Request for Proposal No. 2872
Two Refuse Trucks

Dated: April 9, 2018

The City of Lompoc Fleet is currently soliciting bids for: Two (2) Refuse Trucks.

Before the next purchase, we solicit your demonstration at our facility and or presentation for new refuse truck configuration or features with a capacity not less than thirty (30) cubic yards.

The on-site equipment demo is the ultimate opportunity for vendors to demonstrate the capabilities of their product(s) to the City. Please have an expert operator for the demo. Please plan for our operating staff to have hands on operating time.

Please register on page 2, to be included in this solicitation process and fax or email back for listing. We will negotiate an appointment when you register.

Tentative dates:

RFP Release	4/9/2018
Demonstration period	4/10/2018 to 5/8/2018
Re-Release RFP	5/18/2018
Close RFP	6/1/2018
Evaluate and check references	6/15/2018
Notice on intent	6/29/2018
Council Award	7/20/2018
Contract Purchase Order execution	8/1/2018

If you are unable to demonstrate your equipment, we offer a period for presentation at our facility about features you may want to bring to our attention.

This is our current specification. Alternates must meet or better for capacity and capability.

Theresa A. Hernandez

Buyer/Purchasing Assistant/Warehouser

Purchasing Division
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"Registered Bidder Information Sheet"
Request for Proposal No. 2872
Two Refuse Trucks

Do you want to be a part of the Demonstration Process?

Yes ☐ **No** ☐

1. **Complete this form (print or type your information).**

2. **Fax the completed sheet to (805) 735-7628 or email to t_hernandez@ci.lompoc.ca.us**

(Please type or print)

Company Name	Signature Of Authorized Representative
Address	Name And Title (Please Print)
City, State And Zip Code	Email Address
Phone Number	Fax Number
Date	Web Site Address

Two Refuse Trucks with Automated Packer Body, Right Hand Drive

1.0 SCOPE AND INTRODUCTION:

The following minimum specifications are intended to describe two (2) right hand drive, truck cab and chassis, with automated refuse packer body installed and ready for service.

The units proposed shall be a new unused current production year model and will have all standard equipment shown in the manufacturer's printed literature unless a specific and installed option makes the standard equipment unnecessary.

If Deviation(s) list is not complete or if the information furnished does not substantiate that the proposal requirements are met, this will be cause for proposal rejection.

The City of Lompoc reserves the right to waive minor variations if in the opinion of the Purchasing and Materials Manager the basic unit meets the general intent of these specifications.

The units shall be delivered to the City of Lompoc complete and ready for service.

The refuse trucks offered shall comply with the California Air Resources Board (ARB) definition of the Best Available Control Technology (BACT) for reducing Nitrogen Oxide (NOx) by providing certified engine(s) 2010 model year standard using Selective Catalytic Reduction (SCR) to reduce emissions by adding an additional diesel exhaust fluid (urea) for the new trucks.

Each bidder shall show all warranties and any cost associated with servicing said warranties. Coverage shall be shown for the complete unit, basic truck, body assembly and installed equipment and accessories.

Trucks shall be delivered as soon as possible after bid opening.

1.1. The Chassis Engine shall power all components of the machine. The use of additional engine(s) shall not be acceptable and be considered non-responsive.

1.2. Manufacturer's Specification. Complete specifications, published literature and photos or illustrations of unit proposed shall be furnished with proposal.

Only new models in current production which are catalogued by the manufacturer and for which printed literature and specifications are available will be accepted.

1.3. Manufacturer's standard equipment. All equipment and components listed as standard by the manufacturer for model proposed.

Shall be furnished whether or not such items are detailed herein, e.g., special wrenches, tool kits, jacks – adequate to safely lift the vehicle when loaded to rated capacity, etc.

1.4. Manuals and Software. Furnish two (2) complete sets of operation, parts, maintenance, and repair manuals including electrical schematics for cab and chassis as well as packer body system. This shall include diagnostic software and 1 each GETAC F110 Rugged Tablet book laptop computer (for each unit) with USB to 9-pin RS232 serial port for

interface with the cab, chassis, and engine diagnostics and shall be compatible for use with the tablet and software.

1.5. Training. The successful contractor shall provide a qualified, factory-authorized service representative to give instructions to the operators and maintenance personnel to assure correct operation of the machines after the vehicle has been readied for service by City personnel. Duration of training shall be determined by City of Lompoc representative.

1.6. Hose and wiring routing. All hoses, wires and pipes shall be routed to be clear of all heat sources and shall be routed, secured otherwise protected from any present or potential source of snags, abrasions or sharp edges.

1.7. Control labeling. All operator controls shall be clearly labeled as to function and operational position(s).

1.8. License. The original dealer's Report of Sale along with a Certified Weight certificate and California DMV REG 397 shall be furnished to the consignee at time of delivery of the vehicle(s) before payment can be made.

1.9. Pre-delivery inspection. At the Vendor's expense; shall provide travel, separate lodging, and meals for two (2) City Representatives for the purpose of pre-delivery inspection at the manufacturing site. The pre-delivery inspections shall be accomplished when the unit(s) are more than 80% (percent) complete.

1.10. Warranty. The unit shall have a minimum of one (1) year warranty against defects in materials and workmanship. The warranty shall cover both parts and labor and begin at the in-service date, not delivery date. Any extended warranty packages offered for the cab & chassis and body assembly shall be provided.

1.11. Rechargeable fire extinguisher with metal valves (not plastic) and bracket, 5 LB., ABC day chemical located readily accessible to driver. Note: Fire extinguisher must have current certification tag attached.

1.12. Backup indicator, an audible device, which can be, heard above 107 dba of background noise when transmission is placed in reverse gear. The truck will be equipped with one strobe beacon on the top rear of the packer body tailgate.

1.13. A triangle flare kit. (Ref. Grote 71422) with mounting bracket located out of the way but readily accessible by driver.

1.14. Before delivery to the City of Lompoc and before acceptance by the City – **all** spring "U" bolts, etc., shall be **re-torqued** to factory specification by hand using torque wrench. (Impact wrench – not acceptable).

1.15. Applicable documents and certifications:

Federal Motor Vehicle Safety Standard, Department of Transportation.
State of California Motor Vehicle Code.
State of California General Industrial Safety Orders
State of California Health and Safety Code, Motor Vehicle Pollution Control.
California Occupational Safety and Health Act (O.S.H.A.) and the E.P.A.

