SPECIFICATION NO.: PHX-166GCBT-2024

DATE: March 29, 2025

LAST REVISION DATE: March 29, 2025

GENERAL DESCRIPTION: CNG Crew Truck with Backhoe

	TITLE	DESCRIPTION	Indicate Comply or Explain exception per item
1.	Scope:	 1.0. The following specifications cover the development and procurement of mounted equipment and Truck Chassis for the Medium Duty CNG Crew Truck with Backhoe. Current Model Year Conventional Cab Frame: Straight Rail, 80,000 KSI Wheelbase: 199 inches CA: 140 inches AF: 64 inches GVWR: 26,000 Lbs. GAWR Front: 12,000 Lbs. GAWR Rear: 21,000 Lbs. Engine: Cummins I9N 320 HP 1000 Lb/Ft Torque CNG Transmission: Allison 3000 RDS with Dual PTO Openings 	
2.	Performance:	 Exhaust: Horizontal muffler with vertical Tailpipe 2.0. Vendor shall provide with quotation the following: 2.1. Load Distribution: Vendor shall provide detailed weight distribution indicating location dimension of major components and their vertical and horizontal center of gravity locations. 	

		2.2. Delivery Weight: Provide with quotation, estimated	
		weight of front and rear axle of completed truck full of fuel and all operating fluids. These weights shall not include people or payload.	
3.	Body Construction:	3.0. Body shell: Shall be constructed of 14-gauge Jet Kote/Galvanneal ASTM A-60 steel sheet treated on both sides' sheet steel at a minimum. 3.1. Understructure: Body shall include 6-inch channel body longs with integrated cross members to support body. Height of cross members and body longs shall be 6 inches. 3.2. Body flooring: Shall be 3/16-inch deck plating. 3.3. Doors: The doors shall be double panel lap type. The outer panel shall be 14 gauges Jet Kote/Galvanneal ASTM A-60 steel sheet, treated on both sides. The inner panel shall be 18-gauge Jet Kote/Galvanneal ASTM A-60 steel sheet, treated on both sides. The inner panel shall be attached to both the inner & outer panels. The inner panel will be precisely sized so as to make contact with the inner compartment perimeter door seal gasket. The inner panel shall make contact with the door seal continuously around	
		the entire perimeter of the compartment when the door is closed and door shall be equipped with a full length, 100% stainless steel continuous piano hinge with a 3/16" stainless steel pin. The hinge shall be welded to the door between the inner & outer panels and bolted to the compartment inner frame so that there are no fasteners visible on the door or the compartment when the door is closed. Each vertically hinged door will have an removable chain to hold the door at a 90 degree angle to the body when open and each horizontally hinged door will have a heavy duty chain encased in an antirattle sheath and chain will be welded to a compartment frame reinforcement bracket and have a detachable "S" hook on the door end that will hold the door open at 90 degrees to the body or allow the door to swing down 180 degrees. Door locks shall be stainless steel "T" handle type, threaded stud with dual locks, key tumbler.	

		3.4. Shelving: Shall be fabricated out of bright spangled galvanized sheet steel. Shelf shall be 2 inches deep or as specified per item and include divider slots on 3-3/4-inch centers. 3.5. Dividers: Shelf dividers shall be fabricated of 20 gauge galvanized sheet steel with ¾ inch hem at top edge. Provide divider in every other slot in each tray. 3.6. Drawers: All drawers shall be mounted with 250 Lbs. Load capacity roller guides that will allow drawer to pull out fully and drawer locks shall be single hand operation slam shut type. 3.7. Weatherproofing: All outside compartments shall be weather resistant and include rubber tube type seals on all doors inner channel and perimeter that meets door post. All joints shall be caulked with adhesive type caulking, applied after body has been totally primed with epoxy type primer. 3.8. Sheet Edges: All edges exposed shall be hemmed ½ inch at a minimum. 3.9. Mounting System: Front shall be shear plate method at front. Center of body shall include body to frame support blocks and rear shall be shear bolt mount. All mounts must meet all applicable FMVSS (Federal Motor vehicle Safety Standard).	
4.	Compartment Configuration:	 4.0. Provide compartment dimensions and accessories as follows: 4.1. Overall Dimensions: Width, 96 inches (8ft) Length, 166 inches (14ft) Height, 68 inches (5ft 8in) Deck Height, 46 inches (3ft 10in) Bed Width, 53 inches (4ft 5in) 	

Streetside Compartments: (From left to right)

- 4.2. Front Vertical Compartment: Provide 28 inches wide, 56 inches high and 26 inches deep compartment with sweep out floor. At bottom right side provide (2) drawers 8 inches deep, 25 inches long and 8.5 inches wide with roller guides. Alongside left side of drawers should be room to side in and out one (1) Honda EU2000I generator. Door to be louver vented at top and bottom.
- 4.3. Air Hose Reel: Provide storage area to mount powered air hose reel with chain guard and roller fairlead 26 inches wide x 24 inches high x 20 inches deep.
- 4.4. Vertical in front of wheel Compartment: Provide 23 inches wide x 24 inches high x 20 inches deep. Provide from top down, (2) 4 inch deep and (1) 6 inch deep drawers. Mount drawers spaced $\frac{1}{2}$ apart and the compartment door shall be single door hinged vertically.
- 4.5. Long Tool storage: Provide storage area approximately 78 inches long x 20 inches wide x 10 inches high. Streetside shall be open 6 inches at top and solid 4 inches at bottom. At front end, provide drain holes and a ¼ inch steel plate stop, to prevent sharp tool damage and rear shall be open.
- 4.6. 1st Horizontal Compartment: 51 inches wide x 18 inches high x 20 inches deep. Interior shall include one adjustable tray with removable dividers on 3-3/4-inch centers and the compartment doors (2) shall be vertically hinged.
- 4.7. 2nd Horizontal Compartment: 27 inches wide x 18 inches high x 20 inches deep. Interior shall include one adjustable tray with removable dividers on 3-3/4-inch centers. Compartment door shall be vertically hinged.
- 4.8. Remainder of deck, Approx. 42 Inches wide x 32 inches deep x 10 inches tall shall be spoil/cargo area. At perimeter provide removable gates with open bottom in gate pockets for water draining with composite material slats and rope hooks.

