

CPA – Statewide Procurement

Revised March 2022

PNEUMATIC-TIRED, TRACTOR-LOADER/BACKHOE

PART I

GENERAL INFORMATION, REQUIREMENTS, AND CONDITIONS

1. The equipment furnished under this specification shall be the latest improved model in current production, as offered to commercial trade, and shall be of quality workmanship and material. The Contractor represents that all equipment offered under this specification shall be new. USED, SHOPWORN, DEMONSTRATOR, PROTOTYPE, REMANUFACTURED, RECONDITIONED, OR DISCONTINUED MODELS ARE NOT ACCEPTABLE.
2. All parts not specifically mentioned which are necessary for the unit to be complete and ready for operation or which are normally furnished as standard equipment shall be furnished by the Contractor. All parts shall conform in strength, quality, and workmanship to the accepted standards of the industry.
3. The unit provided shall meet or exceed all federal and State of Texas safety, health, lighting and noise regulations and standards in effect and applicable to equipment furnished at the time of manufacture.
4. It is the intent of CPA to purchase goods, equipment and services having the least adverse environmental impact, within the constraints of statutory purchasing requirements, agency need, availability, and sound economic considerations. Suggested changes and environmental enhancements for possible inclusion in future revisions of this specification are encouraged.
5. Any example shown is listed to show type and class of equipment desired. Contractors are cautioned to read the specifications carefully, as there may be special requirements not commonly offered by the equipment manufacturer. DO NOT ASSUME YOUR STANDARD EQUIPMENT MEETS ALL DETAILED SPECIFICATIONS MERELY BECAUSE IT IS LISTED AS AN EXAMPLE. Contractors are cautioned that units which do not meet specifications in every aspect will not be accepted.

PART II

SPECIFICATIONS

1. **SCOPE:** This specification describes a pneumatic-tired, tractor, equipped with a minimum 107 horsepower diesel powered engine, 1.25 cubic yard front-end loader bucket, and rear-mounted backhoe dipper stick of integral design. The unit shall be a two-wheel (4 x 2). The unit shall safely dig, break out, lift, carry and dump the loads required by the specifications. A unit furnished to this specification shall meet or exceed all requirements.

EXAMPLES: Case Model 590 SN
John Deere Model 410L
Caterpillar Model 430
or approved equal

NOTE: A unit furnished to this specification shall meet the current Environmental Protection Agency (EPA) emissions off-road standards for diesel engines as defined by 40 CFR Part 89. Engines certified under the Family Emission Limit (FEL) are not acceptable. A copy of the EPA compliance certificate for each model shall be provided to customer prior to award.

2. **WEIGHT:** The tractor-loader-backhoe operating weight as regularly advertised by manufacturer shall be a minimum of 17,637 pounds. Operating weight is defined as the basic weight of the unit with standard loader and backhoe buckets, dipper stick, tires, roll-over protective structure (ROPS) cab, lubricant, operator and full fuel tank.
3. **ENGINE/FUEL SYSTEM/ELECTRICAL:** The unit shall be equipped with a liquid-cooled, minimum four-cylinder, four cycle, industrial design, minimum Tier 4 Final, turbocharged diesel engine meeting, but not limited to, the following:
 - 3.1. Minimum 107 **net** hp at governed RPM
 - 3.2. A 12V or 24V electrical system consisting of a starter and heavy-duty alternator which shall be highest rated available from the manufacture. The alternator shall be capable of fully powering all electrical components simultaneously, including accessories, while they operate under maximum load.
 - 3.3. Sealed, spill-proof (no free electrolyte) maintenance-free type battery with spiral wound cells and a sufficient cold cranking amperes (CCA) total battery rating to reliably start the unit in zero-degree Fahrenheit weather. Shall be covered by minimum 12-month full replacement warranty and minimum 36 month prorated warranty. Replacement battery shall be furnished by Contractor during 12-month initial warranty period at no cost (including shipping or environmental fees).

EXAMPLE: Optima YellowTop
or CPA approved equal

- 3.4. **IGNITION:** A keyed ignition or a password protected push button ignition system.