Society of Automotive Engineering Standards.
American Society of Mechanical Engineers (A.S.M.E.).
American National Standards Institute (A.N.S.I.)
California Air Resources Board engine particulate matter and NOx compliance

1.16. Quantities (additional). The quantity is based upon current known requirements and is subject to increase at the same terms and conditions if mutually agreeable to both parties.

2.0 CAB AND CHASSIS:

Specifications cover a diesel-fueled, three-axle, right hand drive; tilt cab and chassis that incorporates the latest improvements and technologies, and ready for installation of automated refuse packer and body.

2.1. GVWR. 56,000 pounds or greater

2.2. Cab to Axle Dimension. C/A dimension shall be the shortest possible consistent with proper weight distribution. Actual dimension to be specified by the automated packer body manufacturer. Vehicle shall have proper weight distribution to obtain maximum front and rear axle weight equally.

2.3. The frame. Shall be heavy duty, Constructed of alloy steel, with an RBM of not less than 2,000,000 inch pounds per rail. The bidder shall specify the RBM of frame.

2.4. The frame shall have a sufficient number of cross members to provide torsional rigidity and to support the frame rails where the fuel tank(s) and rear suspension assemblies shall be mounted. A cross member shall be installed at the extreme end of the frame.

2.5. If heat-treated frame is provided, it shall not be heated or welded during the body installation.

2.6. Two (2) Tow Hooks. supported and braced into frame rails shall be provided and installed, one on each front frame horn. Hooks shall be capable of towing fully loaded vehicle.

3.0 ENGINE:

The refuse trucks offered shall comply with the California Air Resources Board (ARB) definition of the Best Available Control Technology (BACT) for reducing Nitrogen Oxide (NOx) by providing certified engine(s) 2010 model year standard using Selective Catalytic Reduction (SCR) system. Each bidder shall show all warranties and any cost associated with servicing said warranties. An ultra-low sulphur fuel diesel fueled, 11-liter, electronically controlled, turbo charged, after cooled engine developing a minimum of 425 horsepower @ 1,800 RPM and with 1560 lbs.-ft. of torque @ 1,200 RPM. Must have replaceable cylinder liners. To minimize costs for stocked parts, reduce mechanic training, and standardization of diagnostic programs and equipment: Acceptable engines are Mack, CAT or Cummins such as the Econodyne. Engine must comply with current California Environmental Protection Agency Standards and Regulations.

3.1. The oil filter(s) shall be a spin on type.

3.2. The engine shall be equipped with an engine brake with two position control or approved equal.

3.3. The air cleaner shall be a heavy duty Donaldson 15" dry-type with a replaceable element. It shall have the largest filter area available. There shall be a Turbo II pre-cleaner installed.

3.4. The vehicle shall have an electronic tachometer and electric hour meter. The hour meter shall be wired to the fuel solenoid switch. Wiring the hour meter to the ignition switch shall not be accepted.

3.5. An automatic safety shutdown system shall be installed. The system shall be of the engine manufacturers design to prevent engine damage due to low oil pressure, high water temperature and low coolant level. The system shall be an integral part of the engines electronic control unit.

4.0 COOLING SYSTEM:

The cooling system shall be heavy duty, pressurized, and thermostatically controlled. The vehicle shall have a thermostatically controlled or viscous, clutch fan.

4.1. The cooling system shall be equipped with a de-aeration system. Gates EC/R hoses shall be used throughout. The radiator shall have a minimum of three (3) inch core.

4.2. The radiator shall be capable of dissipating a minimum of 350,000 BTU's per hour. The radiator shall not have shutters. The coolant shall be extended life type antifreeze. The system shall be protected by a spin on coolant filter

4.3. The radiator shall be capable of meeting above requirements with incoming air preheated by a transmission cooler and with an ambient air temperature of 115 degrees Fahrenheit.

5.0 FUEL SYSTEM:

Shall have a minimum full tank capacity of 75 gallons, and have both primary and secondary fuel filters. Mount left hand side, 40" behind the battery box. Diesel Exhaust Fluid (DEF) tank shall be 10-gallon capacity and mounted on the same side as the diesel fuel tank.

6.0 EXHAUST SYSTEM:

The exhaust system shall be single exhaust system, vertically mounted, with the appropriate connections, guards and/or shielding. The shield shall afford 360 degrees protection to prevent injury to operators or mechanics. The exhaust pipe shall be mounted on the right side of the chassis and shall have a right turnout, rain cap is not acceptable. Exhaust outlet shall be not less than 11 feet from ground level.

The SCR system works by injecting Diesel Exhaust Fluid (DEF) into the exhaust stack. The DEF works in conjunction with the hot exhaust gases and catalyst to break NOx into two components of water vapor and nitrogen. *The DEF tank and pump*: under the directions of the vehicle's onboard computer, DEF is delivered in precisely metered spray patterns into the exhaust stream just ahead of the SCR converter. Exhaust gases and an atomized mist of DEF enter the converter simultaneously. Together with the catalyst inside the converter, mixture undergoes a chemical reaction that produces nitrogen gas and water

vapor. *Control devices:* Exhaust gases are monitored via a sensor as they leave the SCR catalyst. Feedback is supplied to the main computer to alter the DEF flow if NOx levels fluctuate beyond acceptable parameters.

7.0 ELECTRICAL:

7.1. The vehicle shall have a 12-volt negative ground system and a remote shut off at the battery box.

7.2. The batteries shall be three (3) Group 31 Top Stud Low Maintenance. The batteries shall be the highest amperage available. The battery box shall be frame mounted on the left-hand side, as per body manufacturer layout, behind the front wheels. The bidder shall specify the number of batteries as well as their individual and combined ampere-hour rating.

7.3. Automatic resetting circuit breakers on all circuits.

7.4. The starting and charging circuits shall be a 12-volt system. 24-volt systems are not acceptable.

7.5. The alternator shall be a minimum 160-ampere High output, Delco Remy or approved equal. The bidder shall specify make, model, and amperage of the alternator. Less than 160-ampere alternator is unacceptable.

7.6. All wire, terminals, or connectors exposed to dirt and moisture shall be adequately protected. Whenever possible, wires shall be grouped into harnesses and properly supported on rigid members to prevent abrasion and flexural failure.