4.9. Rear compartment below deck shall 39 inches wide x 20 inches high x 24 inches deep with open bottom. This compartment is reserved transporting 12 traffic cones (6) on each side with bases up. Provide a safety chain to secure cones during transportation.

Curbside Body: (From left to right)

- 4.10. Stairwell Entry: Stairwell configuration is required on curbside that is 25 inches wide: Provide 3-point of entry grab handles and hand holds painted yellow. Step platforms shall be 7" tread and as wide as possible and fabricated of Grip-Strut material with no-slip notched strip attached to out board edge. First step shall be mounted 17 inches from ground to top of step, with equal risers to deck. First step should be rubber mounted to prevent damage when hit.
- 4.11. Rear 1st Over wheel Compartment: 28 inches wide x 28 inches high x 20 inches deep. Interior shall include two adjustable trays with removable dividers on 3-3/4-inch centers and the compartment door shall be hinged vertically single door with "Peg Board" style inner panel.
- 4.12. Front 2nd Over wheel Compartment: 28 inches wide x 28 inches high x 20 inches deep. Interior shall include two adjustable trays with removable dividers on 3-3/4-inch centers and the compartment door shall be hinged vertically single door with "Peg Board" style inner panel.
- 4.13. Top Vertical in front of wheel Compartment: 26 inches wide x 42 inches high x 23 inches deep. Interior shall be storage area for, Compressor controls, A/C GFIC circuit breakers box, Water Cask, retractable pipe stand for vice and CNG spring rewind reel Cox Reel SH-N-3100) with 100 ft. of 3/8" CNG hose with hose stop. Supply stainless steel CNG feed hose to bottle bracket in bed.
- 4.14 Bottom vertical in front of wheel Compartment: 26" Wide x 22" Tall x 23" Deep. Storage area for powered Air Hose Reel with chain guard, roller fairlead and hose stop.

		T	
		4.15. Air Tool Storage Compartment: 51 inches wide x 64 inches high x 23 inches deep. Compartment shall have two (2) doors vertically hinged barn door style with spring door checks. Compartment will have one wall divider to split into two cabinets left one being 22.5" wide and right being 28.5" wide. Left side cabinet to include storage rack for six shovels and two steel strap style security brackets to stow 9 inch dia. and 12 inch dia. Oxy/Acet bottles. Also on the right side of the left cabinet a upper and lower bracket to hold the tamper in place. Install hose wraps on inside door panel to support 100ft of 3/8-inch oxy/acet hose and welding rod holder. Compartment floor shall be no lip style with a hose notch and fabricated of 10 gauge steel to allow sliding bottles in and out and provide single door that is louver vented at top and bottom, hinged vertically. On the right side of the cabinet shall be one (1) Boss Titan E-Z Lift 12VDC Electric tool lift. Tool lift to have adaptors for minimum three air tools. Floor to be sweep out and be able to support tool lift fully loaded. Inside right door and side wall mount one unistrut with 2 – 3" J-hooks. On right side wall next to tool lift is storage for the bits for the air tools.	
5.	Miscellaneous Body Components:	 5.0. Provide the following components: 5.1. Storage Chest Front Bed: Provide 24 inches deep x 30 inches long x 24 inches high. Top edge of chest for stiffening shall be 1 inch compound break and lid shall be hinged shoebox style that is lockable and weather tight. Mount front bed area. 5.2. Storage Chest Side Pack: Provide (2) 12 inches deep x 20 inches wide x 52 inches long. Top edge of chest for stiffening shall be 1 inch compound break and lid shall be hinged shoebox style that is lockable and weather tight. Mount on top of street side wheel well compartments. 5.3. Storage Chest Side Pack: Provide 12 inches deep x 20 inches wide x 57 inches long. Top edge of chest for stiffening shall be 1 inch compound break and lid shall be hinged shoebox style that is lockable and weather tight. Mount on top of curb side wheel well compartments 	

	T		
		5.4. Coiled Poly Pipe Reel 1-inch Poly Pipe: Provide and install adjustable (12" – 19") coiled pipe with aluminum divider. Mount reel assembly on curbside behind number 2 compartment with 2 inches bed floor clearance. Install on a chain a female hose bib end for winding up water hose.	
		5.5. Install tracer wire rack on top of number 2 cabinet.	
		5.6. On both rear corners of the body shall be two (2) removable 1-1/2 Pipe work light stands approximately 4-1/2 ft. tall.	
		5.7. In bed on the back rapper of each cabinet install two horizontal rows of low profile uni-strut. Mount one 10 inches from bottom of floor to C/L and the second 6 inches from top to C/L.	
		5.8. Install in bed forward of hose reel one CNG tank bracket clamp and bottle base.	
6.	120 Volt Power Source and Components:	6.0. Provide and install Boss Generator BGPSD 6.2KW. Pt # 61108 as per the following.	
	, , , , , , , , , , , , , , , , , , ,	6200 Watts120/240 Volts60 Hertz	
		 Mount Generator under body in conjunction with PTO driven Boss Compressor. Generator must be wired for two-wire 120-volt service. 	
		6.1. Circuit Panel as follows: Provide one 30-ampere circuit and one 20-ampere circuit. Wire 30 amp circuit with 10 gauge and 20 amp with 12 gauge THHN or THWN copper strand wire meeting standard electrical code color standards. Wire the 20 amp to the outlet box at front of truck and the second outlet box to rear of truck. 30-amp circuit breaker shall be wired to outlet box at curbside wheel well area. Mount circuit box with two General Electric circuit breakers in Streetside control station compartment. All circuits must be protected with a GFIC breakers.	

