: <ol style="list-style-type: none"> a Automatically grab the container b Automatically lift the container approximately 18" above the ground c Bring the container in to the truck d Raise and dump the container e Return the empty container to the spot that the full container was initially picked up from, f Release the container g Retract the arm so the operator can move the truck to next pick up location. 3. If the operator should encounter a problem, releasing the automatic actuation button shall stop all movement and function and require manual operation for the completion/duration of the cycle. 4. The system shall be capable of: <ol style="list-style-type: none"> 1) Faster and more reliable operation than a skilled operator can accomplish using manual operation. 2) The system shall also reduce wear on the system as all functions are programmed to manufacture suggested speeds for maximum durability 5. The automatic operation shall not cause over-loader trash containers to spill their contents any more than manual operation would cause. 6. The operational characteristics (function speeds) of the pick up/dump cycle shall be easily programmable with a special code (non operator programmable) so the trucks performance can be properly programmed for maximum route efficiency without damage to the equipment from too fast of operation. 7. Hydraulic inhibitor shall prevent dumping on top of the hopper cover. 	<p>Describe Operation: _____ _____ _____ _____ _____ _____ _____ _____</p> <p>Amrep has never built or designed a system of this type for the safety issues associated with an automated system working in a confined space.</p> <p>Yes No Yes No Yes No Yes No Yes No Yes No Yes No Yes No Yes No Yes No Yes No Yes No Yes No Yes No Yes No Yes No</p>	<p>\$ N/A</p>
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Vendor/Sub Vendor: Parse Truck Centers
APRILINE Corp

Loader Refuse Trucks

CONFIGURATION #1

<p>CNG Fuel System: Engine Option:</p> <ol style="list-style-type: none"> Cummins ISL-G, 8.9 liter, VGT turbocharged natural gas engine, rated at 320 hp @ 2,000 rpm, torque 1,000 lb/ft @ 1,300 rpm, 2,200 rpm governed The CNG engine shall meet all required EPA on-highway emissions standards Fuel Tank: <ol style="list-style-type: none"> Fuel tank shall meet or exceed <ol style="list-style-type: none"> NFPA 52 standards US-DOT/FMVSS304 ISO 11439 Tank Manufacturer Tank Information <ol style="list-style-type: none"> Tank Construction Type: composite Service Life Years: 20 years Recertification Period: 8 years Type of Recertification Inspection Required Tank Service Pressure Full: 3,600 psig @ 70°F (21°C) Each CNG fuel tank shall have a 1/4-turn ball stainless steel shutoff valve mounted at the tank inlet. 	<p>Hardline Equipment/Agility Sec. -C.</p> <p>Make: <u>Cummins</u> Model: <u>1229</u></p> <p>HP: <u>350</u> @ <u>2100</u> rpm</p> <p>Torque: <u>1750</u> @ <u>1200</u> rpm</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Make: _____ Model: _____</p> <p>Material: _____</p> <p>Service Life: _____ yrs</p> <p>Recertification: _____ yrs</p> <p>Inspection Type: _____</p> <p>Service Pressure: _____ psig</p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>CNG Tank (s) Location: <u>TOT TANK</u></p> <p><u>or Behind Cab</u></p> <p>Size: _____ dia x _____ long DEG Net _____ gal</p> <p>Tank Weight: _____ lbs</p> <p># of Tanks: <u>25</u> DEG Net <u>77</u> gal</p> <p>Weight all tanks and brackets etc: _____ lbs</p> <p>Weight All Tanks Full CNG: _____ x _____ lbs</p> <p>Enclosure Size: _____ x _____</p> <p>Material: _____ Gauge: _____</p>
<p>4. Tank Installation Location:</p> <p>The CNG tank mounting location shall be mutually agreed upon by the vendor and the City prior to the ordering of the cab and chassis. The vendor shall provide drawing of proposed CNG tank location(s). The locations shall not increase the truck wheelbase or the overall height of the truck and body 12" - 6" or body length over a regular non-CNG configuration:</p> <ol style="list-style-type: none"> Tank Size: provide diameter x length Tank Weight each: Empty Quantity of Tanks for 75 gallon DGE Weight All Tanks: Empty Weight All Tanks: Full CNG Tank Enclosure Width, Length, Height Tank Enclosure Material: Steel/Gauge 	<p>Cummins ISL-G, 8.9 liter, VGT turbocharged natural gas engine, rated at 320 hp @ 2,000 rpm, torque 1,000 lb/ft @ 1,300 rpm, 2,200 rpm governed</p> <p>The CNG engine shall meet all required EPA on-highway emissions standards</p> <p>Fuel Tank:</p> <ol style="list-style-type: none"> Fuel tank shall meet or exceed <ol style="list-style-type: none"> NFPA 52 standards US-DOT/FMVSS304 ISO 11439 Tank Manufacturer Tank Information <ol style="list-style-type: none"> Tank Construction Type: composite Service Life Years: 20 years Recertification Period: 8 years Type of Recertification Inspection Required Tank Service Pressure Full: 3,600 psig @ 70°F (21°C) Each CNG fuel tank shall have a 1/4-turn ball stainless steel shutoff valve mounted at the tank inlet. <p>Tank Installation Location:</p> <p>The CNG tank mounting location shall be mutually agreed upon by the vendor and the City prior to the ordering of the cab and chassis. The vendor shall provide drawing of proposed CNG tank location(s). The locations shall not increase the truck wheelbase or the overall height of the truck and body 12" - 6" or body length over a regular non-CNG configuration:</p> <ol style="list-style-type: none"> Tank Size: provide diameter x length Tank Weight each: Empty Quantity of Tanks for 75 gallon DGE Weight All Tanks: Empty Weight All Tanks: Full CNG Tank Enclosure Width, Length, Height Tank Enclosure Material: Steel/Gauge

Back Truck Chassis
Hardline Equip

Vendor/Sub Vendor:

Loader Refuse Trucks
CONFIGURATION #1

<p>d Tank Mounting:</p> <p>1) End/dome/ boss, 2-piece saddle mounts on each tank end. The tanks shall be installed inside a steel tank mounting frame. The frame shall be 3" x 1 1/2" x 3/16" tubing. The frame shall be powder coat finished for durability.</p> <p>2) CNG tank manufacturer 2-point band type CNG bracket with rubber cushion between tank and bracket to prevent slippage and eliminate chaffing, accommodate tank growth by changes in internal pressure.</p> <p>e The primary tank relief valve (PRD) shall be vented up and away from the vehicle and any ignition sources. The vent shall be protected from rain or vehicle wash water from entering the vent line. The vent line shall be 1/2" diameter minimum.</p> <p>5. CNG Pressure Reducing Regulator System:</p> <p>a The pressure reducing regulator system shall be mounted inside a protective steel enclosure no more than 6 ft from the CNG fuel tank.</p> <p>b From the CNG fuel tank to the regulator the tubing shall be 1/2" od x 0.049" wall 300 series stainless steel minimum.</p> <p>c The pressure reducing regulator system shall have 2 pressure gauges installed in the system.</p> <p>1) High Pressure gauge 0-to-5,000 psi installed on tank side to show tank system pressure.</p> <p>2) Low pressure gauge 0-to-250 psi to show engine downstream fuel delivery pressure to the engine.</p> <p>3) Gauges shall be stainless steel glycerin filled.</p> <p>d The engine coolant flow to the pressure reducing regulator shall be minimum of 1 gallon/minute of 180°F coolant per 50 hp of engine output. For coolant flow the heat exchanger for the engine shall be rated at 450 hp to cover engine rating increases after the truck is delivered.</p> <p>e Engine coolant flow and CNG fuel supply shall enter the regulator on the same side of the regulator.</p> <p>f Coolant ports shall be oriented vertical (up) in horizontal regulators to prevent air from becoming trapped in the regulator.</p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>Frame Size: _____ x _____ x _____ \$ _____</p> <p><input type="radio"/> Yes <input type="radio"/> No</p> <p>PRD Pressure Release: <u>3650</u> psig \$ _____</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>Tubing Size: _____ \$ _____</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>Tubing Size: _____ x _____ Type: <u>SS</u> \$ _____</p> <p>Pressure Range: _____ to <u>3650</u> psi \$ _____</p> <p>Pressure Range: _____ to _____ psi \$ _____</p> <p><input type="radio"/> Yes <input type="radio"/> No</p> <p><input type="radio"/> Yes <input type="radio"/> No</p> <p><input type="radio"/> Yes <input type="radio"/> No</p> <p><input type="radio"/> Yes <input type="radio"/> No</p> <p><input type="radio"/> Yes <input type="radio"/> No</p>
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Loader Refuse Trucks
CONFIGURATION #1

	<p>g The pressure reducing regulator shall not under any circumstance be installed in series with the truck cab heater system.</p> <p>6. Automatic Fuel Shut Off:</p> <p>a The automatic fuel shut off valve shall be plumbed directly to the exit/warm side of the engine coolant heated pressure reducing regulator.</p> <p>b The automatic fuel shut off valve shall have its weight supported by a mounting bracket.</p> <p>c The automatic fuel valve shall have a Cv of 2.0 minimum to assure adequate fuel flow.</p> <p>d The automatic fuel shut off shall be a NC (normally closed) valve when the ignition is in "Off" position.</p> <p>7. Fuel Lines:</p> <p>a All high pressure shall be 1/2" od x 0.049" wall stainless steel 316L tubing appropriate for the application.</p> <p>b Stainless steel lines shall have thermal expansion/contraction loops for smaller diameter lines and S-bend expansion joints for larger diameter lines.</p> <p>c All CNG lines shall be supported with stainless steel rubber bushed aircraft P-type clamps. The maximum distance between clamps shall no more than 24".</p> <p>d Fitting for the CNG fuel system shall be: 1) Stainless steel tube fittings shall be Swagelok or Parker A-lok with thread sealant. 2) Special NPTF pipe fittings shall be stainless steel with thread sealant.</p> <p>e All NPT fitting shall be installed on male pipe threads using proper thread sealants. 1) Thread sealant and anti-seize shall be a nickel impregnated or nickel coated Teflon tape. 2) Teflon tape shall start at 2nd thread. 3) On 1/2" and under use 2 wraps of tape 4) On 5/8" to 1" use 3 wraps of tape. 5) Assure last section of tape is pulled down tight against the threads.</p> <p>6) Do not use sealant on compression threads</p> <p>f Post heat exchanger hoses and lines may be Parker 929</p>	<p>Yes No</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>Valve Cv: <u>2.0</u></p> <p>Yes No</p> <p>Make: <u>316L</u> Type: <u>1/2"</u></p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>Make: _____ Type: _____</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>Sealant Type: _____</p> <p>Make: _____ Type: _____</p> <p>\$ _____</p> <p>\$ _____</p> <p>\$ _____</p> <p>\$ _____</p> <p>\$ _____</p> <p>\$ _____</p> <p>\$ _____</p>
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Loader Refuse Trucks
CONFIGURATION #1