7.7. All vehicle clearance, marking, stop and taillights shall conform to current State and Federal codes. These lights, with the exception of cab mounted clearance lights shall be light emitting diode (LED) type. Headlamps shall be halogen type sealed beam. Bidder shall specify make, model of lights. If specified type lights are not available, please explain why they are not available and what type of lights will be included

8.0 TRANSMISSION:

8.1. Transmission shall be an Allison 4500 RDS 6 speed, or approved equal. Application to be compatible with manufacturers brake package. Transmission shall be equipped with low transmission oil level sensor. PTO function to be operated through the Allison transmission ECU.

8.2. The transmission shall be set up with Allison vocational codes: refuse and construction I Group 77 and vocational package 152, or equivalent

8.3. The transmission shall have a frame cross member support at the rear.

8.4. Transmission oil cooler shall be the standard oil cooler integral to the Allison transmission.

9.0 FRONT AXLE:

9.1. Equal to Rockwell FL941 with minimum wheel cut of 40 degrees and 18,000 pounds minimum rated capacity.

9.2. Springs shall have a minimum rated capacity of 18,000 pounds

9.3. Power steering

9.4. STEMCO hub seals with visible oil level.

9.5. Shock absorbers, rated for axle

10.0 FRONT WHEELS and TIRES:

Two (2) each 315/80R22.5, 20 Ply, Load Range L, Michelin XZY-2s tubeless radials. Wheels to be steel, disc type, "Budd" style commensurate with tire size. One (1) each spare front wheel and tire to be included.

11.0 REAR AXLES, WHEELS AND TIRES:

Rear axles shall be tandem axle dual drive, minimum capacity rating at 44,000 pounds capacity. Rear axle shall be single reduction axle with axle ratio geared for a maximum fully loaded road speed of 58 to 60 miles per hour. Rockwell or approved equal. Bidder shall specify rating of each axle

11.1. Spring capacity shall be consistent with axle rating. Volvo-T Ride™ suspension or approved alternative.

11.2. Axles shall have air operated inter-differential lockout with all wheel capability. A dash-mounted light shall be installed to indicate when the lockout is engaged.

11.3. Eight (8) each 315/80R22.5 20-ply Load Range L, Michelin XZY-1 or XZY-2 tubeless radials. Wheels to be steel, disc type, "Budd" style commensurate with tire size. One (1) each complete spare rear wheel and tire to be included

12.0 BRAKES:

12.1. To be air, drum type, front and rear to be "S" cam self-adjusting type with Rockwell/Wabco ABS, no substitutes. All brakes and the component parts of the brake system shall meet the Department of Transportation rules and regulations, and also the Laws of California State Vehicle Code. All brake components to be Rockwell or approved equal.

12.2. The front brakes shall be the largest available from the cab and chassis manufacturer. The front axle may <u>not</u> have <u>disc-type brakes</u>. The drum-type front brakes shall be 16.5 inches by 6 inches, minimum

12.3. The rear brakes shall be 16.5 inches by 8 inches, minimum, with outboard centrifuge drums

12.4. The vehicle shall be equipped with piggyback-mounted spring actuated dual diaphragm chamber system, with quick-release valves located on or near the rear axle for immediate

application of the “spring brake” when applied from the cab. Shall have spring-type parking brake with #30 size chambers on all four rear wheels.

12.5. The air compressor shall be a 13 C.F.M. output (minimum). The discharge line of the air compressor shall be braided; rigid tubing coming directly from the compressor shall not be accepted

12.6. The vehicle shall be equipped with three air tanks. All tanks shall be equipped with manifold twist type drain valves accessible from the side of the vehicle and be high visible labeled with location. The air tanks shall be of sufficient capacity to accommodate an operation requiring 400 to 500 stops in seven (7) consecutive hours. Tanks shall be mounted between the frame rails. The system shall have a Rockwell / Wabco System Saver 1200, Air Dryer installed. No substitutes.

13.0 STEERING:

13.1. The vehicle shall be equipped with power steering designated to ensure that front wheels will return to straight ahead position when steering wheel is released

13.2. Outside turn radius shall not exceed 70 feet.

13.3. The vehicle shall be equipped with power steering cooler, Hayden Model K1240, or equal and it shall be adequate to maintain a normal operating temperature in 120 degrees Fahrenheit weather. The cooler shall be capable of dissipating a minimum of 13,000 BTU’s per hour. The cooler shall utilize ½ inch lines and fittings, and shall be rated a three (3) to twelve (12) gallon/minute flow. The bidder shall specify the make/model and/or part number.

14.0 DRIVE SHAFT:

14.1. The original drive shafts shall be lengthened or shortened, as required by the wheelbase. The reworked drive shafts shall be balanced and installed and shall not exceed the recommended angles. All new or reworked drive shafts shall meet or exceed the quality of materials and construction of the original drive shafts. The drive shafts shall be balanced prior to final installation.

14.2. The drive shafts shall be heavy-duty. Maximum length of any shaft is not to exceed (6) feet

14.3. Universal joints shall be 1700 series or larger

15.0 STANDARD CAB:

15.1. New current production low entry, forward tilt cab. Equal to Model ACX64.

15.2. Any cab modification shall not interfere with the operation of the original steering and braking controls provided by the chassis manufacturer.

15.3. The cab and/or platform shall meet all applicable Federal and State standards, rules, and regulations.

15.4. Cab construction shall be welded reinforced 18-gauge galvanized steel. The floor pan shall be welded reinforced 14-gauge steel. Bidder please explain any variance. Steering column and driver's seat(s) should align.

15.5. The cab platform shall be reinforced, structurally supported and secured to the frame rails

15.6. The windshield and windows shall be located to achieve maximum visibility to the front and to the sides. The view to the rear shall provide clear unobstructed view of the container grippers. Side and rear windows shall be tinted to provide for UV protection. All window glass shall be safety plate and meet federal safety standards. Rear window shall be one continuous glass piece and shall be no smaller than 17"H X 56"W. Windshield wiper motor shall be located at the base of the window. It should not be mounted to the top portion of the window.