		 All receptacle boxes shall be weatherproof cast aluminum and include swing arc cast aluminum weatherproof covers. Install in 4x4 boxes one Hubbell model 4700; twist lock receptacle and one Hubbell commercial grade straight blade receptacle. Install in 4x2 box one Hubbell 120 volt 30-amp receptacle. Provide two 4x4 boxes one at curbside front bumper, second at curbside rear of body. Plug covers to be 180 Deg. opening. 	
7.	Power Take Off:	7.0. Power Take off for Compressor and backhoe shall be a constant mesh Hot-shift type. Operating engine RPM shall be lowest required to provide sufficient horsepower to run components. Submit with proposal RPM required. When system is activated it shall signal for transmission to lockup torque converter and disable accelerator. PTO operation shall be wired through neutral safety and shall disengage when transmission is in forward or reverse gear and it shall re-engage when shifted back into neutral.	
8.	Air Compressor and Accessories:	 8.0. Air Compressor: Provide Boss Industries PTO shaft driven 185 CFM @ rotary screw air compressor, as follows: Provide 160 CFM of airflow at 100-PSI backpressure at end of 90 foot of 3/4-inch air hose. Oil flooded rotary screw. Remote mounted horizontal oil/air separator receiver tank with oil lubricant sight gauge. Replaceable spin-on compressor lubricant filters 25 micron with safety bypass. Dry type air inlet filter. Remote mount oil to air heat exchanger, with thermostatic control. Safety devices shall include: a. Minimum pressure device b. Compressor lube high temperature and high-pressure safety system 	

- c. Automatic blow down device
- d. High-pressure relief valve that will prevent start up with excessive head pressure.
- 8.1. Air Inlet Control: Pneumatic inlet control valve shall be integrated into compressor stator and automatically modulate output from 0 to 100% in response to air demand.
- 8.2. Provide a Speed control designed to suit engine make/type/model and fuel delivery system. Electronically controlled engines speed controls shall emulate chassis Manufacturer foot throttle position and allow for infinitely Variable modulation of engine speed to match air demand. No Electronic Control Module (ECM) programming allowed. Wiring harness to utilize Packard type connectors. Wiring harness to utilize color-coded and numbered wire.
- 8.3. Air hose reel: Provide two, Reelcraft EA33112L12DLV. 12 volt electric rewind motor reel, which will accept 90 feet of 3/4-inch ID hose. Provide shut off ball valve with feature that bleeds pressure from reel hose in the off position. Provide a velocity fuse to shut off flow when hose is damaged. Mount one reel inside dedicated hose reel compartment on curbside and second in dedicated hose reel compartment on streetside. **Must have chain guard and Roller Fairleads installed**.
- 8.4. Air Hose: Install 90 feet each of 3/4-inch double braid rubber covered hose. Provide a Hansen 3RL 1/2" snap lock coupler at hose end and provide male matching connector to secure hose when rolled up on reel with hose stop.
- 8.5. Compressor Controls: Boss B-CAM Electronic Instrument Panel utilizing technology to include compressor air pressure, hour meter, compressor oil temperature displays and over-temperature/over-pressure reset switch. Unit to include flash memory to record over temperature, over speed and over pressure occurrences. Unit to include automatic resets for over temperature and over pressure conditions. Compressor control system to include preventative maintenance indicators for periodic oil changes, oil filter changes, air filter changes and coalescer element changes. Unit must have hinged door to protect from outside weather and pressure washing.

	1	<u></u>	
		8.6. Provide one (1) 50 Hour Lifetime Warranty Service Kit Pt # 80387 in cab of truck before delivery.	
9.	Backhoe Attachment:	9.0 Provide install a latest model CAT BH130 Side Sift all hydraulic truck mounted Backhoe as described in the following: 9.1. Installation: Backhoe shall be rear mounted to chassis frame in accordance with manufactures installation guide. Truck frame and body must be reinforced to accommodate flexing and torque due to use of backhoe. 9.2. Controls: Provide joystick electro/hyd backhoe controls. Also in Control Tower provide the following: a. Push-Pull Kill Switch: Cole Hersey model 50203 Mg, Install at rear of truck to the left of Backhoe Controls when sitting in seat. Switch shall stop truck engine when pushed-In. b. Push button momentary switch to activate truck horn. c. Two speed control switch. 9.3. Stabilizer Legs: Hydraulic down type that will not extend past truck sides. Provide provisions to pin legs to ensure legs will not leak off and extend while traveling. 9.4. Seat: Provide padded tractor seat with heavy vinyl upholstery. Seat shall be adjustable vertical from 12 to 20 inches and adjust fore and aft And locks in the up position during transportation. 9.5. Bucket: Provide one 12 inch CAT Bucket. With bucket mounted it must not extend beyond the side of the truck in the stowed travel position. 9.6. Auxiliary Brakes: Chassis brake controls must be modified by adding a BW-TC2 Air hand Valve. Valve must be position for easy operation from the backhoe operating station. With this valve one shall be able to control all four-wheel brakes. Install air gauge in tower.	