- 3.5. Dry type air cleaner including a primary element, a safety element, an internal or external pre-cleaner, and a restriction (service) indicator. Indicator shall be easily visible inside the operator's station.
EXAMPLES: Donaldson Cyclopacair cleaner with safety element
Donaldson The Informer type service indicator
or approved equal
- NOTE: The Informer type indicates the percentage of contamination.
- 3.6. COLD WEATHER STARTING AID: The engine shall be equipped with an engine block cooling system heater or electric grid type.
EXAMPLE: Hotstart 110 V
or approved equal
- 3.7. Manufacturer's standard two stage fuel filtration system. Filter stages may consist of a primary and a secondary filter, or a two-stage filter in a common housing.
- 3.8. A minimum of one drain in the system to prevent water damage to the injection system. All items shall be factory approved and factory installed.
- 3.9. Fuel tank of sufficient capacity for eight hours operation.
- 3.10. Full-flow type oil filtration system with replaceable filter and provision to bypass oil to the engine as the filter becomes clogged. In no instance shall the unit lose oil pressure to critical engine components while working on slopes.
- 3.11. Muffler and exhaust pipe of sufficient length to exhaust fumes away from the operator's cab. If muffler is of a vertical design, exhaust pipe shall be angled at the top to prevent rain from directly entering the exhaust system
- 3.12. Cooling system with extended-life antifreeze protection to -30° F or lower.
4. TRANSMISSION: Unit shall be equipped with a power shuttle or power shift transmission having a minimum four speeds forward and three speeds reverse. Unit shall maintain a minimum roading speed of 15 mph. A neutral detent and positive neutral lockout. Equipment shall not start unless it is in neutral. Equipment shall be provided with industry standard pedal and control interlocks.
5. DIFFERENTIAL: Differential lock, torque proportioning system, or approved equal.
6. STEERING: Shall be hydrostatic with either hand-lever or foot-pedal control.
7. BRAKES: Unit shall be equipped with a service brake system and a parking brake system and shall meet the requirements of all applicable SAE and ISO standards.
- 7.1. Service brakes shall be sealed wet-disc type.
- 7.2. The parking brake system shall hold the fully loaded machine stationary on any grade the unit can negotiate and shall stop the machine in the event of any single failure in the service brake system or in the event of an engine failure.
8. AXLE AND TREAD WIDTHS: Shall be non-adjustable, oscillating, heavy-duty industrial front axle with minimum 64-inch front and rear tread width.
9. TIRES: Unit shall be equipped with two each R4 modified rear grader tires of a size and ply rating compatible with the fully loaded weight of the unit as specified, including all options. The tires shall be of a size and ply rating not less than the minimum established below, regardless of fully loaded weight.
- 9.1. Front tires shall be size and ply as normally recommended by the manufacturer. The load rating shall exceed the weight on the front axle

with bucket loaded to its full lift capacity as specified in Part II, Para. 12.2.

9.2. Rear tires, minimum 19.5L x 24.

9.3. Ply rating, minimum 10.

10. INSTRUMENTATION: Unit shall be equipped with, but not limited to, the following gauges, indicators and alarms located at the operator's station. Wherever gauges are specified, indicator lights are not acceptable. An electronic monitoring system that monitors at least the following is acceptable

10.1. Engine coolant temperature gauge.

10.2. Engine oil pressure light or gauge.

10.3. Torque converter oil temperature gauge, if torque converter is furnished.

10.4. Transmission oil temperature light or gauge.

10.5. Ammeter or voltmeter.

10.6. Hourmeter, either of the following types are acceptable.

10.6.1. OEM, integrated into an electronic instrument display system

10.6.2. Aftermarket, electric quartz, shock proof, totally sealed case, with readout up to 9,999.9 hours. Three screw or flush mount to accommodate equipment system voltage range between 10-80V.

EXAMPLES: Hobbs Three Screw Model 85097-02
Hobbs Flush Mounted Model 85093-03
or approved equal

10.7. Fuel quantity gauge. Dipstick is not acceptable.

10.8. Tachometer.

10.9. Audible alarm and warning light for the following engine conditions:

10.9.1. High engine coolant temperature.

10.9.2. Low engine oil pressure.

11. HYDRAULICS: The hydraulic system shall be of size, type and capacity to perform all required operations and be sealed against contaminants and any necessary air vents shall be filtered. System and controls shall have the following as a minimum;

11.1. A means to maintain hydraulic oil at satisfactory operating temperatures up to at least 110° F ambient temperature during continuous heavy operations.