15.7. The driver's seat will be low profile air seat, adjustable fore and aft inside the cab.

15.8. Safety seat belts installed in the cab shall be orange in color, with outside belts to be equipped with automatic retractors for both the operator and passenger

15.9. One air and one electric horn.

15.10. Grab handles outside cab on both sides.

15.11. Vehicle to be equipped with normal recessed instruments and control devices, including audible low air alarm, engine tachometer, hour meter, speedometer, oil pressure, dual air pressure, engine water temperature, fuel gauge, voltmeter, engine oil temperature, engine shutdown system alarm and transmission temperature gauge with an over temperature indicator light and test button. (Reference Item 3.5)

15.12. Dome light.

15.13. Dual padded sun visors.

15.14. Fresh air heater, defrosters and manufacturer installed air conditioner with variable speed switch to be of type and size recommended by manufacturer of vehicle, R134 system.

15.15. Windshield wipers shall be air or electrically operated with variable speed control and park position

15.16. Outside mirrors to be 6-5/8 inch by 13-½ inch flat glass. Mirrors shall be electrically controlled and heated with cab mounted controls. Motor-Mirrors or approved equal. Vendor shall specify make and model

15.17. Hydraulic cab tilting mechanism. The vehicle shall also be equipped with a minimum of two locking cab latches

15.18. Factory installed AM/FM radio.

15.19. Unit will be equipped with a Federal (Cam Set) two camera system with switching capability. One camera, Federal, Model 56-NTSC-2-Kit to show the inside of the

hopper, and the second camera, Federal, Model 56-NTSC-2-Kit mounted on the tailgate for rear vision. Whenever the truck is put into reverse gear the witching device shall operate the rear vision camera allowing the operator clear vision of the area behind the truck. A Federal, Model 56-NTSC-2-Kit, 5.5 Black & White monitor shall be mounted in the cab of the truck allowing the operator good vision. All camera cables shall be Federal, Model 56-NTSC-2, encased in steel conduit at the tailgate and all outside exposed areas. Hopper camera shall be enclosed in steel guard for protection.

15.20. Cab driver's right door shall have an armrest and a pocket for document storage. City representative shall provide design, material, and location of armrest.

15.21. Cab passenger door shall have a Fresnel auxiliary window mounted low for curb viewing.

16.0 ACCESSORIES:

16.1. The vehicle shall be equipped with mud flaps at the front wheels sufficient to protect the cab and refuse body from road dirt from the front tires. Dual rear wheel mud flaps shall be required.

16.2. Shovel and Broom holders, Spill kit Holder and spill kit included.

16.3. The vehicle shall be equipped with an external audible warning signal conforming to CAL OSHA standards indicating when the vehicle is in reverse. The alarm must be automatic and sound when transmission is shifted into reverse. The minimum audible level must be no less than 107 decibels. (Reference Item 1.13)

16.4. All units shall be equipped with GPS/Telematics system with full GPS tracking capabilities. Current technology shall include electronic DVR and monitoring system (braking, speeding, fuel consumption, etc.)

17.0 AUTOMATED PACKER BODY CAPACITY AND CONSTRUCTION:

These specifications cover a side loading, compaction type refuse collection body. The automated packer body will be constructed and installed on a three-axle truck chassis as specified in Part I of these specifications. The packer body manufacturer shall furnish to the cab and chassis manufacturer the required wheel base dimensions for the packer body complying with these specifications. The packer body shall be integrated with mechanical lift arm as specified in Part III of these specifications. No section(s) of the hopper or body shall have exposed cut-outs or holes. The refuse body manufacturer must be ISO 9001:2000 certified and a copy of the manufacturers ISO certificate must accompany this bid. (No Exceptions) The equipment furnished shall conform to ANSI Safety Standard Z245.1-1999.

17.1. The packer body shall have a capacity of not less than thirty (30) cubic yards excluding the receiving hopper or compactor device.

17.2. The hopper shall have a minimum capacity of three (3) cubic yards.

17.3. The structural integrity of the body shall allow high density loading of up to 700 pounds per cubic yard of normal refuse.

17.4. The packer body cab and chassis combination shall produce a minimum payload of no less than 14,000 pounds in regular use.

17.5. Maximum body, loader and tailgate weight, exclusive of special options, shall not exceed 13,200 pounds.

17.6. Maximum width, outside 96”.

17.7. Maximum overall length of the body, tailgate and loader assembly combined shall not exceed 279”.

18.0 FRAME MODIFICATIONS:

If frame modifications to the cab and chassis are required for packer body installation, the modified frame must meet the original frame specifications of the manufacturer.

19.0 GROUND CLEARANCE:

19.1. Completed vehicle shall maintain a minimum ground clearance of at least 13 inches, excluding front and rear axles.

19.2. All exposed air, hydraulic, electrical and cooling components with an 18 inch or less ground clearance dimension shall be adequately protected from damage associated with landfill operations.

20.0 BODY:

20.1. Shall be an all welded construction of framed steel sections. Interior shall be smooth and free of all obstructions to allow easy removal of refuse material.

20.2. Body sides, roof, floor, and hopper floor shall be structurally reinforced as to withstand continuous operation at maximum imposed loads without harmful deformation or excessive wear.

20.3. Cab operated tailgate locks with unlock alarm are required

20.4. Fenders over the rear axles to protect the body from debris are required. Fenders shall be attached to the body sub-frame.

21.0 CONSTRUCTION:

21.1. Welding fillets shall have good penetration, good fusion, good appearance, and shall show no cracks or undercutting. All welds shall conform to NWS

21.2. The exterior surfaces of the roof, sidewalls and rear doors shall have continuous welds. The body shall be water tight up to no less than twelve inches above the floor. Body shall have sufficient steps and handrails for operator to safely remove stuck debris or containers from hopper interior.

21.3. Units must conform to the best practice known to the body trade in design, quality of material and workmanship.

21.4. The body interior shall have a smooth flat floor without a trough. The sides and roof shall be smooth radius cornered construction. The body interior must have continuous welds in addition to the outer body welds (No Exceptions). All materials shall be steel unless otherwise specified.

21.5. In order to prevent damage from corrosion and fire, no hydraulic cylinders, valves or other hydraulic components shall come in contact with refuse packed into the body.

21.6. Body sides and roof shall be of reinforced channel construction interfacing with the 90-degree radius corner mainframe bolsters. Bolsters shall be 6" x 1 ¾" x 7 gauge high tensile formed channel interfacing 90 degree radius channels at the major upper and lower connecting points of the mainframe.

21.7. Floor shall be reinforced with 6" x 1 ¾" x 7 gauge high tensile formed structural channels located so as to withstand continuous operation at maximum imposed loads without harmful deformation or excessive wear.