- 9.7. Miscellaneous: Provide the following:
 - Transport Links: To hold boom assembly to mast assembly during transit.
 - Security device to secure backhoe assembly to the far left or right.
 - Trailer hitch extension member: Provide extension to clear backhoe to support a SAF-Holland model Ph-30-RP41 hitch. Tow capacity is 8,000 Lbs. with 1,000 Lbs. tongue weight.

Hydraulic System:

- 9.8. Provide the following components:
- 9.9. Oil Type: Dextron III ATF or equal for hyd. system
- 9.10. Oil Pump: Provide Hydraulic oil pump, which will provide 100 percent of hydraulic system pressure and flow requirements at engine RPM that will be determined and set by manufacturer for maximum efficiency.

Note: RPM setting shall be no more then 1,600 for backhoe or compressor operation.

- 9.11. Oil Reservoir: Provide oil reservoir with sufficient volume to meet hydraulic system cooling requirement. External heat exchanger may be used to cool oil in-lieu of large tank volume. Tank shall be equipped with internal baffles, breather cap with, fill screen, clean out opening and sight and temperature gauge that indicates low and full. At lowest point of tank provide drain with ball valve and provide ball valves at in-let and out-let openings.
- 9.12. Hydraulic filtration: Provide total full filtration by means of 150 micron magnetic suction separator and full flow 10 micron filter with bypass in return line. Return line filter shall include a warning light system or gauge warning operator, that filter is in bypass.
- 9.13. Oil Cooler: System may include Hydraulic oil heat exchanger to meet cooling requirement as follows: In all modes of operation hydraulic system oil temperature shall

		not exceed 150 degrees Fahrenheit in ambient temperature of 110 degrees Fahrenheit. If cooler is required install heat exchanger with a thermostat controlled 12 VDC electric fan. 9.14. Hose Installation: Installation of hydraulic hoses shall include swivels at joints where there is a possibility of the hose binding when moved, i.e. turret rotation. All hoses shall be installed with securing clamps and they shall be removable without disassembly of major components. Hose pressure ratings shall be rated at 4 times the working pressure.	
10.	Trailer Hitch:	10.0. Provide and install Holland model PH-30-RP41 hitch.	
		10.1. Mount Height: Install at center rear 20 inches high measured from ground to top of throat. Attach hitch with grade 8 bolts and lock nuts.	
		10.2. Receiver tube extension to be removable to clear backhoe.	
		10.3 Two Premier model number 9, weld on safety chain ties. Mount on each side of hook in-line with hook throat.	
		10.4. Trailer Lights Connector: Provide RV 7 way trailer lighting connection. Trailer and marker light wiring to be unpluggable for hitch removal.	
		10.5. Provide OEM if available or Hayes electric brake controller model # 81725 Brake Controller.	
		10.6. All, bolts, nuts and washers shall be grade 8 and tighten to specified torque rating of bolt size.	
		10.7. Provide decal for trailer hitch stating Maximum trailer weight of 8,000 Lbs. and 1,000 Lbs. tongue weight.	

11.	Miscellaneous	11.0. Wheel Chocks: Two, Worden Safety Products wheel
	Components:	chocks model HGSY with vertical mounting brackets.
		Location of mounts will be on front side of street side bulk
		head.
		11.1. Fire Extinguisher: One, Amerex 20 Lbs. type ABC fire
		extinguisher. Mount with vehicle mounting bracket. Bungi
		cord type is not acceptable. Mount at rear curbside adjacent to stair well.
		11.2. Traffic Triangles: One three-triangle kit with storage
		box.
		11.3. Vise, Pipe: Provide and install with mounting socket on
		deck of rear center tail-section of truck a Rigid model BC-410
		chain vise. Vice plate to be 2 position swivel to side of truck
		90 Deg.
		11.4. Water Cask: Igloo 5-gallon water cask model 451 with
		wire type mounting bracket. Mounted next to CNG reel and
		control panel on curb side.
		11.5. Tire Mud Flaps: Install two no logo mud flaps behind
		rear wheels.
		11.51 Lincoln 1124 Dietal Crin graces gun plus cortridge 9
		11.51. Lincoln 1134 Pistol Grip grease gun plus cartridge & storage bracket – Location TBD
		Storage Bracket Ecoation 122
		11.6. Dash Placards: Provide placards indicating
		Operation PTO RPM
		Overall truck height
		Truck curb weight
		Max GVW
		Max GCWR Device of all according to the control of the contr
		Payload allowed on front axle
		Payload on rear axle
		Payload, total
		. ayloaa, tota.
		11.7. Access/ Egress Grab Handles Provide minimum 1-inch
		diameter, painted yellow as required for safety.

12. Lighting and 12 12.0. Provide the following electrical components: **Volt Electrical:** 12.1. Auxiliary Battery: All 12 Volt electrical components shall be wired to auxiliary battery. Battery shall a deep cycle type and include dual charging circuit and isolator from start batteries. 12.2. Cab LED light: Install a maxxima12-volt M-84411-B wafer thin white LED light slim. Mount on cab ceiling at center. 12.3. Back-Up/Warning Alarm: Electronic back-up alarm with audible signal that can be adjusted manually. Wire to backup light circuit. 12.4. Hour Meters: Provide hour meter if not provided in the Boss B-CAM for truck engine, generator, compressor and back hoe. Mount meters at component control location and label their function. 12.5. Amber Strobe: Provide One, Whelen L31HAF Super-LED strobe light. Mount front of body at center over cab roof. Wire through fuse and dash mounted master switch. 12.6. Master manual reset circuit breaker that is weather resistant. Locate within 18 inches of auxiliary battery. 12.7. Switch Panel: Panel switches shall be rocker type, with

1. Bin lights

dash.