11.2. Pressure-relief valves.

11.3. Hydraulic oil filters with replaceable elements.

- 11.4. Reservoir with visual oil level indicator or dipstick.
- 11.5. Double acting type hydraulic cylinders.
- 12. LOADER: Unit shall be equipped with a general-purpose front-end loader bucket meeting, but not limited to, the following
 - 12.1. Minimum 1.25 cubic yards heaped bucket capacity per current SAE J67 standard
 - 12.2. Minimum 7,000 pounds lift capacity at full height
 - 12.3. Minimum 10,000 pounds breakout digging force
 - 12.4. An 8-foot, 2-inch minimum clearance height with bucket at 44 degrees dump.
 - 12.5. Minimum of 2 lift cylinders.
 - 12.6. Minimum of 1 dump cylinder.
 - 12.7. Hydraulic or mechanical self-leveling bucket.
 - 12.8. Lift control positions: raise, hold, lower and float.
 - 12.9. Bucket control positions: rollback, hold and dump.
 - 12.10. Loader controls located at operator's station easily accessible to the operator.
 - 12.11. The outside edge of the front tires trail inside the line of the bucket cutting width.
- 13. BACKHOE: Unit shall be equipped with a rear-mounted hydraulic hinged- boom backhoe meeting, but not limited to, the following:
 - 13.1. Minimum digging depth with manufacturers' standard dipper stick and 24-inch trenching bucket (2 foot flat bottom) of 15 feet, 1 inches.
 - 13.2. Swing arc not less than 180 degrees.
 - 13.3. Reach from swing pivot centerline, minimum of 18 feet, 5 inches.
 - 13.4. Bucket breakout force, minimum of 15,000 pounds.
 - 13.5. Working width of stabilizers, minimum 10 feet, 7 inches.
 - 13.6. Controls for lift, crowd, bucket, swing and stabilizers located at the operator's station easily accessible to the operator.
 - 13.7. Positive mechanical locking device for boom and swing for transport (chains for locking are not acceptable).
 - 13.8. Bucket of the size and type selected from optional equipment.
 - 13.9. Hydraulic stabilizers with a positive mechanical means for holding stabilizers in transport position.
 - 13.10. Street type stabilizer pads.
 - 13.11. Ability to swing and dump simultaneously.

- 13.12. A Hydraulic Backhoe Lift Capacity Chart shall be furnished on each unit at time of delivery. The lift capacity shall be computed and a chart prepared in accordance with the current SAE J31 standard, with backhoe equipped with a 24-inch trenching bucket. The chart shall be easily visible to the operator
14. ENCLOSED ROPS CAB: The unit shall be equipped with the manufacturer's regularly advertised fully enclosed cab, constructed of steel and glass with environmental sound proofing material on interior cab walls and roof. A ROPS shall be built into the cab and meet the current SAE J/ISO 3471 standard. Cab shall be equipped with, but not limited to, the following.
 - 14.1. Powered windshield wipers, one front and one rear, with windshield washers for both front and rear glass.
 - 14.2. Factory installed air conditioning (AC) system (dealer installed systems are not acceptable). System shall include all necessary components and controls for the system to be complete and ready for operation. System shall use R134a refrigerant only. R12 refrigerant is not acceptable. System shall comply with the performance requirements and design guidelines of the current SAE J169 and SAE J1503 standards. The AC system shall have a minimum 18,400 BTU rating. Exterior mounted AC components shall have protective screens or guards. The AC system components shall be positioned so that they will not hamper the operator when entering or leaving the cab enclosure, or while operating the equipment. Air intake location shall insure that exhaust gases will not be drawn into the cab enclosure.
 - 14.3. Minimum 38,000-BTU heater with defroster, temperature rheostat and minimum three speed fan control,
 - 14.4. Cab dome light.
 - 14.5. Inside rear view mirror and West Coast type outside rear view mirrors as normally offered by the manufacturer. Convex mirrors are not acceptable.
 - 14.6. Seat, cushioned, adjustable type, hydraulic suspension or equal, with padded backrest and seat belt meeting the current SAE J386 standard
 - 14.7. Tinted safety glass. Film tinted glass is not acceptable
 - 14.8. Cab pressurized, complete with filter
 - 14.9. Floor equipped with a one-piece, form fitting, rubber mat or coated with a skid-resistant material
 - 14.10. Non-skid accesses steps and grab handles. Grab handles and steps positioned so the operator, when exiting and entering, will always maintain a three-point contact with the unit. The three points of contact can be with the loader or loader and ground. Cable steps are not acceptable
 - 14.11. Cross (fresh air) ventilation
 - 14.12. A 12V DC receptacle for powering 12V accessory equipment
 - 14.13. Manufacturer's standard AM/FM radio system, complete with radio, stereo speakers and radio antenna
15. SAFETY AND SPECIAL EQUIPMENT: Unit shall be equipped with, but not limited to, the following:

- 15.1. A horn and a backup alarm system distinguishable from the surrounding noise level. Backup alarm meeting the current SAE standards.
- 15.2. Rear fenders.
- 15.3. Vandalism protection group to include as a minimum:
 - 15.3.1. A locking instrument panel cover and locking filler caps for the fuel tank, hydraulic tank, oil supply and radiator. Filler caps located behind locking panels are acceptable in lieu of individual locking caps.
 - 15.3.2. Lockable engine compartment side-panels.
 - 15.3.3. Lockable battery box covers shall be provided, if batteries are not mounted inside lockable engine compartment side-panels.
 - 15.3.4. All lockable panels and compartments equipped with an integrated locking system, keyed alike, or padlocks. If padlocks are furnished, two brass keys per lock shall be provided. All padlocks shall be keyed alike. The padlocks furnished shall be of quality construction greater than or equal to a Master Lock #3.
- 15.4. A metal license plate holder and white light at rear of tractor.
- 15.5. An auxiliary hydraulic tool circuit powered by the unit's central hydraulic system. System shall be complete with all necessary fittings, hoses and related components to power hydraulic attachments such as a hammer, bucket swivel coupler, and other hydraulically operated attachments. The auxiliary hydraulic tool circuit shall include, but not be limited to, the following:
 - 15.5.1. Quick-disconnect, dripless couplers at hose ends to attachments.
 - 15.5.2. System activation and tool circuit operation controlled from the operator's station.
 - 15.5.3. Pressure and return line, quick-disconnect connection points, located on the dip stick near the backhoe bucket pivot pin to provide quick and easy hook-up of hydraulic attachments by the operator standing on the ground.
- 15.6. Fire extinguisher, minimum 2-1/2 pounds, UL rating 1A-10B:C. The fire extinguisher shall be installed in a suitable and readily accessible location at the operator's platform.
- 16. LIGHTING: Unit shall be equipped with, but not limited to, the following.
 - 16.1. In addition to the headlights, the unit shall have four white LED or halogen sealed-beam work lights.
 - 16.1.1. Two mounted high on the front, and two mounted high on the rear of the ROPS cab or ROPS (Ref. Option 6).
 - 16.1.2. On/off switch located at the operator's station.
 - 16.2. The rear of the tractor shall be equipped with LED type red tail lamp, a red stop lamp, a turn signal indicator and a red reflector on each side. The lamps and reflectors may be incorporated and shall be as widely spaced laterally as practicable. If separate reflectors are provided in lieu of an incorporated unit, they shall be housed type with screw or bolt type mounting. The stick-on type is not acceptable.

- 16.3. White or amber LED type turn signal lamps at the front of the tractor.
- 16.4. Turn signal controls with 4-way flasher for off, flash left, flash right, and flash both lights.
- 16.5. Minimum two rear-mounted LED work lights located at the upper rear face of the ROPS cab or ROPS to illuminate backhoe working area.
- 16.6. All electrical wiring shall be insulated and enclosed in a fibrous loom, plastic loom or flexible conduit for protection from external damage and short circuits. Wiring shall be securely fastened at sufficient intervals to prevent sagging and insure clearance of mechanical parts. Routing of the wiring through the sub-frame, operator's platform or the like shall not interfere with the normal operation and use or present a safety hazard. A sealed, splice-free modular wiring harness is acceptable. Rubber grommets shall be used wherever wire or harness pass through metal.
- 16.7. The top rear center of ROPS cab or ROPS shall be equipped with an amber-yellow strobe warning light. The strobe light shall be mounted on a hinged bracket for lowering the light below the top of the cab during transport. The strobe light shall be protected by a metal branch guard assembly which shall not deter full visibility. The strobe warning light shall:
 - 16.7.1. Be a "Class I" 360-degree LED or gaseous discharge quad flash strobe light meeting or exceeding the requirements of all current and applicable SAE and ISO standards for Authorized Emergency, Maintenance and Service Vehicles.
 - 16.7.2. Provide a minimum of 70 quad flashes per minute with a minimum joule rating of 14 with a minimum joule rating on the first flash of 7 and have a high intensity mode for daytime and low intensity for nighttime operation.
 - 16.7.3. Have 18 gauge shielded wiring.
 - 16.7.4. Be controlled by a fused single switch with on-indicator light. The switch shall be either a 3-position Hi/Off/Lo or a 2-position On/Off if the light contains a photocell. The switch and indicator light shall be mounted in the cab within reach of the operator and be properly labeled.
 - 16.7.5. Be controlled by a fused single switch with on-indicator light. The switch shall be either a 3-position Hi/Off/Lo or a 2-position On/Off if the light contains a photocell. The switch and indicator light shall be mounted in the cab within reach of the operator and be properly labeled.
 - 16.7.6. Operate on both 12V and 24V DC automotive type electrical systems without re-wiring or re-setting a switch.

EXAMPLES: Echo 6975-X
 Whelen L10HAP
 or approved CPA equal.

