**MINIMUM SPECIFICATIONS FOR ONE (1) LOADER BACKHOE W/4-WHEEL DRIVE, EXTENDED BOOM**

**BASIC SPECIFICATIONS**

**ENGINE**

 **FOUR CYLINDER, TURBOCHARGED, ISOLATION MOUNTED DIESEL ENGINE AND SHALL BE DESIGNED AND BUILT BY MANUFACTURER**

 **ENGINE SHALL BE CERTIFIED TO EPA INTERIM TIER4/EU STAGE III B EMISSIONS**

 **PREFERRED ENGINE TO HAVE INDIVIDUALLY REPLACEABLE, WET**

 **SLEEVE CYLINDER LINERS WILL ACCEPT CAST AND BLOCK**

 **ENGINE DISPLACEMENT SHALL BE NO LESS THAN 4.4 LITERS (260 CU. IN.)**

 **ENGINE RATED NET PEAK POWER (9ISO9249) SHALL BE NO LESS THAN**

 **107 HP (80KW) @ 2000 RPMS**

 **DAILY CHECKPOINTS SHALL BE ACCESSIBLE FROM THE RIGHT SIDE OF THE ENGINE AND SHALL BE DONE FROM THE GROUND**

 **ENGINE SHALL HAVE A SERPENTINE BELT WITH AUTOMATIC BELT**

 **TENSIONER**

 **UNDER-HOOD ENGINE AIR CLEANER SHALL BE DRY TYPE, DUAL**

 **ELEMENT WITH EVACUATOR VALVE AND RESTRICTION SENSOR IN**

 **CAB**

 **ENGINE SHALL HAVE UNDERHOOD AFTER TREATMENT DEVICE (DOC/**

 **DPF) OR COMPATIBLE STYLE**

 **HOOD SHOULD TILT FOR EASY ACCESS**

 **ENGINE EQUIPPED WITH WATER-IN-FUEL SENSOR**

 **ENGINE COOLANT SHALL BE RATED TO -40 DEGREES (-40C)**

 **ENGINE SHALL BE EQUIPPED WITH AN OIL-TO-WATER ENGINE OIL COOLER WITH COOLANT RECOVERY TANK**

 **BACKHOE SHALL HAVE ELECTRONICALLY CONTROLLED, VARIABLE**

 **RATE SUCTION-TYPE FAN WITH GUARD**

 **FOLDOUT HINGED COOLING SYSTEM WITH REMOTE MOUNTED TRANSMISSION AND HYDRAULIC COOLERS**

**POWER TRAIN**

 **THE TRANSMISSION SHALL BE POWERSHIFT WITH TORQUE CONVERTOR WITH MAXIMUM TRANSPORT SPEED OF 25MPH, NO**

 **CLUTCH, FULLY SYNCHRONIZED FIVE FORWARD AND THREE**

 **REVERSE SPEEDS**

 **MACHINE SHALL HAVE THE OPTION OF HAVING AUTOSHIFT**

 **TRANSMISSION**

 **THE AXLE SHALL BE MECHANICAL FRONT WHEEL DRIVE (MFWD)**

 **WITH TRACTION CONTROL LIMITED-SLIP DIFFERENTIAL WITH**

 **ELECTRIC ON/OFF CONTROL**

**THE AXLE SHOULD BE SEALED TO PROTECT AGAINST CONTAMINATION**

 **THE MFWD CAN BE ENGAGED ON THE FLY DURING OPERATION**

 **MACHINE WILL AUTOMATICALLY ENGAGE MFWD WHEN BRAKES ARE**

 **APPLIED FOR FOUR WHEEL BRAKING**

 **THE REAR AXLE SHALL DAVE A DIFFERENTIAL LOCK, ELECTRIC**

 **FOOT-ACTUATED AS STANDARD EQUIPMENT**

 **TRANSMISSION OIL COOLER STANDARD EQUIPMENT**

 **BACKHOE MUST HAVE HYDROSTATIC POWER STEERING WITH EMERGENCY MANUAL MODE**

 **BACKHOE SHALL HAVE A DIAL THROTTLE**

 **THE FRONT AXLE SHALL HAVE REMOTE GREASE BANK FOR FRONT AXLE FOR EASY ACCESS**

 **THE SERVICE BRAKES SHALL BE INBOARD, WET-MULTIPLE DISK, SELF**

 **-ADJUSTING HYDRAULICALLY ACTUATED AND SEALED FROM**

 **CONTAMINATION**

 **THE PARKING BRAKE SHALL BE INDEPENDENT