<p>heavy-wall PTFE hose exceeding SAE100R14A or stainless steel tubing.</p> <p>8. Fuel Fill System:</p> <p>a The fuel receptacle and fuel fill system shall be rated for both "fast fill" and "slow fill" with a minimum 1/2" od x 0.049" wall 300 series stainless steel.</p> <p>b The fuel fill nozzle:</p> <ol style="list-style-type: none"> 1) Shall be a male NGV1 OPW with rubber protective cover boot 2) Fill location on the driver's side of the vehicle 3) The fuel filler line shall be plumbed to the CNG tank bank. <p>c The tank fill enclosure shall have:</p> <ol style="list-style-type: none"> 1) A high pressure line/tank pressure gauge 0-to-5,000 psi 2) A low pressure fuel to engine pressure gauge 0-to-250 psi 3) An OPW male NGV1 fuel fill receptacle with easy access and excellent clearance for both "fast fill" and "slow fill" receptacles. 4) An emergency 1/4-turn shut off valve for shutting down the system in case of a fueling emergency. <p>d The fuel fill access shall be easy to access and easy for the operator to see for fueling and to prevent drive-off with fuel hose attached.</p> <p>e The fill receptacle shall have an easy to remove/reinstall fuel fill cover to protect the fill port from contamination during truck operation.</p> <p>9. CNG Filtration:</p> <ol style="list-style-type: none"> a High pressure, on the fuel tank(s) fill line to clean the CNG before it enters the fuel tank storage system. b Low Pressure, on the downstream "low pressure" post regulator engine delivery side. The "low pressure" filter shall be a Fleetguard spin-on NG5900 with liquid drain or approved equal. <p>10. Fuel Gauge:</p> <ol style="list-style-type: none"> a An electric fuel gauge shall be provided with easy to see vehicle dash gauge to show fuel tank volume. b The fuel sender shall be a sealed unit mounted to the high-pressure tank system c A sealed 3-pin Weatherpak connector with a 1-amp fast blow 	<p> <input checked="" type="radio"/> Yes <input type="radio"/> No <u>1/2</u> Tubing Size: _____ \$ _____ </p> <p> Make: _____ Model: _____ \$ _____ </p> <p> Fill Location: _____ <input type="radio"/> Yes <input type="radio"/> No \$ _____ </p> <p> Pressure Range: _____ to <u>5000</u> psi <input checked="" type="radio"/> Yes <input type="radio"/> No \$ _____ Pressure Range: _____ to _____ psi </p> <p> <input checked="" type="radio"/> Yes <input type="radio"/> No \$ _____ </p> <p> <input checked="" type="radio"/> Yes <input type="radio"/> No \$ _____ </p> <p> Make: _____ Model: _____ \$ _____ </p> <p> Make: _____ Model: _____ \$ _____ </p> <p> Fuel Gauge Type: _____ Make: _____ Model: _____ \$ _____ </p> <p> <input type="radio"/> Yes <input type="radio"/> No </p>
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	<p>d automotive fuse shall connect the sender to the gauge. Pins are: 1) Red = power 2) Green = signal 3) Black = ground</p> <p>1. Remote High-Quality Color Safety 3 Camera System: cameras (3 required) color, ECCO Gemineye K7000Q system with camera view selection on the TV monitor face (No Approved Equal: a. Rear of vehicle mounted camera wired into vehicle reverse circuit to automatically turn ON when vehicle is shifted into reverse or ON when vehicle ignition is on or in a forward gear. b. Left side camera (cab mounted) to serve as an auxiliary left rear view mirror function (blind spot view) to augment the left rear view mirrors. 1) The camera shall be normally ON viewing the left side of the vehicle and blind spot. 2) It shall automatically switch to rear of vehicle view when the transmission reverse gear function is activated. 3) An over-ride to keep the left side camera on shall be provided for special situation use. 4) Camera shall be as small as possible and have a guard that will protect the camera and wiring from tree branch damage and road spray/splash. 5) The exact location of the camera and approval of the camera protection shall be mutually agreed upon at installation</p> <p>c. Hopper camera to provide viewing of trash in the hopper and packing operation. Hopper camera shall be fully protected from physical damage and dirt build up on the lens. The camera shall be positioned for easy lens cleaning. The hopper camera shall automatically switch ON when the barrel pick up arm is activated for pick up operations</p> <p>2. Camera color ECCO model C2001 with automatic shutter (2) required: a. Camera shall be in water proof cast aluminum housing. Housing shall be able to be pressure washed when washing vehicle.</p>	<p>Yes No Yes No Yes No</p> <p>Hardline Equip. to do Camera System Sec. D Make: <u>ECCO</u> Model: <u>K7000Q</u> \$ <u>Inc</u> <input checked="" type="checkbox"/> Yes No Camera Price Required \$ <u>Inc</u> <input checked="" type="checkbox"/> Yes No Camera Price Required \$ <u>Inc</u> 2015/16 UPDATE The camera shall be placed in a housing left front corner of cab (Middlegear, Part # MG320HSE-SS) Additional \$400</p> <p><input checked="" type="checkbox"/> Yes No Camera Price Required \$ <u>Inc</u></p> <p>Make: <u>ECCO</u> Model: <u>C2001</u> Quantity: <u>2</u> <input checked="" type="checkbox"/> Yes No</p>	
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	<p>b. Camera shall have built in safety audio system that will pick up and broadcast normal conversation to monitor.</p> <p>c. Camera shall be automatically heated for cold weather operation.</p> <p>d. Resolution 380 TV lines horizontal.</p> <p>e. Signal to noise ratio 44dB minimum.</p> <p>3. Monitor LCD, 7" flat screen ECCO model M7000Q with:</p> <p>a. Monitor shall be in a very easy to see location on the dash next to the "A" pillar that requires as little as possible head movement and also with a little as possible front windshield obstruction. The monitor location shall be mutually agreed upon.</p> <p>b. Camera view selection switches on the TV monitor and trigger wires via power cable.</p> <p>c. Automatic day/night dimmer sensor</p> <p>d. Resolution 291,000 pixels or better.</p> <p>e. Picture control to include brightness, contrast and image.</p> <p>f. Speaker system to broadcast sound from camera.</p> <p>g. Picture shall be crisp and clear at all times.</p> <p>h. Anti-glare sun shield and hood model A7000SS.</p> <p>i. Swivel mounting bracket.</p> <p>j. Automatic dimmer sensor to adjust for day and night viewing.</p> <p>k. Monitor capable of accommodating 2 cameras.</p> <p>4. All wiring shall be totally sealed with sealed locking connections to prevent corrosion.</p> <p>5. All wiring shall be routed to prevent damage to the wiring.</p> <p>6. Warranty 2 years with replacement of failed components with new components shipped UPS "Next Day" upon notification of problem.</p> <p>Automatic Lubrication System to include:</p> <p>1. Interlube AC3 or Vogel automatic lubrication system.</p> <p>2. The system shall automatically lubricate the slide-out carriage system and plastic barrel pick up system and other high wear areas.</p>	<p>Yes <input checked="" type="radio"/> No <input type="radio"/></p> <p>Resolution: <u>380</u> lines</p> <p>Make: <u>ECCO</u> Model: <u>M7000 Q</u></p> <p>Yes <input checked="" type="radio"/> No <input type="radio"/></p> <p>Yes <input checked="" type="radio"/> No <input type="radio"/></p> <p>Yes <input checked="" type="radio"/> No <input type="radio"/></p> <p>Yes <input checked="" type="radio"/> No <input type="radio"/></p> <p>Yes <input checked="" type="radio"/> No <input type="radio"/></p> <p>Yes <input checked="" type="radio"/> No <input type="radio"/></p> <p>Yes <input checked="" type="radio"/> No <input type="radio"/></p> <p>Make: <u>ECCO</u> Model: <u>A7000 SS</u></p> <p>Yes <input checked="" type="radio"/> No <input type="radio"/></p> <p>Yes <input checked="" type="radio"/> No <input type="radio"/></p> <p>Yes <input checked="" type="radio"/> No <input type="radio"/></p> <p>Warranty: <u>2</u> years</p> <p>Yes <input checked="" type="radio"/> No <input type="radio"/></p> <p>Make: Interlube Model: <u>AC3</u></p> <p>Items that will be automatically lubricated: <u>15 points on trolley, 10 points on arm & extension, 2 points on push out cylinders.</u></p> <p>DO NOT INCLUDE</p>	<p>\$ <u>Inc</u></p> <p>\$ <u>Inc</u></p> <p>\$ <u>Inc</u></p> <p>\$ <u>1800⁰⁰</u></p> <p>INCLUDE FOR 2015/16 \$2,200 (\$1800+\$400)</p> <p>\$ <u>3604.00</u></p>
E.			