- 17. RADIO FREQUENCY (RF) INTERFERENCE SUPPRESSION: The vehicle and all equipment and components mounted to the chassis shall incorporate RF interference suppression to provide RF interference immunity to and from land mobile radio transceivers operating in the following bands: High Frequency (2 to 30 MHz), Low band (30 to 50 MHz), high band (140 to 174 MHz), UHF band (440 to 512 MHz) and the 700/800/900 MHz band (700 to 975 MHz) and comply with the following requirements:

- 17.1. Typical land mobile radio transceivers will utilize a 3dB gain antenna with up to a 125-watt RF power output. Antennas will be mounted on the roof, front fender, and/or rear fender of the unit.
- 17.2. VEHICLE COMPONENT RF SUPPRESSION: All equipment electronic circuits shall be designed to suppress, bypass or otherwise prevent interference from affecting the radio transceiver. The RF immunity requirement shall apply to all Contractor supplied equipment and components thereof including, but not limited to, ignition, AM/FM radio receivers, computers, emission controls, fuel pumps, wiper motors, alternative fuel electronic components, air bag systems, and ABS controllers, etc.
- 17.3. VEHICLE COMPONENT RF IMMUNITY: The vehicle electronic equipment including, but not limited to, ignition, AM/FM radio receivers, computers, emission controls, fuel pumps, wiper motors, alternative fuel electronic components, air bag systems, and ABS controller, shall not be adversely affected in operation, safety, or control by radio frequency (RF) energy generated and radiated by the transmitter portion of installed transceivers (up to 125-watt output).
- 17.4.
- 17.5. Contractor will be assessed any and all charges associated with the testing and remediation of vehicles which fail to meet Radio Frequency Immunity requirements at any time during the warranty period.
- 18. TRANSPORT RIGGING
 - 18.1. WEIGHT CENTERLINE: A weight centerline, computed with full fuel tank, bucket resting on the ground, without operator, shall be clearly marked on each side of the unit with a green vertical line approximately 3 inches wide and 5 inches high, for safe loading on trailers.
 - 18.2. TIE-DOWN POINTS: Four tie-down points shall be furnished or identified for safely securing the unit during trailer transport. One tie-down point shall be located as close as practicable to each of the unit's lower four (4) corners. The tie-down points shall have a minimum aggregate rated strength of one and one-half times the unit's gross weight. If lashing (D) rings are provided, the rings shall accommodate a 1/2-inch, grade 80, grab hook.
 - 18.2.1. An illustration or diagram identifying the recommended tie-down points for the unit shall be furnished. The illustration or diagram may include all possible equipment structure (bucket, tracks, frame, axles) suitable for tie-down, but must identify the four tie-down points described in Part II, Para. 18.2 of this specification. This illustration or diagram may be a part of the equipment manuals or furnished separately.
 - 18.2.2. During the instructional training required in Part II, Para 20 of this specification, the factory-trained instructor shall point out the weight centerline marking and four (4) tie-down points to the Customer's personnel attending the course.
- 19. COUNTERWEIGHTS: The complete unit with front-end loader and backhoe including options shall have counterweights installed for proper balance and stability during operation and loading. Liquid in tires is not acceptable as counterweights.
- 20. INSTRUCTION ON SAFETY, OPERATION AND PREVENTIVE MAINTENANCE: The Contractor shall provide the services of a thoroughly

factory-trained technician, trained in the use and operation of the unit to customer a minimum eight hours instruction on safety, operation and preventive maintenance of the unit. The service shall be provided after the unit has been delivered and is ready for operation but prior to payment.

21. SAFETY PLAQUES OR DECALS

21.1. Product safety plaques or decals shall be furnished and affixed at the operator's station and at any hazardous area. The safety plaques or decals shall describe the nature of the hazard, level of hazard seriousness, how to avoid the hazard, and the consequence of human interaction with the hazard. Permanent plaques are preferred to decals. Type, size and location of product safety plaques or decals shall be in accordance with current ANSI Z535.4 standard.

21.2. A permanent lubrication plaque shall be furnished and visible from the outside of the unit. The plaque shall note all lubrication points and recommended periodic oil changes and lubrication intervals.

22. PAINTING: The unit shall be painted with manufacturer's standard lead-free paint except for glass, rubber and those accessories or fixtures constructed of rust-resistant or plated material not normally painted. ROPS structures may be painted manufacturers standard black color. Lead paint is not acceptable.

23. MANUALS: Original manuals in paper format shall be delivered with the unit. It is requested but not required that the manual be printed on recycled paper.

Manuals shall include:

23.1. An illustrated parts list coving all components of the unit identifying parts by part number, description and component location.

23.2. Hydraulic schematics.

23.3. Electrical schematics.

23.4. All necessary operating instructions and maintenance procedures for the unit and engines.

23.5. The following additional information shall be provided by the Contractor at time of delivery if not included in the manual required above.

23.5.1. Manufacturer's recommended service and preventive maintenance intervals.

23.5.2. Recommended fluids, lubricants and their SAE or API equivalents.

NOTE: OVERHAUL OR TECHNICAL MANUALS ARE NOT REQUIRED

24. SERVICE POINT ACCESSIBILITY: All lubrication and frequent service items shall be readily and easily accessible to the operator or technician.