2. Rear step well lights

lighted and labeled indicator lights mounted in cab under

- 3. Amber safety beacon
- 4. LED cab light
- 12.8. Speed Control: Provide throttle control system that will provide three-RPM modes, Idle, low and high speeds. If unit is equipped with backhoe, it shall be given "Priority" as to what speed setting should take precedence when one or more components are being used simultaneously. If a backhoe and compressor are operating simultaneously and the Operator wants the backhoe to operate on "LOW" speed, the backhoe "LOW" setting will control the engine speed setting regardless of the air compressor speed demand.

		This allows us to have control over the speed of the engine when the backhoe and compressor are operating simultaneously. If the generator is running it will have priority over all three units. 12.9. Start/Stop: The trucks shall be equipped with an engine shut-off switch for use when operating the backhoe and compressor. The shut-off system shall allow for the switch to be in the "OFF" position and the truck engine to restart and drive if necessary. 12.10. All wiring shall be in accordance with attached wiring practice. Pay particular attention to color-coding of wiring to all accessories and must coincide with as built electrical schematic. Match wire color to OEM color and if duplicate color exists with another OEM accessory wire, the entire wire must be changed. No other OEM component shall have same color wire.	
13.	Miscellaneous Equipment:	13.0. Water Tank: Provide and install between body oxy/acet compartment and truck frame rail a stainless steel tank of approximately 20 gallons. Provide water fill in fender well area and plumb to a garden hose bib at front of body. 13.1. Bin Lighting: All exterior body side compartments shall include LED Lighting tube lights, with spacing of 3 inches. Lighting shall be installed in the side post and top members of bins. Each bin shall have its own push/pull Cole Hersee model M606 with weatherproof plastic coating switch that will automatically shut off when door is closed. Wire lights through master switch inside cab.	
14.	Light and Reflectors Legals:	 14.0. Provide and install the following: 14.1. All Service Body L.E.D. Lighting Shall Be Optronics International Brand Lighting or equal with Weather Tight Connections And Conform To D.O.T. And California Vehicle Codes. 14.2. Recessed Stop, Tail And Turn Lamps Shall Be Part Number STL-43RBX. Install Stop, Tail, And Turn Lights In Rear Back Panels Below Deck. 	

		 14.3. Back Up Lights (Must Have 2) Shall Be Part Number BUL-11 CBX. Install Back Up Lights In Rear Back Panels Below Deck. 14.4. 2-1/2" Round Side Marker Lamps Shall Be Part Number MCL-59RB. Side Marker Lamps Shall Be Installed On Deck Sides By Means Of Lasered Or Stamped Hole To Minimize Burr. 14.5. License Plate Light: LPL31 Qty 2 14.6. Connectors: Provide Optronics triple seal type connectors. (No Exceptions) 14.7. Wire all electrical components in accordance with attached SCG wiring Practice Code. 14.8. All lighting must meet FMVSS 108. 14.9. Light are not to be installed using Rivets, sheet 	
		metal or self-tapping screws.	
15.	Paint and Logos:	15.0. Paint as follows:	
			1
	r ame and Logos.	 Exterior of body components with Polyurethane paint, matching chassis white color. Interior of body compartments White, Light Gray or Galvanized/aluminum unfinished. Under chassis components black. 15.1. Caulking and Primer: Caulk all joints with an adhesive type caulking applied after prime coat. Primer shall be an Epoxy type compatible with polyurethane paints. 15.2. All removable shelving and dividers shall be spangled galvanized. 15.3. Non-skid step surfaces coated Paint In Place non-skid liner With Appropriate Aggregate To Aid In Anti-Slip Properties, Black In Color. 	

16.	Delivery and Availability of Parts:	16.0. Manufacturer must have a system in place that provides "unit down" shipment and delivery of parts for emergency situations.	
17.	Operator's and Service Manuals:	17.0. Provide one (1) set of Operator's manuals per truck. 17.1. Provide one set of maintenance manuals per truck. Manuals must provide detailed instructions to service mounted components and include "By manufacturer part numbers parts catalog, as built wiring schematics and hydraulic schematics.	
18.	Decals:	18.0. Product decals must be utilizing universally recognized symbols. Written decals must be in English.	
19.	Noise Levels:	19.0. Maximum noise level at Operator stations shall not exceed 95 decibels in all modes of operation. If unit exceeds this level, insulation must be installed to bring levels down to 95 decibels.	
20.	Warranty:	20.0. All major structural components on the utility body are warranted for a period of 10 years while the initial purchaser owns the equipment. The seller shall at its option, repair or replace any major component such as Body Sub-Structure, Side Panels and Doors. It shall include Parts, labor and pickup and delivery to and from the warranty facility. Not applicable to CAT Backhoe structure or hyd. components. 20.1. Complete truck shall be warranted for one year in effect at time vehicle is placed into service. It shall include Parts, labor and pickup and delivery to and from warranty facility.	
21.	Quotation:	 21.0. Dealer "TURN KEY" Shall include but not be limited to the following points: 21.1. Exterior And Interior To Be Clean, Free Of Dust, Road Film, Preservatives, etc. 21.2. Paint Is To Fully Cover: No Thin Spots, No Noticeable Overspray and No Noticeable Runs. 21.3. Vehicle Is To Be Free Of Scratches And Body Damage. 	