21.8. Body roof shall be minimum 12 gauge, hi-tensile sheet fully welded to a full width 6" x 1 ¾" x 7 gauge high tensile formed structural channel. Roof cross members shall contain and dissipate forces equally through the roof structure

21.9. Body sides shall be minimum 10 gauge, high tensile sheet, fully welded to the sidewall vertical bolsters.

21.10. Body floor shall be flat with radiused corners at the sidewalls. Floor shall be a minimum 7-gauge 150,000-PSI minimum yield sheet.

21.11. A 24" x 64" x 3/16", 100,000 PSI yield sheet overlay shall be welded to the body floor at the transition from the hopper floor to the body floor.

21.12. Floor longitudinal (long members) shall be 10" @ 20#/ft. structural channel. Longitudinal shall provide minimum 2.7" wide sill base.

21.13. Floor outer members shall be 1 ¾" x 6" x 7 gauge, 40,000 PSI minimum yield formed channels. Cross members shall be supported adjacent the long members with 6" x 16" x 3/8" gussets to fully support the floor. Longitudinal to longitudinal spanner members shall be 1" x 3" hot rolled steel bars

22.0 COMPACTOR:

22.1. Shall be capable of operating continuously when the truck is at rest or moving, whether loading or not.

22.2. Shall be capable of displacing material dumped in the hopper at a rate not less than 10 cubic yards per minute at normal operating RPM

22.3. Shall be capable of permitting container to be unloaded at any time.

23.0 HOPPER:

23.1. The hopper floor and sides shall be a minimum of ½" hot rolled steel plate per ASTM-A36 steel specifications. The hopper floor ½" plate steel shall extend into the body a minimum of 18". Hopper floor and sides shall have a 3/16" – 100.000 Psi steel liner fully welded 48" into body. Main hopper floor must be .5" ASTM-A36 steel excluding the additional 3/16" liner (No Exceptions).

23.2. The front of the hopper will be rounded and free of any corners allowing operation of the lift from conventional right hand drive chassis

23.3. The hopper front and side opposite the lift and above the packing platen will be constructed of solid metal. Minimum of six (6) steps and handrails shall be provided for operator safety when dislodging debris or containers from hopper. Hopper body shall be a sealed unit with no exterior side openings. Two (2) each tube type rack and broom holders shall be provided near steps and handrails. Note: Type and location of holders shall be provided by City Representative.

23.4. Provision shall be made to permit access to hopper area by ladder and design shall be such that one operator can remove a 90, 100, 300, or 440 gallon container from the hopper without assistance

23.5. The hopper shall be designed to prevent debris spillage onto the cab and chassis during container dumping. The curbside hopper wall shall be equipped with a replaceable rubber flap. The flap shall be constructed of 3 ply cord reinforced, neoprene rubber and shall extend upward a minimum of 5"

24.0 PACKING PLATEN:

24.1. The packing platen shall be electrically controlled from within the cab, shall complete a pack sweep cycle, displacing a volume of at least three (3) cubic yards, in a maximum of 14-16 seconds with an empty body, and shall be capable of operating continuously so that refuse containers can be dumped with the platen in any position.

24.2. A push button switch shall automatically start the packing cycle. The packer shall also be capable of manual control operation in either direction.

24.3. An electric limit switch and/or pressure switch will be used to automatically reverse the packer.

25.0 PACKING OPERATION:

25.1. The operator shall operate the platen continuously in the compaction mode, or shall be able to reverse the platen or to stop it without interrupting the loading operations. The normal compaction mode shall be continuous and automatic, requiring no action by the operator. As the body becomes loaded and the compacting pressure begins to reach the limit of its compaction capacity, the operator shall be notified by a buzzer and light in the control console.

25.2. The controls, operation and design of the equipment shall be such as to accommodate keeping the driver in the cab at the landfill. It shall not be necessary for the operator to leave the cab to remove accumulations of debris, to latch or unlatch the tailgate or body.

26.0 TAILGATE:

26.1. The tailgate shall be top hinged and of the bustle style and shall open approximately 90 degrees.

26.2. The tailgate rear panel and side panels shall be fabricated from a minimum of 10-gauge high tensile sheet steel on rear and sidewalls.

26.3. The tailgate shall be reinforced by a minimum 1 ¾" x 6" x 7 gauge, 40,000 PSI minimum yield formed steel perimeter channel.

26.4. The tailgate shall be raised and lowered, locked and unlocked by hydraulically actuating two (2) double acting cylinders with a minimum 3" bore x 18.5" stroke x 1.12" diameter chrome plated rod. The cylinders must lock and raise the tailgate. Cylinder design shall include an orifice fitting to prevent the rapid descent of the tailgate in the event of a hydraulic failure. Hydraulic shutoff valves are to be located in an easily accessible location.

26.5. The tailgate shall be secured to the body by two (2) sets of hinges at the roof line.

26.6. The tailgate movement and latching functions shall be performed by means of a single control actuated within the cab.

26.7. A heavy-duty rear door removable positive one-piece seal of vinyl tube gasket material will be installed the full length of the bottom and 14" up the sides of the tailgate to prevent leakage.

26.8. Tailgate props shall be provided. Props may be lowered manually and secured in the raised position by a positive locking device.

26.9. All lights will be recessed into the tailgate with the lens flush with the outer skin. Clearance, backup and directional lights shall be LED type, shock mounted in a protective housing. The whole unit will be "pop-out" and replaceable. All vehicles will meet FMVSS #108 and State lighting and reflector requirements.

26.10. An in-cab alarm chime will be provided to indicate that the tailgate and/or the body is raised.

26.11. The vehicle will be equipped with a strobe type-warning beacon mounted on the tailgate. On/off switches will be located inside the cab.

27.0 HYDRAULIC SYSTEM:

27.1. The hydraulic system shall be designed for and will utilize the "Heil Operate in Gear at Idle" hydraulic system.

27.2. Shut off Valve at Tank should be located at rear of tank and accusable to driver from side of truck for ease of access.

27.3. The pump shall be tandem vane type with hydraulically balanced rotors. Vanes shall be double lip design and utilize the hollow check pin design. Minimum pump delivery shall be 29 GPM @ 750 RPM and rated at 3500 PSI. The pump shall have a single inlet port to supply both vane cam ring sections. Shall not exceed 2 GPM leakage at 3,000 PSI.