Loader Refuse Trucks
CONFIGURATION #1

	<p>3. The automatic lubrication system shall be designed for the particular application and to maximum durability of the lubrication lines and installed by the trash body manufacturer. Poorly thought out or routed lubrication lines will not be accepted.</p> <p>4. Grease pump/reservoirs, control unit, distribution manifolds and grease hoses/lines shall be located/routed for maximum durability ease of access and protection from damage. The automatic lubrication system shall be well thought out and the system shall be designed into the trash system</p> <p>5. Grease pump/reservoir shall be a 3 liter grease capacity minimum.</p>	<p>Number of Automatic Lubrication Points: <u>27</u> Yes X No Yes X No</p>
<p>F.</p> <p>Cab Heater: 1. The cabin heater shall be a Webasto Air Top 2000ST. 2. Heat Value 3,100 to 7,000 Btu/hour 3. Air Flow 37 cfm 4. Size: 12 1/4" x 4 3/4" x 5" approximate 5. Electrical 12vDC @1.2 amps 6. Diesel Fuel Usage 0.03 to 0.06 gallons/hour</p>	<p>System Pressure: <u>1200</u> psi Grease Line Material: <u>INTEC Nylon 2500psi</u> Grease Reservoir Size: <u>3 liter capacity</u> Hardline Equip. / Truck Dealer Sec.F Make: <u>WEBASTO</u> Model: <u>AirTop 2000ST</u> Btu's: <u>3100</u> /hr Air Flow: <u>37</u> cfm Size: <u>12 1/4" x 4 3/4" x 5"</u> Fuel Usage: <u>.03</u> gal/hr Hardline Equip. / Truck Dealer Sec.G Make: <u>WEBASTO</u> Model: <u>Thermo Post</u></p>	<p>\$ <u>935.00</u> DO NOT INCLUDE \$ <u>2612.00</u> DO NOT INCLUDE</p>
<p>G.</p> <p>Hydraulic Oil and Engine Coolant Heater: 1. Heater for hydraulic oil and engine coolant shall be a Webasto Thermo 90ST 2. Heat Value 6,100 to 26,000 Btu/hour 3. Water Flow 7.3 gallons/minute @ 2.2 psi 4. Size: 15 3/4" x 7 1/2" x 14" approximate 5. Electrical 12vDC @ 3 amps 6. Diesel Fuel Usage 0.06 to 0.24gallons/hour 7. Hydraulic oil heater Arctic Fox H-4000 series maximum length for hydraulic tank. Baffle may need to have pass-thru opening</p>	<p>Fuel Usage: <u>0.06</u> gal/hr Make: <u>WEBASTO</u> Model: <u>Thermo Post</u> Btu's: <u>31000</u> /hr Water Flow: <u>7.3</u> gpm Size: <u>15 3/4" x 7 1/2" x 14"</u> Fuel Usage: <u>0.06</u> gal/hr Make: <u>Arctic Fox</u> Model: <u>H 4000</u> Length: <u>4 feet</u></p>	<p>\$ <u>1,000.00</u> DO NOT INCLUDE \$ <u>N/C</u> \$ <u>N/C</u> \$ <u>N/C</u></p>
<p>H.</p> <p>Zonar System (No Approved Equals) The Zonar system shall be the model EVIR-GPS-GSM (Electronic vehicle information reports- global position system- global systems mobile communications) and provide the following functions minimum: 1. The system shall be fully compatible with and fully interface with: a. CCG Faster fleet maintenance software b. Kronos time keeping system for reporting employee data 2. Webb based reporting.</p>	<p>Make: <u>ZONAR</u> Model: <u>125 H40001</u> Yes <input checked="" type="checkbox"/> No Yes <input checked="" type="checkbox"/> No Yes <input checked="" type="checkbox"/> No</p>	<p>DO NOT INCLUDE</p>

Vendor/Sub Vendor: Flash Truck Center
Hardware Equipment

Loader Refuse Trucks
CONFIGURATION #1

	<p>3. The system shall provide the following functions:</p> <ul style="list-style-type: none"> a. Ties the operator to the vehicle. b. Pre and Post trip vehicle inspection information and compliance. c. Send inspection information to Fleet Maintenance for an automatic "work order" generation. d. Track vehicle time out of the yard, time on route, and return to yard time. e. Tracks engine idle time. f. Monitors route pick-ups/work stops, show the vehicles route and work stops on a real time basis. g. Uses the City's own maps of Denver area. h. Captures meter readings (odometer, engine hours) reports for PM scheduling. i. Has five (5) additional electronic inputs 8 to 30 vDC for monitoring and reporting vehicle functions and information. <p>4. The system shall be fully contained in an injection molded, impact resistant plastic case that is water -tite and insulated.</p> <p>5. The system shall have passed SAE J-1455 vibration test</p>	<p>Yes ✓ Yes ✓ Yes / Yes / Yes ✓ Yes / Yes / Yes / Yes ✓ Yes ✓ Yes ✓</p> <p>No No No No No No No No No No No</p>	<p>\$ <u>1266</u> \$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____ \$ _____</p>
I.	<p>Sign Boards, Two body mounted Roadway Displays Inc. (909.587.0207) mobile display systems shall be provided to include:</p> <ul style="list-style-type: none"> 1. Frame model SS315955 95-1/2" long x 31-1/2" high x 2-1/4" frame width with .025" aluminum backing. 2. Frame material, 6463-T6 aluminum extrusions with satin anodize. 3. Sign panel size 93-3/16" x 29-3/16" x .060" high impact styrene. View size 91" x 27". <p>4. Sign frame shall be securely mounted to body yet be easy to remove and replace.</p> <p>5. The sign frame shall have branch deflectors on the front and rear edges to prevent damage to the sign frame.</p>	<p>Make: Roadway Model: SS315955 \$ 600.00 Displays 95.5x31.5x2.25" Yes X No Yes X No</p> <p>INCLUDE</p>	<p>\$ _____ \$ _____</p>
J.	<p>Spare Parts for Refuse Body:</p> <ul style="list-style-type: none"> 1. Joystick controller (1) required. 2. Door rocker switch platform complete with switches and armrest 	<p>DO NOT INCLUDE Yes - one joystick. Yes - Door rocker assembly</p>	<p>\$ 490.42 \$ 527.13</p>