	21.4. Noticeable Rough Running, Fast Idle Problems Are To
	Be Corrected.
	21.5. Oil, Coolant, ATF, Brake Fluid Levels Are To Be Full.
	21.6. Tire Pressure, (Including Spare. To Be Checked. Spare Tire Mounting Secure And Wheel Lug Nuts To Be Tight.
	21.7. Steering Wheel To Be Centered.
	21.8. All Lights, Signals, Horns And All Accessories Are To Be Operative.
	21.9. All State And Federal Safety Regulations Are To Be Met.
	21.10. Brakes Are To Be Checked For Proper Operation; No Spongy Pedal, No Pull.
	21.11. Vehicle Must Be Delivered With 3 Full Sets Of Keys.
	21.12. THERE IS TO BE NO DEALER OF EQUIPMENT ADVERTISEMENT AFFIXED TO THE VEHICLE WHEN DELIVERED.THIS INCLUDES DECALS, LICENSE PLATE FRAMES, ETC.
	21.13. Fuel tanks to be full of fuel regardless of fuel type.
	21.14. All Switches and buttons must be labeled.
Radio, Decals ,	22.0. Required to be installed.
. aci management.	
	22.4. Install Gamber Johnson MCS Top Plate tunnel plate to floor board between seats with seat brackets that fit the chassis model.
	Radio, Decals , Fuel Management:

		 22.5. Pre-wire for radio per wire diagram. 22.6. Labels Required: "Non-Potable Water" (Near Water Fill) "Do Not Drink" (Near Water Valve) "Close Cover When Not in Use" On B-Can Door All Required Compressor Labels "Do Not Stack on This Compartment" Battery Cover 	
23.	Drawings:	 23.0. Include with quotation shall be detailed drawing of body configuration with attachments installed in 1" = 20" scale. All construction drawings of final approved design shall be provided upon first unit completion including all fabrication detail. 23.1. Winning Vendor is Required to Provide Complete Electronic Set of Scaled As Built Drawings (Front, Top, Rear and Both Sides Views). 	
24.	Delivery Schedule:	24.0. Delivery schedule and locations that units will be delivered to shall determine at post award meet.	
25.	DMV Registration:	25.0. Units shall be registered in accordance with attached document.	
25.	Delivery Updates:	26.0. Required monthly by the 1 st of each month is a progress report of project status. A report indicating deliveries of major components, e.g. chassis, back hoe, compressor, and body.	
1.	Chassis Scope:	1.0. The following specifications cover the development and procurement of vehicle chassis as follows:	
2	Chassis:	2.0. Current Model Year2.1. Conventional Cab2.2. Frame: Straight Rail, 80 KSI	

Southern California Gas Co. Vehicle Specification

		2.3. GVWR: 26,000 Lbs.	
		2.4. GAWR: Front 10,000 Lbs. Rear 17,500 Lbs.	
		2.5. Wheel Base: 199" inches	
		2.6. CA: 121"	
		2.7. FB-BC Dimension: 113 inches.	
		2.8. Rear Frame Overhang: 60 Inch	
		2.9. Huck-Spin Round Collar Chassis Fasteners.	
		2.10. Clear Frame Rails from Back of Cab to Front Rear Suspension Bracket, Both Rails Outboard.	
3.	Frame:	3.0. 9/32 X 3-1/16 X 10-1/16 Inch Steel Frame 80 KSI	
4.	Bumper:	4.0. Full Width Three Piece 14 Inch Chrome Plated Steel Bumper.	
		4.1. (2) Inside Rail Frame Mounted Tow Hooks.	
5.	Front Axle:	5.0. 12,000 Lbs. Cap. I-Beam Front Axle – inc. TRW THP-60 Integral Power Steering & 18 Steering Wheel.	
		5.1. Front Axle Lube. (Synthetic Oil)	
6.	Front Suspension:	6.0. 12,000 Lbs. Cap. Parabolic Taper-Leaf Springs – inc. Front Shocks Absorbers.	
7.	Rear Axle:	7.0. 21,000 Lbs. Single-Speed Rear Axle.	
8.	Rear Suspension:	8.0. 23,000 Lbs. Cap. Rear Suspension. Variable Rate Multi-Leaf Spring with Leaf Spring Helper.	
		8.1. Rear Shock Absorbers. (Double Acting)	
		8.2. Rear Axle Lube (Synthetic Oil)	
9.	Axle Ratio:	9.0. 4.56 Axle Ratio.	

10.	Brake System:	10.0. Air Brake System - For Straight Truck Use Only,
		10.1. Meritor Q-Plus with ABS (Bendix Anti-Lock Brake System) (4-Channel) (Includes 15" x 4" Front Brakes and 16.5" x 7" Rear Brakes)
		10.2. Dual Direct Reading Air Pressure Gauges, Dust Shields Front and Rear, Brake Lines Color Coded Nylon,
		10.3. Bendix 18.7 CFM Capacity Air Compressor w/Cummins engines, Instrument Panel Mounted Yellow Knob Parking Brake Control Valve, Automatic Slack Adjusters Front and Rear, Two Rear Spring Parking Brake Chambers Mounted on Rear of Rear Axle, Auto Drain Valve(s) and Two Air Tanks Mounted inside the frame rails
		10.4. Air Brakes w/Automatic Traction Control.
11.	Brake Equipment:	11.0. Air Dryer Mounted Under Hood.
		11.1. 7-Way Trailer Connection Socket.
12.	Engine:	12.0. Cummins I9N I6 Near Zero CNG Engine 320 HP @ 2200RPM, 1000 LB-FT Torque
13.	Engine Equipment:	13.0. Anti-Freeze (Extended Life Coolant)
	Equipment.	13.1. Engine Exhaust Brake
14.	Transmission:	14.0. Allison 3000 RDS 5 – Speed Automatic Transmission 4th Generation Controls. – Inc. PTO Gear in LH and Rh of Transmission, Oil Level Sensor.
		14.1. Synthetic Transmission Oil.
		14.2. Push Button Electronic Shift Control, Dash Mounted.
15.	Transmission Programming:	15.0. Allison RDS General Purpose Truck.
16.	Exhaust:	16.0. Single Horizontal. (Vertical non-bright tail pipe, RH outlet, Frame mounted under cab outside right rail.) Exhaust Must be modified to vertical outlet.