25. REPLACEMENT FILTERS AND BELTS: A complete replacement set of filters and belts shall be provided for each unit furnished to this specification (not required for cab and chassis). Each filter and belt shall be labeled with the equipment manufacturer's part number as shown in the manufacturer's parts book and shall be furnished at the time of delivery. ONLY OEM FILTERS AND BELTS ARE ACCEPTABLE. The part numbers provided on the form shall correspond with the part numbers found in the parts manual for the equipment

25.1. The set of filters shall include air, fuel, oil, hydraulic, etc., filters used on the equipment.

25.2. The set of belts shall include alternator, water pump, and power steering, etc., belts used on the equipment.

26. MANUFACTURER'S STATEMENT OF ORIGIN (MSO): Contractor shall furnish MSO to the receiving district with each unit at time of delivery. CUSTOMER WILL NOT ACCEPT THE UNIT AND PROCESS PAYMENT WITHOUT THE MSO.
27. DATA SHEET: Data Sheet should be completed and submitted for informational purposes only.
28. TITLE APPLICATION FORM: Contractor shall furnish a completed State of Texas Form 130-U, Application for Texas Title and/or Registration, to the receiving district with each unit at time of delivery. The Form 130-U must be the most current version available. CUSTOMER WILL NOT ACCEPT THE UNIT AND PROCESS PAYMENT WITHOUT THE COMPLETED FORM 130-U.

PART III

DELIVERY AND ACCEPTANCE

1. **DELIVERY REQUIREMENTS:** Delivery of all equipment on this order shall be completed within the number of days specified on the purchase order. Any units not delivered within this time frame may be canceled from the purchase order or, at the Customer's option, an extension may be granted in writing, whichever is in the Customer's best interest.
 - 1.1. If any unit is canceled for non-delivery, the needed equipment may be purchased elsewhere and the Contractor may be charged any additional increase in cost and handling.
 - 1.2. **LIQUIDATED DAMAGES:** Unless a delivery extension is granted for acceptable reasons due to circumstances beyond the Contractor's control, liquidated damages of \$160 per unit will be deducted from the invoice for every working day after the expiration of the number of days shown on the purchase order until the units are delivered. This provision is not intended as a penalty but for ease of administration and the avoidance of disputes. The parties agree that \$160 per day is the nearest practicable estimate of cost to rent replacement equipment.
2. **ACCEPTANCE INSPECTION:** All equipment ordered will be subject to acceptance inspection and performance testing upon receipt. Acceptance inspection and performance testing will not take more than five working days, weather permitting. The Contractor will be notified within this time frame of any units not delivered in full compliance with the purchase order specifications. If any units are canceled for non-acceptance, the needed equipment may be purchased elsewhere and the Contractor may be charged any additional increase in cost and handling.
3. **WORKING DAY:** A working day is defined as a calendar day, not including Saturdays, Sundays, or regularly observed state and federal holidays.

PART IV**WARRANTY**

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|---|--|
| <p>1. <u>WARRANTY</u>: The unit shall be warranted against all defects in material and workmanship for a period of not less than 12 months or 1,200 hours of use, whichever comes first, and shall cover 100% parts and labor for the unit. If the manufacturer's standard warranty period exceeds 12 months or 1,200 hours, then the standard warranty period shall be in effect. The warranty begins on the date the unit is determined to meet specifications and accepted into the Customer's fleet.</p> | <p>Warranty
____ Months
____ Hours
whichever
comes first</p> |
|---|--|

NOTE: A delayed warranty in service start date may be requested.

2. **INTENT**: During the warranty period the Contractor shall be responsible for labor, materials, and other costs as outlined below associated with required warranty repair. It is the intent of this warranty that the Contractor performs warranty repair work. At the Customer's option, the Customer may perform minor warranty repairs to the unit at the Contractor's expense.
- 2.1. **EXCLUSIONS**: The Customer will assume the expense for replacement tires and tubes, tire repairs, lubricating oils, hydraulic fluids, greases, filters, fuel, antifreeze, batteries, lights, hoses, belts, cleaning, painting and other minor items normally consumed in day-to-day operations. The Customer will assume responsibility for cost of repairs resulting from collision, theft, vandalism, operator negligence or acts of God.
- 2.2. **EQUIPMENT MAINTENANCE**: It is the Customer's practice to maintain the equipment in accordance with the manufacturer's published recommendations.
- 2.3. **MINOR WARRANTY REPAIRS**: It is the intent of this warranty that the Contractor performs minor warranty repairs; however, at Customer's option, warranty repairs deemed by the Customer to be minor in nature may be performed by the Customer at the Contractor's expense. Parts required for repairs made by the Customer will be OEM parts and obtained from the Contractor or any commercial source, at no cost to the Customer. Only the actual time required for repairs shall be reimbursed. The Customer will not request reimbursement for additional time incurred such as mechanic's travel time or diagnostic time. Reimbursement by the Contractor to the Customer for the cost of warranty repairs shall be computed as follows:
- 2.3.1. **Labor**: Labor for warranty repairs will be calculated at the composite rate for the mechanic in effect at the time of the warranty repairs. Labor rate will not exceed \$40 per hour. The time allowed for each repair will be determined by the manufacturer's standard time schedule. Manufacturer's time schedule shall be furnished to the receiving district with the unit at the time of delivery (if available). If a manufacturer's time schedule is not available, the actual time for repairs, as noted above, will be used.
- 2.3.2. **Warranty Repair Claims**: The Customer may track and bill warranty repairs through the Customer's fleet management software or on the Contractor's standard forms.
- 2.3.3. **Parts**: Replaced parts will be held 30 calendar days and will be available for inspection by the Contractor or authorized representative. Copies of invoices for all parts will be provided to the Contractor. The cost of parts other than those furnished to the Customer at no cost by the Contractor will be billed at actual cost.