Rush Truck Center
Hardware Dept

Loader Refuse Trucks
CONFIGURATION #1

<p>K.</p> <p>Spare Tire and Wheel: 1. Tire and wheel assembly: 1 per vehicle. 2. Tire: Michelin XZU, Steer Tire. 3. Wheel: Size 22.5" x 9", disc, 10-hole, hub piloted type, single nut, meeting ISO Standard 4107. "White" powder epoxy coated finish.</p>	<p>DO NOT INCLUDE</p>	<p>Hardline Equip. / Truck Dealer Sec. K Make: <u>Michelin</u> Model: <u>XZUS</u> Make: <u>Accuride</u> Model: <u>22.5 x 9</u></p>	<p>\$ <u>1500</u></p>
<p>L.</p> <p>Inspection Trip: 1. The City and County of Denver reserves the right to inspect at the cab and chassis and body fabricating plant during the construction of the first (1st) article prior to paint and delivery. 2. Where the fabricating plant is located further than 200 road-miles from the City and County of Denver, the bidder shall include in the bid price all travel expenses to the fabrication plant for the inspection. 3. The City may select to send from 2 representatives to inspect the 1st article. The provided costs shall be based on one (1) person per day and the City will determine how many representatives the inspection will require and how many days the inspection will require. 4. Inspection Trip Costs to include: a. Air fare per person: b. Surface transportation costs: c. Lodging per person per day: d. Meals per person per day: 5. Total cost per person for 1st article inspection trip:</p>	<p>Provide information: Hardline Equip. / Truck Dealer Sec. L Distance to fabrication plant: <u>932</u> miles Plant Location: <u>Channah, California</u></p> <p>FOR 2017 DO NOT INCLUDE</p> <p>Air Fare: \$ <u>300</u>, Airline: <u>Unired</u> Surface Transportation: \$ <u>100</u>, Mode: <u>Rental</u> Lodging / day: \$ <u>150</u> Hotel: _____ Meals / day: \$ <u>50</u></p>	<p>\$ <u>300</u> \$ <u>100</u> \$ <u>150</u> \$ <u>50</u> \$ <u>600</u></p>	<p>\$ <u>1500</u></p>

Vendor/Sub Vendor: Dash Truck System
HAEDLINE Equip

5.0

Manuals/Equipment

Item	Description of Equipment	Offered Equipment	Cost
Training Video	One DVD or CD demonstrating and explaining the safe and proper use of the vehicle/equipment. 1. Cab and chassis. 2. Equipment and Body.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	\$ _____ \$ N/C
Operators Manual Paper	One book per vehicle/equipment with "safe equipment operation" section for each component. 1. Cab and Chassis. 2. Equipment and Body.	Standard Amrep Operators Manual	\$ N/C \$ N/C
Service/Repair/Maintenance Manual Paper	Two complete sets per Contract (not per vehicle); binder required, A. Manuals shall be provided for: 1) Cab and chassis 2) Equipment and body B. Manuals shall include complete and detailed information for maintenance of the equipment, including general information, specifications, troubleshooting guide, lubrication and required adjustments. C. The hydraulic and electrical sections of the manuals shall be provided in a separate electrical/hydraulic binder. Both the hydraulic and electrical circuits shall have separate color coded schematics for each equipment function to show the flow of both electrical current and hydraulic oil.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes X <input type="checkbox"/> No <input type="checkbox"/> (On CD and Paper) Yes X <input type="checkbox"/> No <input type="checkbox"/> Offering Standard Amrep Manuals INCLUDE Yes X <input type="checkbox"/> No <input type="checkbox"/> Offering Standard Amrep Manuals and basic electrical and hydraulic schematics. INCLUDE	\$ _____ \$ N/C
Service/Repair/Maintenance Manual on CD rom or DVD	One complete set; per Contract (not per vehicle) 1. Manuals shall be provided for: 1) Cab and chassis 2) Equipment and body 2. Manuals shall include complete and detailed information for maintenance of the equipment, including general information, specifications, troubleshooting guide, lubrication and required adjustments.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes X <input type="checkbox"/> No <input type="checkbox"/> Yes X <input type="checkbox"/> No <input type="checkbox"/> Offering Standard Amrep Manuals and basic electrical and hydraulic schematics. INCLUDE	\$ _____ \$ N/C

Vendor/Sub Vendor: *Perk Truck Leasing*
Hydraulic Equipment

Loader Refuse Trucks
CONFIGURATION #1

	<p>3. The hydraulic and electrical sections of the manuals shall be provided in a separate electrical/hydraulic binder. Both the hydraulic and electrical circuits shall have separate color coded schematics for each equipment function to show the flow of both electrical current and hydraulic oil.</p> <p>4. New CD roms or DVDs shall be provided when information is updated, superseded or changed.</p>	<p>Yes X No Offering Standard Amrep Manuals and basic electrical and hydraulic schematics. INCLUDE</p> <p>Yes X No</p>	<p>\$ N/C</p>
<p>Service/ Repair/ Maintenance Manual on Internet Access, or Other Electronic Media</p>	<p>One complete set; per Contract (not per vehicle)</p> <p>1. Vendor shall provide access to the site for the length of time that the City owns the vehicle/equipment at a one time up front cost to the City.</p> <p>2. Internet information shall include complete and detailed information for maintenance of the equipment, including general information, specifications, troubleshooting guide, lubrication and required adjustments.</p> <p>3. The hydraulic and electrical sections of the manuals shall be provided in a separate electrical/hydraulic binder. Both the hydraulic and electrical circuits shall have separate color coded schematics for each equipment function to show the flow of both electrical current and hydraulic oil.</p>	<p>Yes X No If other Specify: <u>Currently Amrep does not offer Internet Access to Amrep Manuals. Site is Free.</u></p> <p>Yes No X</p>	<p>\$ N/C \$ N/A</p>
<p>Parts Manual Paper</p>	<p>Two complete sets, per Contract (not per vehicle)</p> <p>1. Manuals shall be provided for: A. Cab and chassis B. Equipment and body</p> <p>2. Illustrated parts book shall be furnished containing data so that part numbers can be readily found for each system.</p>	<p><input checked="" type="checkbox"/> Yes No <input type="checkbox"/> Yes X No <input type="checkbox"/> Yes X No</p>	<p>\$ M/C \$ N/C</p>