27.4. Pump shall be capable of mounting directly to the PTO and shall not be front mounted to engine.

27.5. All hydraulic valves shall be solenoid controlled electric over hydraulic valves.

27.6. A quick disconnect fitting shall be supplied at the inlet to each valve section so that a pressure gauge can be easily connected without the use of tools or the need to remove hydraulic fittings.

27.7. A 5,000 psi pressure gauge with a quick disconnect fitting which couples with the fittings on the valves will be provided with each unit.

27.8. The loader hydraulics relief shall be set at 2,300 psi.

27.9. The packer hydraulics relief shall be set at 2,500 psi.

27.10. A six (6) micron absolute return line filter and 100-mesh suction line strainer shall be used for hydraulic oil filtration. Both elements shall be located within the confines of the hydraulic reservoir for easy maintenance.

27.11. The hydraulic oil reservoir shall have a minimum capacity of 45 gallons and shall have a ball valve on the return line into the reservoir.

27.12. The hydraulic system shall have a throttle stop device and electronic over speed control (EOS) to protect the hydraulic pump and P.T.O. from over speed in neutral.

27.13. The hydraulic pump shall be driven through a “constant duty” PTO. Note: PTO functions to be operated through the Allison transmission ECU.

28.0 BODY HOIST:

Shall be capable of lifting the packer body loaded to maximum payload capacity, with truck on level ground. Hoist cylinders shall have flow control check valve or orifice to prevent sudden drop if pressure is lost

29.0 BODY & TAILGATE PROPS:

29.1 Two (2) steel body props shall be included with the unit to hold the <u>empty body</u> in a partially dumped position for servicing.

29.2 The body props shall be capable of being lowered in tandem from one side of the body.

29.3 The body props shall be lowered manually and secured in raised position by a positive locking device

30.0 ELECTRICAL WIRING AND LIGHTING:

30.1 All lights shall conform to current State and Federal codes. These lights shall be light emitting diode (LED) type. Bidder shall specify make, model of lights. If specified type lights are not available, please explain why they are not available and what type of lights will be included.

30.2 All wiring which passes through partitions or bulkheads shall have rubber grommets to prevent chafing.

30.3 There shall be no splices between the junction box(s) and components

30.4 All electrical circuits shall have circuit breaker protection devices, fusible links are not acceptable

30.5 All wiring must be color-coded. All wires, wire harnesses, terminals or connectors subject to dirt and moisture shall be adequately protected. Whenever possible, individual wires shall be grouped into harnesses and properly supported on rigid members to prevent abrasion and flexural failure.

30.6 Wire looms shall terminate at components or junction boxes, which shall be plainly labeled to show function and indicate color code

31.0 PAINT:

31.1 One coat (minimum) of primer compatible with finish coating. Extra care will be taken at welded areas to insure proper bonding will occur.

31.2 Finish coat to be acrylic paint. Cab & body color to be cab manufacturer's standard fluorescent green. The under part of the body from outside the frame rail to approximately 9" up the outside radius shall receive additional treatment to protect against rock and gravel chips. Frame shall be manufacturer's standard black and wheels shall be manufacturer's standard white. Bumpers (front and rear) along with the rapid rail arm shall be manufacturer's standard safety orange. Frame shall be manufacturer's standard black. The wheels/rims shall be manufacturer's standard white. The rear clam shell shall have the lower half color be standard manufacturer's safety orange. MSDS Sheets shall be provided at time of delivery.

31.3 Complete automated lifting arm assembly shall be painted standard safety orange low acrylic enamel paint over primer compatible with finish coating. MSDS sheets shall be provided at time of delivery.

32.0 GENERAL:

32.1 All equipment catalogued as standard shall be furnished whether or not it is listed in the previous specifications

32.2 The component parts of the unit shall be of proper size and design to safely withstand maximum stresses imposed by a capacity load.

32.3 The torque capacity of each driven part shall be equal to or exceed the torque capacity of its driving member.

33.0 MECHANICAL LOADING DEVICE:

These specifications pertain to the mechanical side-loading device designed to elevate and dump 90, 300, and 440 gallon refuse containers from the right side of the vehicle.

The lift arm shall be electric/hydraulic (No Exceptions), fully operational and installed on and with equipment supplied per parts I and II of these specifications. The device shall include all the necessary hydraulic components, and all of the plumbing necessary to make the device operable.

33.1 Vendors will be required to provide a demonstration unit equipped with lifting arm being quoted (Make / Model), to be operated within the City of Lompoc refuse collection environment at no cost to the City.

Demonstration duration shall be at the discretion of City representative. Failure to provide demonstrator unit may be cause to determine bid is non-responsive and not considered further. Demonstration unit shall show successful ability to lift and dump 60 to 440-gallon refuse containers.

33.2 Lifting Mechanism: The lift arm and guide rail shall be of fabricated construction made from 36,000 PSI minimum yield steel. The lift, grab and dump functions shall use spherical bushings at each pivot point.

33.3 The lifting mechanism shall be capable of lifting and dumping round containers ranging from 60 to 440 gallons, by utilizing the same grabbers.

33.4 Universal grabber arms shall be designed to handle any automated container ranging in size from 60 to 440 gallons without the need for adjustments or modifications by the operator.

33.5 The lifting mechanism shall be electric/hydraulic capable of individually controlled motion for extend, grip, raise, dump and return a container from any position. Toggle type rocker arm controls shall be located in the cab on the center counsel (dog-house) and on the right door for convenient operation. Right door mounted controls shall allow the operator to operate the loader when outside the cab. The controls shall be arranged in normal loading sequence for convenient operation by the operator. An automated control shall coordinate the separate events to assure that functions are operated in proper sequence for fast, smooth cycles. The automated control shall be capable of disengagement to accommodate manually controlled sequences or engaged to allow automated movement of “Grip-in-up and dump”; “Un-dump and Down”; and “Release, In”. Through use of a PLC, the multiple functions into a single switch for ease of operation.

33.6 The lifting mechanism shall be powered by four (4) double acting hydraulic cylinders (Reach – 1.75” bore X 71.23” stroke; Grab – 3” bore X 8” stroke; Raise – 3” bore X 16” stroke; Dump – 3” bore X 8” stroke). . The cylinders shall be cushioned in both

directions and have spherical bushings in the rod and base ends. The lifting mechanism shall be capable of grabbing the container, lifting the container to the full dump position, lowering the container to the full down position, and releasing the grabbers from the container within a 8 second cycle at idle.