17.	Electrical:	17.0. Electric Backup alarm.	
		17.1. Body Builder wiring to end of frame.	
		17.2 Daytime Running lamps.	
		17.3. Turn Signal Lamps. (Fender Mounted)	
		17.4. Primary Connector/Receptacle Wired for Combination Stop/Turn, Center Pin Powered Through Ignition with Stop Signal Prewire Package.	
		17.5. SAE J560 7-Way Primary Cable Receptacle Mounted End of Frame with 36" Additional Cable at Rear Crossmember.	
18.	Alternator:	18.0. DR 12Volt 300 Amp Pad Mounted.	
		18.1. Remote Mounted Jump Start Studs Both Negative and Positive.	
19.	Battery:	19.0. Three Group 31 Maintenance Free Batteries - 900 CCA Each.	
20.	Fuel Tanks:	20.0. 60 DGE Compressed Natural Gas Fuel Tanks Stacked Behind Cab.	
		20.1. LH CNG NGV1 Standard Fill Receptacle.	
		20.2. CNG Fuel Heating System.	
		20.3. CNG Tank Cabinet Must be modified for Doors and "T" Handles in the end panels and one Man removeable Panel on Back Side of Cabinet.	
21.	Driver Seat:	21.0. Bostrom T910 High Back Air Suspension.	
		21.1. Interior Arm Rests	
		21.2. Integral Door Panel Armrests	
		21.3. Black Mordura Cloth Seat Cover.	

22.	Passenger Seat:	22.0. Bostrom T910 High Back Air Suspension.
		22.1. Interior Arm Rests
		22.2. Integral Door Panel Armrests
		22.3. Black Mordura Cloth Seat Cover
23.	Mirrors:	23.0. Dual West Coast Molded In Color Mirrors.
		23.1. Dual 8 Inch Molded in Color Convex Mirrors Mounted under Primary Mirrors.
24.	Interior:	24.0. Manual Air Conditioning.
		24.1. Am/Fm Stereo Radio w/clock and (2) speakers.
		24.2. Tow Command Integrated Trailer Brake Controller
		24.3. Tinted Rear Window
		24.4. Gray Interior.
		24.5. Air Conditioner.
		24.6. Adjustable Tilt and Telescoping Steer Column.
		24.7. Drivers and Passenger Interior Sun Visor.
25.	Instruments &	25.0. Gray Drivers Instrument Panel.
	Controls	25.1. Engine Remote Interface with Park Brake Neutral Interlocks.
		25.2. Black Gauge Bezels
		25.3. Low Air Pressure Light and Buzzer.
		25.4. 2 Inch Primary and Secondary Air Pressure Gauges.
		25.5. Intake Mounted Air Restriction Indicator without Graduations.

		25.6. Electronic Cruise Control with Switches in LH Switch Panel.
		25.7. Odometer/Trip/Hour/Diagnostic/Voltage Display.
		25.8. J1939 Located Below Dash.
		25.9. 2 Inch Fuel Gauge.
		25.10. Engine Remote Interface with Multiple Set Speeds.
		25.11. Engine Remote Interface Connector at Back of Cab.
		25.12. Electrical Engine Coolant Temperature Gauge.
		25.13. 2 Inch Transmission Oil Temp Gauge.
		25.14. Electric Engine Oil Pressure Gauge.
		25.15. AM/FM/WB Radio with Front Auxiliary Input with Minimum 2 Speakers.
		25.16. Electronic MPH Speedometer.
		25.17. Electronic 3000 RPM Tachometer
		25.18. No Trailer Hand Control Valves.
		25.19. Single Electric Windshield Wiper Motor with Delay.
		25.20. Marker Light Switch Integral With Headlight Switch.
		25.21. One Valve Parking Brake System with Warning Indicator.
		25.22. Agility Blue iQ Fuel Monitoring System
26.	Miscellaneous Accessories:	26.0. Air Horn (Single Trumpet).
	ACCESSOTIES.	26.1. Front License Plate Holder.
1		

27.	Front Tire:	27.0. 10R22.5F (14PR) Tubeless Radial Tire (Michelin XZE)	
28.	Front Wheels:	28.0. 22.5" x 8.5" 10-Hole Steel Disc Wheels. (Painted White)	
29.	Rear Tire:	29.0. 10R22.5F (14PR) Tubeless Radial Tire (Michelin XDE)	
30.	Rear Wheels:	30.0. 22.5" x 8.5" 10-Hole Steel Disc Wheels. (Painted White)	
31.	Paint:	31.0. Standard Paint (Bright White) 31.1. Bright White Front and Rear Wheels/Rims	

IDENTIFICATION: All lifting equipment will be clearly marked with the rated capacity visible from any operator's position.

MANUALS: Operator's manuals, Maintenance, Service and Repair manuals, "by manufacturer designation" component parts list, Wiring Diagrams and hydraulic schematic.

REGULATORY COMPLIANCE: This unit must conform to all California DOT, CARB and DOSH requirements and all applicable Federal regulations for this class of equipment including ANSI Safety Standards.

INSPECTION: Unit is to be inspected prior to delivery at the vendor's facility.