OF SERVICE BRAKES,**

 **SPRING APPLIED HYDRAULICALLY RELEASED PERFERRED**

**PERFERRED PARK BRAKE THAT WILL AUTOMATICALLY, RATHER THAN MANNUAL, APPLY WHEN ENGINE IS SHUT OFF**

**HYDRAULICS**

 **HYDRAULIC PUMP SHALL BE AXIAL PISTON**

 **HYDRAULIC PUMP SHALL BE AT 42 GPM AND SYSTEM PRESSURE AT**

 **3600 PSI WITH PRESSURE COMPENSATING, LOAD SENSING**

 **SHALL HAVE A HYDRAULIC COOLER WITH INDEPENDENT RESERVOIR**

 **MACHINE SHALL BE EQUIPPED WITH AUTO IDLE TO LOWER RPM**

 **WHEN HYDRAULICS ARE NOT ACTIVE**

 **AN AUTO BUCKET RETURN TO DIG CONTROL WILL BE STANDARD**

**ELECTRICAL**

 **THE BACKHOE SHALL HAVE A 12-VOLT SYSTEM WITH 120 AMP**

 **ALTERNATOR MINIMUM**

 **SINGLE BATTERY AT 12-VOLT, SYSTEM WITH 950CCA, 190 MINUTE**

 **RATED RESERVE**

 **CAB SHALL BE PRE-WIRED FOR ROTATING BEACON**

 **UNIT SHALL BE EQUIPPED WITH 10 HALOGEN DRIVING AND WORKING**

 **LIGHTS, (4) FRONT DRIVING/WORKING, (4) REAR; (2) SIDE DOCKING**

 **LIGHTS**

 **UNIT SHALL BE EQUIPPED WITH TELEMATICS SYSTEMS FROM**

 **MANUFACTURER THAT CAN PROVIDE FLEET MANAGEMENT, LOGISTICS AND REMOTE DIAGNOSTICS**

 **UNIT SHALL HAVE TWO FRONT AND TWO REAR TURN SIGNAL/**

 **FLASHING AND TWO REAR STOP AND TAIL; LIGHTS AND TWO REAR**

 **REFLECTORS**

**OPERATOR STATION**

 **UNIT SHALL BE EQUIPPED WITH ISOLATION MODULAR MOUNTED ROPS/FOPS CANOPY AND MOLDED ROOF**

 **ACCESS TO CAB SHALL BE FROM RIGHT AND LEFT SIDE, RIGID SELF**

 **CLEANING STEPS**

 **3” RETRACTABLE SEAT BELT SHALL BE PROVIDED**

 **INTERIOR REAR VIEW MIRROR AND (2) 12-VOLT OUTLETS SHALL BE**

 **PROVIDED**

 **UNIT SHALL HAVE ILLUMINATED ELECTRONIC GAUGES WITH**

 **AUDIBLE WARNING FOR: ENGINE COOLANT TEMPERATURE,**

 **TRANSMISSION OIL PRESSURE AND FUEL LEVEL**

 **THE MONITOR SYSTEM SHALL HAVE AUDIBLE AND VISUAL WARNINGS**

 **FOR: ENGINE AIR RESTRICTION, LOW ALTERNATOR VOLTAGE, ENGINE**

 **OIL PRESSURE AND TEMPERATURE, HYDRAULIC FILTER RESTRICTION,**

 **PARK BRAKE ON/OFF, TRANSMISSION OIL TEMPERATURE, FUEL, HOUR**

 **METER AND LOW BRAKE PRESSURE**

 **UNIT SHALL HAVE DIGITAL DISPLAY FOR: ENGINE RPM, ENGINE HOURS AND SYSTEM VOLTAGE**

 **THE FOOT THROTTLE SHALL BE SUSPENDED**

 **THE MACHINE WILL HAVE CAB WITH AIR CONDITIONING AND HEATER**

 **FROM FACTORY**

 **SEAT SHALL BE SUSPENSION CLOTH SWIVEL, WITH FULLY ADJUSTABLE ARM RESTS AND LUMBAR SUPPORT**

**GENERAL SPECIFICATIONS**

 **VANDAL PROTECTION SHALL COVER THE INSTRUMENT PANEL, ENGINE HOOD, TOOL BOX, HYDRAULIC RESERVOIR AND FUEL FILLER**

 **SHALL BE LOCKABLE**

 **MUST HAVE AN EASY TO READ PERIODIC MAINTENANCE AND GREASE CHART POSTED ON THE MACHINE**

 **FUEL TANK MUST HOLD NO LESS THAN 41 GALLONS AND SHALL BE**

 **ACCESSIBLE FROM THE GROUND**

 **OPERATING WEIGHT WITH FULL FUEL TANK, OPERATOR 175 LBS. AND**

 **STANDARD EQUIPMENT SHALL BE NO LESS THAN 19,050 LBS.