33.7 The lifting capacity shall be a minimum of 1,600 pounds at any extension. The lifting mechanism shall be capable of a 96" reach from the side of the body to the centerline of a 90-gallon container.

33.8 An electronic diagnostic/user module for operator controls shall be provided to monitor system functions. The device shall be installed inside the truck cab and shall possess self-diagnosing error codes which identify the trouble source. Both audio and L.E.D. outputs must be made available to aid in locating trouble source.

33.9 The lift, grab and dump mechanisms shall use spherical bushings at each pivot point.

33.10 The truck and lifting mechanism shall be within the 96" road limit when mechanisms are in the down and stored position with 13” ground clearance.

33.11 The arm and gripper shall incorporate an automatic safety locking mechanism to ensure that arm and gripper stays in the stowed position when retracted. Arm will remain locked until manually released by the driver. Arm will be unlocked only when picking up and dumping containers. There shall be an indicator light on the dash and an alarm shall sound to notify the driver if the arm and/or gripper are not locked in the stowed position when the vehicle is in transport.

34.0 MISCELLANEOUS:

34.1 Books, Manuals and Technical Information: Complete and accurate copies (2 sets) of the following items shall be furnished at the time of delivery of the completed unit to the City of Lompoc:

a. Operators instruction manual;
b. Shop maintenance manuals for chassis and packer;
c. Lubrication instruction;
d. Illustrated detailed parts books for chassis and packer;
e. Air and hydraulic piping diagrams;
f. Original dealers report of sale, to include dealer’s license number;
g. Complete electrical schematics for cab and chassis, and hoist system.
h. A laptop computer with Diagnostic software and hardware compatible to diagnose engine and transmission performance will be provided at the time of vehicle delivery (No Exceptions).

34.2 Operation and Service Instructions: The vendor, at his expense, shall provide a qualified factory authorized representative to conduct one (1) 2-hour period of instruction to the Fleet Maintenance personnel in the service, maintenance, and operation of the furnished equipment. Instructions shall be provided at the City Corporation Yard within five (5) working days of delivery of the equipment and all books, manuals, and technical information.

34.3 Additionally, the vendor, at his expense, shall provide one (1) 1-hour training session on the operation of the equipment to all Sanitation equipment operators at the Sanitation Yard and will provide training to fully train operators on the use of the equipment to include actual operation in the field.

34.4 Safety: The vehicle shall meet or exceed all applicable State and Federal OSHA requirements.

34.5 Color: The color of the cab and chassis shall be painted with acrylic enamel. Color shall be manufacturers standard fluorescent green. Bumpers (front and rear) along with the rapid rail arm shall be manufacturer's standard safety orange. Frame shall be manufacturer's standard black. The wheels/rims shall be manufacturer's standard white. The rear clam shell shall have the lower half color be standard manufacturer's safety orange.

34.6 Fluid Level – Metal Plate: Provide metal stamped plate attached by rivets in the engine compartment that shows operating capacity of all oils, lubricants, and fluids used in the normal operation of the vehicle.

34.7 Delivery Time: Time required for delivery is very important and may influence the award.

35.0 BIDDER TO SPECIFY WARRANTY:

(Complete and return)

35.1 Warranty: Cab and Chassis: All components shall be guaranteed against structural defects and defects in material and workmanship for a period of one year from the date of acceptance. Parts, labor and travel cost shall be included.

Cab & Chassis: _____

Engine: _____

Transmission: _____

Drive Axles: _____

35.2 Loader, Compactor and Body: shall be guaranteed against structural defects and defects in material and workmanship for a period of one (1) year from the date of acceptance. Parts, labor and travel costs shall be included. Bidder to specify warranty:

Loader Warranty: _____

Loader Make & Type: _____

Compactor Warranty: _____

Compactor Make & Type: _____

Body Warranty: _____

Body Make & Type: _____

35.3 During the warranty period all parts needed to replace broken, or failed parts, other than those caused by normal wear, accidents or acts of others, for the packer body will be furnished by the vendor; including freight at no cost. The city will be reimbursed at a rate no less than $68.54 per hour for any warranty work performed by the city forces.

Bid Price Page

(Complete and return)

Items	*DESCRIPTION*	*UNIT PRICE*	*EXTENDED PRICE*
2	***Refuse Trucks - Refuse Truck with Automated Packer Body, Right-Hand Drive*** ***For delivery: As Soon As Possible*** *Cab & Chassis Mfgr* _____ *Engine make model*_____*Year*_____ *Packer Body Make* _____ *Model*_____*Year Earliest* *firm delivery date* _____		
			( )
	Tire Recycling Fee		*( )*

Shipping / Delivery	
Sub-total	
Sales Tax @ 7.75%	
Total of all Charges	

(Complete and return)

“The refuse body manufacturer must be ISO 9001:2000 certified and a copy of the manufacturers ISO certificate must accompany this bid.”
( ) Complies ( ) Do not Comply

“The body interior must have continuous welds in addition to the outer body welds.”
( ) Complies ( ) Do not Comply

“Main hopper floor must be .5” ASTM-A36 steel excluding the additional 3/16” liner**.”**
( ) Comply ( ) Do not Comply

“The lift arm shall be electric/hydraulic (No Exceptions), fully operational and installed. “
( ) Comply ( ) Do not Comply

“A laptop computer (one each for four trucks) with Diagnostic software and hardware compatible to diagnose engine and transmission performance will be provided at the time of vehicle delivery (No Exceptions).”
( ) Comply ( ) Do not Comply

“Bids that deviate from the specifications must be clearly defined. The City will have the sole right to determine whether an alternate is acceptable.”

( ) Comply ( ) Do not Comply

“Diesel-fueled, three-axle, right hand drive; tilt cab and chassis”
( ) Comply ( ) Do not Comply

Delivery time after receipt of order ____/days.

Non-California Bidders:

Are you registered with the State of California as authorized to collect California State Sales Tax? YES_____ NO_____.

California Sellers Permit Registration No._____ (if applicable)

Do you agree_____/disagree_____ to extend this agreement to other government agencies.

If the City wanted to order additional Refuse Trucks at the same terms and conditions, would you be able to accommodate? YES_____ NO_____

Discount for payment of invoice within 20 days of receipt of invoice _____%.