Vendor/Sub Vendor: Red Truck System
Hardline Equipment

Loader Refuse Trucks
CONFIGURATION #1

<p>Parts Manual on CD rom or DVD</p>	<p>One complete set, per Contract (not per vehicle) illustrated parts book shall be furnished containing data so that part numbers can be readily found for each system.</p> <ol style="list-style-type: none"> Information shall be provided for: <ol style="list-style-type: none"> Cab and chassis Equipment and body Parts manuals shall include complete and detailed information for replacement parts for the equipment, including general information, specifications ordering guide lines and superseded parts information. New CD roms or DVDs shall be provided when information is updated, superseded or changed. 	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>\$ <u>N/C</u> \$ <u>N/C</u></p>
<p>Parts Manual on Internet Access, or Other Electronic Media</p>	<p>One complete subscription; per Contract (not per vehicle)</p> <ol style="list-style-type: none"> Internet information shall allow the City 24 hour 7 days/week including holidays access from its main maintenance facility and all its satellite maintenance facilities. Internet information shall include complete and detailed information for parts for the: <ol style="list-style-type: none"> Cab and Chassis Equipment and Body Internet information shall cover vehicle/equipment, shall include general parts information, parts specifications, ordering guide lines and superseded parts information. Vendor shall provide access to the site for the length of time that the City owns the vehicle/equipment at a one time up front cost to the City. 	<p>Access Information: 7 days/week including holidays Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p><i>CCO CURRENTLY USING PETERBILT</i> <i>CHUNG S. ROETHL</i></p> <p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Currently Amrep If other Specify: <u>does not offer Internet Access to Amrep Manuals. Site is Free.</u></p>	<p>\$ <u>N/C</u> \$ <u>N/C</u></p>

Pasi Truck Center
Hardware Equip

Loader Refuse Trucks
CONFIGURATION #1

	<p>5. Parts manuals shall include complete and detailed information for replacement parts for the equipment, including general information, specifications ordering guide lines and superseded parts information.</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	
<p>New Equipment Check-in Form:</p>	<p>The successful vendor shall complete the City's "New Equipment Check-in Form" completely and accurately with all requested information.</p>	<p>Amrep to do Body Portion</p>	<p>\$ N/C</p>

5.1

Operator and Mechanics Training

Item	Description of Equipment	Offered Equipment	Cost
<p>On Site Equipment Manufacturers Training</p>	<p>On site the vendor shall insure that the equipment manufacturers training representative, after delivery of the equipment Contacts Fleet Maintenance training manager to coordinate equipment training.</p>	<p>Factory personnel to be present to work with City to start working with trucks.</p>	<p>\$ N/C</p>
<p>Fleet Maintenance Training Manager</p>	<p>Mr. Charlie Pletcher, Telephone: 720.865.3951 Contact time: 8:00 am to 3:00 pm M-F</p>	<p>Thank You.</p>	
<p>Training Requirements</p>	<p>Training shall consist of factory training materials, classroom and actual field training on the equipment for the equipment operators and supervisors.</p>	<p>Amrep to provide training on Body</p>	<p>\$ N/C</p>
<p>On Site Mechanics Training</p>	<p>On site mechanics training shall be 2 classes, approximately 8 hours, 2 shifts total provided at City facilities. The training shall cover maintenance and service procedures, trouble shooting and use of manuals.</p>	<p>Amrep to provide training on Body</p>	<p>\$ N/C</p>

Vendor/Sub Vendor: Best Truck Center
HARDLINE Equipment

6.0 Repair Parts Delivery

Repair Parts delivery	
A.	Prime Vendor is to indicate current Master Purchase Order agreement(s) in place with the City. (Example 0667A0108): If no agreement(s) exists, is your company willing to enter into long-term Master Purchase Order Agreement(s) in order to supply parts and components for the equipment and manufacturers proposed herein? YES OR NO <i>0 667AD.301</i>
B.	Sub-Vendor is to indicate current Master Purchase Order agreement(s) in place with the City. (Example 0298A0609): If no agreement(s) exists, is your company willing to enter into long-term Master Purchase Order Agreement(s) in order to supply parts and components for the equipment and manufacturers proposed herein? YES OR NO YES Amrep Would.

Vendor/Sub Vendor: *Dash Truck Center*
HARDWARE EQUIPMENT

7.0
7.1

Warranty
General Warranty Provisions

WARRANTY (Table 1) Class 7 & 8 Vehicles		Complies (Y or N/A)
A.	Express warranty is to be a minimum of 12 months on the Class 8 vehicle chassis. The warranty on the refuse body of the vehicle is to be a minimum of 2 years. The standard factory warranty plan for both the chassis and refuse body, to include the hydraulic components, shall be provided as an attachment to your bid proposal.	Yes
B.	The Warranty is to include at no cost to the City of Denver, all parts and labor, and no charge for work performed at the vendors facility	Yes
C.	Warranty shall start when the City places the vehicle into service NOT on the delivery date. Taking an exception may make bid non compliant.	Yes
D.	Warranty plans shall consist of the total unit and be broken out to a separate plan for each warranty item if applicable, such as engine warranty plan, transmission warranty plan, electrical, etc.	Trk. Dlr.
E.	Options listed shall be bid and provided as factory installed under the terms of the full factory-backed warranty. This includes, but is not limited to: air conditioning, radios, cruise control, bumpers, towing packages etc. Dealer-installed options will not be permitted unless pre-approved by the City in writing and, where applicable, indicated on bid sheet as a "dealer installed" non-factory item.	Trk. Dlr.
F.	Bidder will be responsible for warranty repair of all installed options/auxiliary equipment included in the bid that has a standard warranty that is less than the standard warranty for the base vehicle/equipment	Yes
G.	Bidder shall use a single, local factory authorized dealership that will accomplish or coordinate required warranty work. The dealership must have a minimum of 1-year experience as a factory authorized vendor for like equipment being bid. Warranty parts shall be available and supplied within 24 hours	Yes
H.	If applicable, bidder shall provide a plan for the City to be reimbursed if the work can be done by the City on site. The current shop rate is \$71.00/hour, not to exceed \$85.00/hour. (Enter a response of N/A if not available)	Yes
I.	The bidder shall respond to request for warranty assistance within twenty-four (24) hours.	Yes
J.	Warranty work shall be accomplished within an appropriate length of time (generally less than 3 working days for everything other than major component repair such as a transmission rebuild) and shall be coordinated with an authorized City representative	Yes
K.	During the entire warranty period, if the unit requires transportation to a repair facility, the vendor/sub-vendors shall be responsible for all transportation at "NO COST" to the City and County of Denver. This includes transporting the unit back to the City's domicile location after repairs are complete. If an alternate is bid, charges to the City of Denver shall be listed (e.g. mileage, travel, labor, etc.). Even if an alternate is bid, in NO CIRCUMSTANCES will the City and County of Denver be responsible for transporting a unit greater than 25 miles from the center of Denver. For purposes of these warranty provisions, the center of Denver is defined as the City and County Building located on the corner of Colfax and Bannock Street.	N/A

Vendor/Sub Vendor: *Best Truck Center*
Hardware Equipment

Loader Ketuse Trucks
CONFIGURATION #1

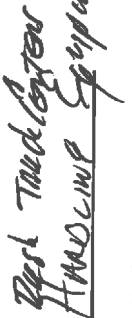
L.	The item(s) procured by the City pursuant to this Bid Proposal shall, in addition to being subject to the express warranties referenced above, be subject to all implied warranties arising by operation of law under State of Colorado and Federal law, including but not limited to the implied warranty of merchantability and, to the extent applicable, the implied warranty of fitness for a particular purpose arising under the Colorado Uniform Commercial Code, Title 4, Colorado Revised Statutes. The bidder shall in no event attempt to limit or disclaim any of such implied warranties under this Bid Proposal, and any attempt to do so will render the bidder's bid non-responsive under this Bid Proposal.	Yes
M.	This warranty in Table 1 and Table 2, is IN ADDITION to factory warranties on the vehicle and components	Note: Exception taken to Table 2, see note below.