- 2.4. MAJOR WARRANTY REPAIRS: When major warranty repairs are required, the Customer will notify a representative of the Contractor's Texas dealer by telephone at the location and the telephone number designated by the Contractor on the attached Data Sheet as the point of contact. Major warranty repair work for the purpose of this specification means major repairs to the engine and major repairs to any other components of the unit. Diagnosis of the actual repairs required shall be the responsibility of the Contractor. The unit will be made available at a Customer's facility within a 100-mile radius of the FOB point shown on the purchase order. The repair work may be performed by the Contractor or Contractor's authorized representative.
 - 2.4.1. At the Contractor's option, the unit may be taken by the Contractor to a commercial repair facility. The Contractor shall be responsible for the cost of the round trip transportation of the unit to and from that location.
 - 2.4.2. If mutually agreed upon between the Contractor and the Customer, the Customer may transport the unit to the Contractor's location or authorized repair facility, within the boundaries of the state of Texas. The cost of equipment and manpower necessary to haul the unit for the round trip will be billed back to the Contractor at the rental rate of the equipment and composite hourly rate for the driver in effect at the time for the equipment required. The composite hourly rate for the driver will not exceed \$30 per hour. Rental rate for the truck and trailer will not exceed \$0.80 per mile for the truck and \$8 per hour for the trailer.
3. RESPONSE TIME: Warranty repair action shall begin within two working days after notification is made to the Contractor for need of warranty repairs. A representative of the Contractor's Texas dealer will be notified by telephone at the location and telephone number designated by the Contractor on the attached Data Sheet as the point of contact. The Contractor shall notify the Customer immediately of any changes in this location and telephone number. The warranty repairs should be completed and the unit returned to the Customer (or picked up by the Customer at the Contractor's expense as outlined above) within a reasonable period of time. For the purpose of the specification eight working days is defined as a reasonable period of time. Excessive delays incurred for the performance of warranty repairs by the Contractor may adversely affect the Contractor's status.
4. BILLING AND PAYMENT FOR WARRANTY REPAIR EXPENSES: Cost will be accumulated for transportation of the unit by the Customer to the Contractor's location or authorized repair facility. Payment for transportation costs as provided for in this section shall be made within 30 calendar days of the billing date.
5. PARTS AND SERVICE: The manufacturer of the equipment furnished shall have an authorized dealer within the state of Texas. The authorized dealer shall have factory-trained personnel available for warranty repairs and the performance of service. The dealer shall also maintain an inventory of high-usage parts and a quick source for low-usage parts.

PART V**OPTIONAL EQUIPMENT**

1. **OPTION NO. 1: BACKHOE BUCKET** - The backhoe bucket capacity shall be as normally furnished by the manufacturer. The size and type of the backhoe bucket shall be one of the following as stated below.

NOTE: All of the following buckets, except Option No. 1.6. - 48-inch Clean-up and Grading bucket, shall be furnished with removable digging teeth or teeth with replaceable tips. Bucket shall include any necessary adapters and fittings for attachment to the backhoe.

	<u>Bucket Width</u>	<u>Bucket Type</u>
1.1.	12 inches	Trenching
1.2.	18 inches	Trenching
1.3.	24 inches	Heavy Duty
1.4.	30 inches	Heavy Duty
1.5.	36 inches	Heavy Duty
1.6.	48 inches	Clean-up and Grading