List any Deviations

(Complete and return)

Bidder Name: _____

You must check

( ) Deviations itemized below ( ) No Deviations

Page Line No.

GENERAL TERMS AND CONDITIONS

ISSUANCE OF BID: This bid request creates no obligation on the part of the City and the City reserves the unconditional right, at its option, to either reject all bids or waive any irregularities or informalities therein.

BID SUBMISSION: Bids must be submitted on bid forms provided herein, completed and signed, in a sealed envelope showing on the outside of the envelope the name of bidder, bid title, and date and time of opening. Prices shall be printed in ink or typewritten. No erasures are permitted. Mistakes may be crossed out and corrections printed adjacent and initialed in ink by person signing the bid.

All bidders must submit one (1) original and one (1) copy of their bid for consideration by the Purchasing Office and the ordering department.

MORE THAN ONE BID: More than one bid is allowed. Each bid must be in a separate sealed envelope with proper identification showing on outside of envelope.

BID VALIDITY/WITHDRAWAL: Prices shall remain valid for ninety (90) days from date of opening and be inclusive. Bids submitted may be withdrawn by written request received BEFORE the hour set for opening. No bidder may withdraw their bid after the time set for opening.

SAFETY DATA SHEETS: When applicable, bidders shall conform to California Labor Code, Section 6360 and Title 8 CAC, Section 339 and 5194 and submit SDS on hazardous substances with bid.

LOWEST APPARENT BIDDER SUBMITTAL REQUIREMENTS: The lowest apparent bidder may be required to submit the following:

a) Proof of authorized distributorship
b) A sample or demonstration of any product/unit offered. Samples and/or demonstration must be free of expense to the City.
c) City Business Tax number
d) PUC permit
e) Insurance requirements
f) Proof of driver training on hazardous substances
g) References

QUANTITY ADJUSTMENT: When applicable, it is mutually accepted that the quantities defined in this document reflect the approximate City requirements and may be adjusted. City may require and order or reorder more than the quantity listed here by mutual agreement with the prevailing vendor.

COMPLIANCE WITH LAWS: All bids shall comply with current federal, state and local laws relative thereto, including applicable Federal and State Occupation Safety and Health laws and that Seller will indemnify and hold the Buyer harmless for any failure to so conform.

CONTRACT LIMITATIONS: Any resulting contract shall be limited to all terms and conditions herein, including any general and special conditions and instructions, purchase order or other documents issued by the City.

NEW / UNUSED AND LATEST MODEL: Bidders shall provide pricing on new and unused items, material and/or units specified unless otherwise stated in specifications.

BRAND NAMES: Brand names are used to establish a level of quality only. Bids will be considered for any brand which meets or exceeds the quality of the specifications listed for any item. Bids that deviate from the specifications must be clearly defined. The City will have the sole right to determine whether an alternate is acceptable.

WARRANTIES: Bidder will fully warrant all materials and equipment for a period of not less than one (1) year from date of final acceptance by the City unless otherwise noted. All warranties, standard and extended, shall be shown on any units offered, and all costs related to the servicing of said warranties shall be clearly stated on bid form.

F.O.B. POINT AND SHIPPING CHARGES: All prices shall be quoted F.O.B. destination Lompoc, California. Any and all shipping, handling and freight charges shall be shown separately unless otherwise noted on bid form.

LAWS GOVERNING CONTRACT: The contract shall be in accordance with the laws of the State of California and the County of Santa Barbara is the only appropriate forum for any litigation.

In the event a suit or action is instituted arising out of any contract, the prevailing party shall be entitled to receive, in addition to its cost, such sum as the court may adjudge reasonable as to attorney's fees and costs.

TAXES (FEDERAL EXCISE/SALES OR USE/LOCAL PREFERENCE: The City is exempt from Federal Excise Tax. All taxes, if applicable, shall be shown on bid form page. ALL TAXES; Sales, Use and Local Preference will be a consideration in bid evaluation.

MINORITY BUSINESS ENTERPRISES: It is the policy of the City that minority business enterprises shall have the maximum opportunity to participate in the City's bidding requirements.

EQUAL EMPLOYMENT OPPORTUNITY: It is the policy of the City to promote the full realization of equal employment opportunity.

COOPERATIVE PURCHASING: The successful bidder may agree to extend all terms and conditions to other tax-supporting agencies upon their request. These agencies will issue their own purchase order and be billed directly by supplier. Bidder's agreement or disagreement must be stated on bid form and will not affect bid evaluation.

BID PROTEST: Interested parties wishing to protest City solicitation documents may obtain a copy of Lompoc Code, 3.36.170 by calling the Purchasing Office at 805-875-8000 or on the City's web site at: http://bit.ly/qLMybc

AWARD: Contracts shall be awarded to the bidder whose offer is determined to be the most advantageous to the City from the standpoint of suitability to purpose, quality, service, previous experience, price, ability to deliver, or for any other reason deemed by the Purchasing Manager to be in the best interests of the City and, as such, will not be determined by price alone and may not be the lowest bid especially where services are of utmost importance.

When there is more than one (1) item, the City reserves the right to award separately or as a whole. Bidders must state "all or none" on bid form. If optional items or trade-ins are requested, the City may accept or decline such items.

SELL OR ASSIGN: Contractor shall not have the right to sell, assign or transfer any obligations resulting from the award without the specific written consent of the Purchasing and Materials Manager.

REASONS FOR AUTOMATIC DISQUALIFICATION OF BIDS

Failure of bidder to fulfill all basic requirements may result in automatic bid rejection. A Letter of Bid Disqualification is sent to bidder failing to meet any of the requirements. The checklist of reasons for rejection as follows:

- Failure to sign bid document (in ink).
- Failure to ensure bid was received by City Purchasing Offices on or before bid opening date and time and at the address specified in the bid.
- Failure to submit bid in ink (pencil is unacceptable).
- Failure to initial price alterations (in ink) for one or more items.
- Failure to provide information or other supplemental materials as specified in the bid.

These items are self-explanatory and are applied equally and irrevocably to all vendors and their bids. Therefore, bidders must be conscientious in fulfilling all requirements in order to have their bids considered for award.

ENTIRE AGREEMENT Any Agreement resulting from this Bid will consist of the following documents, in order of precedence, and shall be the entire agreement between parties:

A. Purchase Order
B. CITY's Invitation to Bid
C. Attachments
D. CONTRACTOR's Bid