7.2

Defective Unit / Defective Fleet Protocol

A.	<p>WARRANTY - (Table 2) Defective Unit and Fleet Protocol, Class 7 & 8 Vehicles</p> <p>Defective Unit-Definition: If during the warranty period, a vehicle/unit(s) covered by this specification is out of service for 10% or 208 hours or more during the first 2,080 service hours of the 1st year warranty period caused by defects in Design, Testing, Material, and/or Workmanship, this Defective Unit / Defective Fleet Protocol goes into effect at the City's option.</p> <p style="text-align: center;">7.2.A Sub-Sections 1, 2, 3, 4 Redacted 2-14-2013</p> <p>5. This protocol will not apply to delays in completion of warranty repairs due to acts of God, acts of the Public Enemy, acts of the Government (in either its sovereign or contractual capacity), fires, floods, or strikes, and unusually severe weather, PROVIDED that the Vehicle/Unit Vendor shall within three (3) calendar days of any such delay notify the City of Denver's Fleet Management in writing of the causes of delay and the facts relating to the problem</p> <p>6. After 24 hours/3 days of consecutive "lost service" of the vehicle/unit due to warranty problems the warranty period shall be extended by the length of lost service time due to warranty problems.</p> <p>7. The City of Denver shall consider the information submitted and may extend the time (208 hours) for completing, if in the City's, judgment, the facts justify such a warranty extension. The judgment of the City shall be final.</p> <p>B. Defective Fleet Definition: [Redacted] thirty percent (30%) of the total number of units delivered have the same part(s) and/or components failure requiring replacement and/or modifications caused by defects in Design, Testing, Material, and/or Workmanship. [Redacted]</p> <p>This Sentence Modified / Redacted 2-14-2013</p>
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** Note: Amrep would not be able to participate in Table 2 warranty, as we can not give warranty decisions to anyone other than ourselves as we have all the financial responsibility.


 Vendor/Sub Vendor: Amrep Support

Loader Refuse Trucks
CONFIGURATION #1

C.	<p>Remedy: Following notification of a Unit/ Fleet Defect, the vendor shall develop and implement a plan that either reengineers, modifies, or replaces the defective parts/ systems, such that the identified problem is cured and the operation of the vehicle/equipment is not altered. When alterations are required to cure the defect, those alterations that change or modify the original bid specifications must be approved by the City and County of Denver prior to execution. The vendor will pay for all necessary labor and materials to repair, modify, and/or "update" all vehicles/units in this group. The vendor shall also propose a work schedule that is mutually agreed upon by the City of Denver that corrects the fleet deficiency within 30 days or a mutual agreed upon schedule.</p>
D.	<p>Exceptions: Fleet defects will not apply to minor aftermarket accessories specified by the City of Denver and installed per instructions/specifications. Examples include: toolboxes, spotlights, bed-liners, etc.</p>
E.	<p>Mitigation: Should the vendor become non responsive to the City's notification of a Fleet Defect, the City may employ several options. (1) After notifying the vendor in writing of The City's intent to mitigate its circumstances, the City may choose to perform its own warranty work and seek reimbursement for both parts and labor. (2) On major components, such as engine, transmission, air conditioning, etc., the City may choose to have the repairs performed by an authorized dealer and vendor shall reimburse the City for any parts or labor not covered by other warranty.</p>
F.	<p>Outside Metro-Denver: Vendor will pay for all transportation costs if unit(s) must be sent out of the Denver area for repairs. The City and County of Denver reserves the right to inspect unit(s) before returning back to Denver. The City and County of Denver also reserves the right to send at least one employee, without cost to the City, to inspect the repair(s) before unit is released back to the City.</p>
G.	<p>Expired Warranties: Units that have mutually agreed upon warranty defects during the warranty period will continue to be repaired until completed. If an on-going remedy continues past the warranty date the repairs will continue under warranty until completed or cease at a time agreed upon by the vendor and City and County of Denver.</p>

Back Truck Center
Vendor/Sub Vendor: ARGUMENT EQUIPMENT

7.3 Warranty Options

Warranty Options (Table 3) Class 7 & 8 Vehicles		NO ADDITIONAL WARRANTY			
Cost of Factory Extended Warranties		Please indicate in the columns below the additional cost of an extended warranty for all applicable components listed in the left hand column.			
Inc = Included		N/A = Not available			
		Two Years	Three Years	Four Years	Five Years
A.	Cab and Chassis	1265	2915		N/A
B.	Engine	INC			5 YEARS 1500 miles 1200
C.	Transmission	INC			950
D.	Drive Train	N/A			N/A
E.	Suspension	471	705		N/A
F.	Air Conditioning	350	655		N/A
G.	Hydraulics	Included	N/A		N/A
H.	a. Pumps	Included	N/A		N/A
	b. Cylinders	Included	N/A		N/A
	c. Tanks	Included	N/A		N/A
	d. Valves	Included	N/A		N/A
	e. Controls	Included	N/A		N/A
I.	Attached Body	Included	N/A		N/A
J.	Joystick	Included	N/A		N/A
K.	Electrical Components	Included	N/A		N/A
L.	Camera System				
M.	Other				
N.	Notes:				

*Best Trade Center
HARVEY EQUIPMENT*

Vendor/Sub Vendor:

7.4 Warranty Service Locations: Warranty repair parts and service shall be available locally at an established factory authorized dealership meeting requirements of Table 1 Section 7.