**

 **FLUID LEVELS SHOULD BE EASILY CHECKED BY SIGHT GAUGES,**

 **DIPSTICKS AND OVERFLOW TANK**

 **THE MAINFRAME SHALL HAVE FOUR BUILT IN TIE DOWNS, TWO IN**

 **FRONT AND TWO IN REAR FOR SAFE TRANSPORT**

 **UNIT SHALL HAVE REVERSIBLE STABLIZER PADS**

**BACKHOE**

 **THE BACKHOE SHALL HAVE EXTENDABLE DIPPERSTICK WITH MINIMUM DIGGING DEPTH AT LEAST 15’9” (RETRACTED) AND EXTENDED DEPTH AT LEAST 19’6”**

 **EXTENDABLE DIPPERSTICK SHALL EXTEND NO LESS THAN 3’6”**

 **THIS STABLIZER SHALL BE EQUIPPED WITH ANTI-DRIFT IN BOTH**

 **DIRECTIONS**

 **BACKHOE SHALL HAVE POWER CURVE DESIGN FOR LOADING**

 **CENTER OF TRUCK**

 **THE MACHINE SHALL HAVE FACTORY INSTALLED PILOT BACKHOE**

 **CONTROLS WITH PATTERN-SELECTION FEATURE**

 **MACHINE SHALL BE ABLE TO LIFT AT 12’ MINIMUM 2,926 LBS. BOOM**

 **LIFT**

 **OVERALL REACH SHALL BE 27’4” FROM CENTER LINE REAR AXLE**

 **24” HEAVY DUTY BUCKET WITH TEETH**

 **1,000-LBS. COUNTERWEIGHT PROVIDED ON MACHINE**

**LOADER**

 **MACHINE SHALL HAVE A MINIMUM OF A 1.23 CUBIC YARD MULTI-**

 **PURPOSE BUCKET 4 & 1**

 **LIFT CAPACITY TO FULL HEIGHT SHALL BE 6,100 LBS.**

 **LOADER DUMP CLEARANCE AT 45 DEGREES SHALL BE NO LESS THAN**

 **8’10”**

 **BUCKET BREAKOUT FORCE SHALL BE NO LESS THAN 10,300 LBS.**

 **LOADER SHALL HAVE HYDRAULIC SELF-LEVELING AND BUCKET**

 **INDICATOR**

 **LOADER SHALL HAVE A SINGLE LEVER WITH INTERGRATED ELECTRO-HYDRAULIC CONTROL OF AUXILLARY HYDRAULICS. LEVER**

 **ALSO EQUIPPED WITH CLUTCH DISCONNECT, MOMENTARY MFWD**

 **AND MFWD ON/OFF**

 **THE LOADER SHALL HAVE A NON-REMOVABLE, HINGED LOADER BOOM SERVICE LOCK**

 **LOADER HINGE PIN HEIGHT SHALL BE NO LESS THAN 11’**

**TIRES**

 **FRONT – 12.5/80X18 (14-PLY)**

 **REAR – 19.5X24 (10-PLY)**

 **PREFERRED FIRESTONE OR GOODYEAR**

**OTHER**

 **BIDDER SHALL HAVE A CERTIFIED PARTS AND SERVICE CENTER WITHIN 50 MILES OF ADAMS COUNTY, MISSISSIPPI**

**WARRANTY**

 **STANDARD MANUFACTURER WARRANTY – 1 YEAR OR UNLIMITED**

 **HOURS WHICHEVER OCCURS FIRST**

 **EXTENDED GOVERNMENTAL POWER TRAIN PLUS HYDRAULICS**

 **MACHINE WARRANTY 5 YEARS OR 5000 HOURS WHICHEVER COMES**

 **FIRST**

 **MACHINE PURCHASE MAY BE BASED ON GUARANTEED BUYBACKS AT**

 **3 YEARS OR 3000 HOURS, 4 YEARS OR 4000 HOURS, AND 5 YEARS OR 5000**

 **HOURS; WHICHEVER OCCURS FIRST (HOURS OR TERM)**

 **DELIVERY TIME MAY BE A FACTOR IN DETERMINING THE LOWEST AND BEST BID (PREFERRED 60 DAYS OR LESS AFTER RECEIVING**

 **PURCHASE ORDER)**