2. **OPTION NO. 2: LOADER BUCKET DIGGING TEETH** - The loader bucket shall be equipped with bolt-on digging teeth with quick-change replaceable tips.
3. **OPTION NO. 3: STANDARD TYPE STABILIZER PADS** - In lieu of the street stabilizer pads described in Part II, Para. 13.10, standard type stabilizer pads shall be furnished.
4. **OPTION NO. 4: BACKHOE EXTENDABLE DIPPER STICK** - In lieu of the manufacturer's standard dipper stick, the backhoe shall be equipped with a hydraulically telescoping dipper stick providing the following reach and dig depth. Sufficient counterweight shall be furnished for stability and satisfactory operation.
 - 4.1. Reach from swing pivot centerline, approximately 21 feet, 10 inches.
 - 4.2. Minimum SAE rated digging depth with 24-inch trenching bucket (2 ft. flat bottom) 17 feet, 9 inches.
5. **OPTION NO. 5: BACKHOE ADJUSTABLE BUCKET CAPABILITY** - Backhoe shall be equipped with a bucket quick hitch attachment and have a hydraulically tilted bucket capability with a minimum of 40 degrees tilt both right and left. The attachment shall be of sufficient strength to withstand the digging force of the backhoe provided. Sufficient counterweight shall be furnished for stability and satisfactory operation. **BUCKETS AND TOOLS REQUIRED SHALL BE COMPATIBLE WITH THE SWIVEL HITCH AND BUCKET QUICK HITCH FURNISHED.**

EXAMPLE: Wain-Roy Side Angle Swivel with Bucket quick Hitch,
or approved equal

6. **OPTION NO. 6: ROPS**: In lieu of the ROPS cab described in Part II, Para. 14 the unit shall be equipped with a non-enclosed ROPS certified by its manufacturer to meet the test procedures and performance and labeling requirements of the Safety and health Regulations for Construction, Occupational Safety and Health Administration (OSHA). ROPS shall be provided with an overhead weather shield. ROPS shall be equipped with, but not limited to, the following:
 - 6.1. Inside rear-view mirror and West Coast type outside rear view mirrors as normally offered by the manufacturer. Convex mirrors are not acceptable.
 - 6.2. Floor coated with skid-resistant material.

7. OPTION NO. 7: DEMOLITION HAMMER - Unit shall be equipped with a demolition hammer driven by the auxiliary hydraulic tool circuit and mounted on the backhoe boom. The hammer shall produce a minimum of 650 blows per minute with a minimum of 1000 foot pounds of force per blow. Weight of the basic hammer without adapter plates or working tools shall be at least 700 pounds.

EXAMPLE: Kent Model KF6
or approved equal

- 7.1. The hammer shall be installed on the machine and tested for proper operation prior to delivery.
- 7.2. Demolition hammer shall have quick-disconnect type fitting and couplers to allow for quick and simple changeover from demolition hammer operations to backhoe bucket digging operations.
8. OPTION NO. 8: LOADER QUICK COUPLER - The unit shall be equipped with a hydraulically operated, loader quick coupler as regularly advertised and offered by the manufacturer. All necessary equipment such as hosing, mounting hardware, control valve, cylinders, etc., shall be provided and the quick coupler made ready for immediate use upon delivery. The loader quick coupler shall provide quick and easy removal and installation of various attachments from the operator's cab.
9. OPTION NO. 9: EXTRA SET OF MANUALS - In addition to the manuals required in Part II, Para. 23, one extra original set of operators, service and parts manuals shall be provided at time of delivery.
10. OPTION NO. 10: COMPLETE SET OF OVERHAUL MANUALS - In addition to the manuals required in Part II, Para. 23., one complete original set of specialized major overhaul and technical manuals for the engine, transmission, hydraulic system, electrical system, etc., shall be provided at time of delivery.
11. OPTION NO. 11: 4-WHEEL DRIVE SYSTEM - The unit shall be equipped with a 4-wheel drive drivetrain with all necessary equipment to be provided.
12. OPTION NO. 12: AUGER ATTACHMENT - The unit shall be equipped with a dipper mounted auger drive unit with 2" hex output shaft and hoses. Auger diameter shall be a minimum 24" wide. Maximum drive shaft torque at max pressure shall be a minimum 3500 lb. ft.
13. OPTION NO. 13 - BACK-UP CAMERA: Rear mounted rear facing camera wired to minimum 7" in-cab monitor. Camera shall be able to operate automatically when in reverse and operator shall have the option to operate in forward gear. Placement of camera and monitor shall be approved by customer's acquisitions personnel prior to delivery.

EXAMPLE: Zone Defense ZD.323.1CH
Or approved equal.

Authorized Warranty Service Provider

Name and address of firm nearest the FOB point that will provide warranty service and repair parts.

Firm Name

Address

City, State, Zip

Individual Contact Name

Phone

Email Address

Fax Number

Website – URL

If servicing dealer furnishes parts for minor repairs by Customer personnel, will this affect the warranty?
(Y/N)

If answer is “yes” please attach explanation.

Name of Firm Submitting Response

Individual Contact Name

Phone Number

Fax Number

Email Address

Website URL

Respondent’s Signature

Print or Type Respondent’s Name