A. Cab & Chassis:	Dealership Name: <u>Plisk Truck Center</u>	Telephone #: <u>303-675-0111</u>
	Street Address: <u>5165 INSURE? Blvd</u>	City: <u>Denver Co.</u>
B. Barrel Loader Trash Body:	Dealership Name: <u>Hardline Equipment</u>	Telephone #: <u>(303) 500-2176</u>
	Street Address: <u>7500 Dahlia St.</u>	City: <u>Commerce City, CO 80022</u>
C. Sundries	Dealership Name: _____	Telephone #: _____
	Street Address: _____	City: _____

**** Note:** Also Factory Direct Assistance: Amrep, Inc: 1555 S. Cucamonga Ave., Ontario, CA 91761
(909) 923-0430 tele., (909) 923-2485 fax

Vendor/Sub Vendor: Plisk Truck Center
Hardline Equipment

8.0

Heavy Duty Vehicle Delivery Documentation:

	<p>Delivery Documentation (GWR 26,001-Lbs and Above Heavy Duty)</p>
<p>A. Vehicles ordered under this specification shall be complete and delivered to CITY AND COUNTY OF DENVER, Fleet Management Division. All prices quoted must be quoted at a firm price F.O.B. Denver, Colorado, 5440 Roslyn St. Building C.</p> <p>B. Vendor shall supply at acceptance and delivery of vehicle.</p> <ol style="list-style-type: none"> 1. Bill of Sale (aka invoice, buyers order) 2. Original MSO (Manufacturers Statement of Origin) 3. Application for Title and/or Registration, Colorado Dept of Revenue form DR2395 (02-22-11) 4. Odometer Disclosure Statement, Colorado Dept of Revenue form DR2407 (09-07-05) 5. Letter of Certification on Vendor Letterhead (Required for Incomplete Vehicles) with added bodies etc, describes the final configuration of the vehicle) 6. Air Brake inspection form required for any vehicle with air brakes or truck units capable of towing trailers greater than 10,000-Lbs 7. Standard Sales Tax Receipt. 8. DOT inspection form. 9. Temporary License Plate. 10. New Equipment Check-in Form/ Vendor Supplied Information on the Vehicle. Form provided by Fleet contact Dolores @ 720.865.3903 11. Copy of City Purchase Order. 12. All Keys ordered for the Vehicle and Sundries, i.e. toolboxes etc. 13. All Manuals repair, parts, owners and/or CD's/DVD's etc 14. Vehicle Warranty information and receipt for optional warranty. 15. Receipts and Warranty information for vendor installed/supplied components (lift gates, snowplows, lighting equipment etc) 	
<p>C. For an "Incomplete Vehicle" (cab & chassis) add the following:</p> <ol style="list-style-type: none"> 16. Verification of Vehicle Identification Number (VIN), Colorado Dept. of Revenue form DR2087. 17. Statement of Fact for incomplete vehicles with added bodies etc, describes the final configuration of the vehicle. 18. Original weight slip. 	
<p>D. Delivery: Monday through Friday between 8:00am and 1:00pm. Location: CITY AND COUNTY OF DENVER Fleet Management 5440 Roslyn St. Building C Denver, CO 80216</p> <p>Contact person to coordinate delivery: Dolores Gallegos at (720) 865-3900 ext. 03 or direct line (720) 865-3903.</p>	

Red Tail Center
APRO LIME EQUIPMENT


9.0 Vehicle Delivery
91 Delivery of Cab and Chassis to Body Vendor

PROVIDE NUMBER OF DAYS REQUIRED FOR DELIVERY OF CAB AND CHASSIS AFTER PURCHASE ORDER IS ISSUED TO BODY VENDOR	<u>60</u> DAYS
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9.2 Delivery of Completed Truck with Body Installed to City and County of Denver

PROVIDE NUMBER OF DAYS REQUIRED FOR DELIVERY OF COMPLETE VEHICLE AFTER CAB AND CHASSIS IS DELIVERED	<u>120</u> DAYS
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10.0 Complete Vehicle Cost

Include: <input type="checkbox"/> Cab & Chassis Total Cost <input type="checkbox"/> Side Loader Body Total Cost <input type="checkbox"/> Sundries Items Total Cost Do Not Include: <input type="checkbox"/> Optional Equipment <input type="checkbox"/> Warranty Cost (s) <input type="checkbox"/> Manual Cost (s)	ONE COMPLETE VEHICLE TOTAL COST Authorized Signature: 
	\$ <u>298,151.00</u>

January 2017

CAB AND CHASSIS COST: \$138,961
 BATTERY MINDER COST: \$595
 AMREP BARREL LOADER BODY COST: \$105,047.85
 SUNDRIES: INCLUDED IN BODY COST
 SIGN BOARDS: \$600
 ECCO CAMERA SYSTEM: \$2,200
 TOTAL EACH DIESEL UNIT: \$247,403.85
 Includes Market Increases per D.R.M.C 20-64- (A1, A4)

CITY PO EXHIBIT
City and County of Denver
Fleet Management
Vendor Supplied Information Data

City Unit(s) # _____

(City Use Only)

ENTER CITY PURCHASE ORDER NUMBER: _____-0 0 0 0 0 0 _____
Examples: PWOPS-0000012345, POLIC-0000001234, FIRES-000001234

The following underlined forms and information are REQUIRED for new vehicle deliveries:

- Copy of entire Purchase Order (all pages)
- Original MSO (Manufacturers Statement of Origin) – is required for all vehicles except off-road and construction equipment. May receive one for some off road equipment if manufacturer issues one.
Name of purchaser: **City and County of Denver**
Address: **201 W. Colfax Ave. Dept. 304**
Denver, CO 80202
- Secured Dealer Bill of Sale (DR2407) – IN STATE ONLY – Required for on the road vehicles Such as cars, pickup[s], vans and any vehicle under 16,000 GVWR. Not needed if odometer Section is filled out and signed on MSO. Not required on vehicles over 16,000GVWR LBS.
- Application for Title and Registration (DR2395) – Required for all on-road vehicles and trailers.
- Verification of Vehicle Identification Number (DR2698) – Required for all Vehicles coming from an out of state dealer, incomplete vehicle. I.E. Cab and Chassis.
- Statement of Fact (DR2444) - Required on all vehicles with modifications to the cab and chassis. Such as a body crane, auxiliary engine, etc. The statement of fact must include the modifications made and include VIN numbers of chassis and equipment.
- Special Mobile Machinery Form (DR2689) - Required on all off road and Construction equipment. I.E. Front end loaders, tractors, skid steer loaders, Mowers, air compressors, motor graders, etc.
- Weight slip required - (on all incomplete vehicles that are made into a complete vehicle) – and all off-road equipment and construction type equipment. (Front end loaders, sweepers, graders, air compressors, rollers, etc.).
- Temporary License Plate – Required for all on-road vehicles. Not required for off road Equipment.
- Original Dealer Invoice – Required for all vehicles on and off the Road.
- Receipt or Contract for Optional Warranty – Only if spec or called out on P.O.
- Shop and Parts manuals (as required) (CD or electronic form preferred) – Only if spec or show as a line item of P.O.

Dealer Signature: _____ Date: _____