MODIFICATIONS: Changes to design specifications or drawings are prohibited without prior approval of Design Team.

REQUESTED DELIVERY DATE:

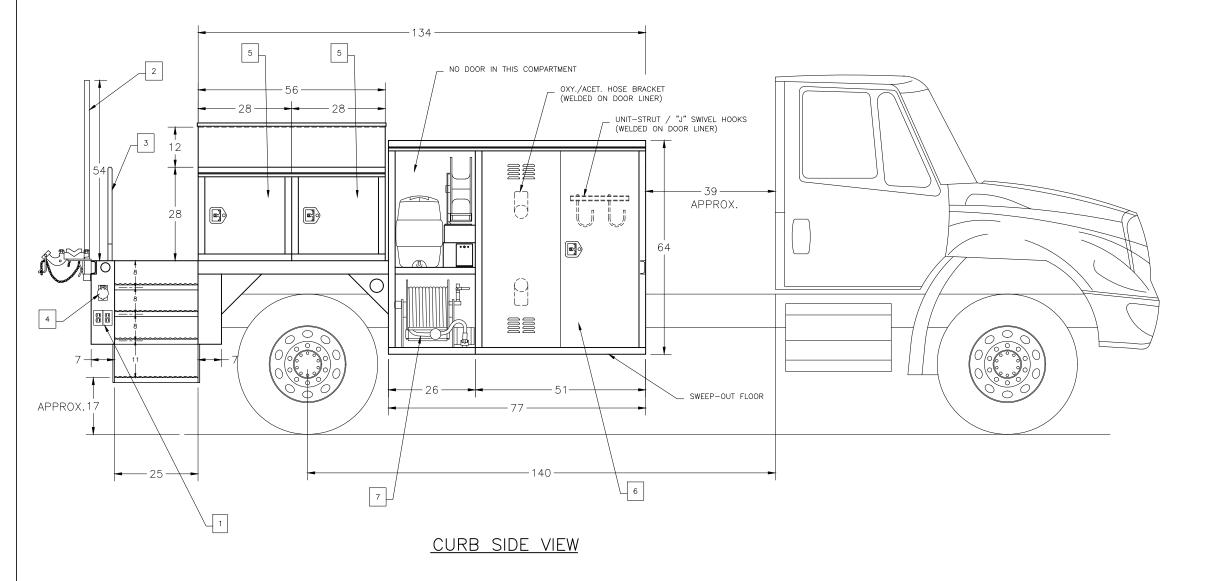
QUOTATION: Any variation or exceptions to this specification must be noted in full and attached to the bid; acceptance of any exception to this specification is at the sole discretion of the buyer.

Any questions regarding this specification should be referred to Procurement Agent whose name is shown on the quotation request.

Wiring Practice

- 1. All wiring installed or replaced on the equipment, trucks, bodies or trailers shall follow a uniform color code as follows:
 - White: All ground connections
 - Black: All clearance, marker, and Identification Lights
 - Yellow: Left turn indicator lights and Hazard
 - Red: All stop lights
 - Green: Right turn indicator lights and Hazard
 - · Brown: Tail and License Lights
 - Blue ABS and Continuous Power
- 2. All installed wiring shall be copper strand wire, of sufficient size to provide at least 100% of design voltage, at any point in the circuit, when energized at 115% of rated load.
- 3. All installed wiring shall be securely attached to substantial supports along its entire travel route on the vehicle. At no time shall this route come near or be apart of any heat source, exhaust systems or supports. Installed wiring shall be protected against the possibility of battery acid damage at all times and all wiring shall pass through convoluted loom material.
- 4. Installed wiring that is required to pass through any metal body panel or partition shall be protected with insulation grommet or if not practical with silicone gel at point of passage.
- 5. When installed wiring is to be stripped for terminal installation or joining, there shall not be any bare wire protruding outside the terminal sheath or joint.
- 6. All terminals used on installed wiring shall be; crimped style connectors with heat shrink jacket or added heat shrink is acceptable. All crimped style terminals shall be crimped with a correctly sized crimping tool for the size terminal used.
- 7. All terminals used on wiring shall be the correct size for the conductor used (i.e., 14 gauge terminal shall be installed on 14 gauge wire).
- 8. The use of insulation piercing type terminals or connectors is not acceptable.

- 9. All fuses used on wiring circuits shall be ATO types. Fuse block shall be an appropriate sized fuse block that includes a power relay. At energy source of fuse block provide an appropriate sized manual reset circuit breaker. Install fuse block as close to energy source as practical.
- 10. During installation of new wiring on a vehicle, all abandoned wiring shall be completely removed from said vehicle.
- 11. All wiring passing under vehicle matting or insulation shall have no but joints or splices.
- 12. Switches: All electrical switches mounted externally must be weatherproof type.



SOUTHERN CALIFORNIA GAS CO.

VEHICLE SPECIFICATION NO.: L16ACFC (601CG02)

CNG CREW TRUCK WITH BACKHOE

	BILL OF MATERIALS		
NO.	QTY.	DESCRIPTION	
1	2	ELECT. GFI OUT LET (PER SPEC,)	
2	1	REMOVABLE 1-1/2" PIPE WORK LIGHT	
		STANDS.	
3	2	GRAB HANDLE (PAINTED YELLOW)	
4	1	ELECT. OUT LET (PER SPEC,)	
5	2	VERTICAL SINGLE DOOR	
6	2	VERTICAL DOUBLE DOOR	
7	1	REELCRAFT #EA33112L12DLV 12V. ELECT.	
		REWIND. 3/4"I.D. HOSE X 90'FT.	
		(SEE SPEC. FOR INSTALLATION)	

WORK ORDER NO : N/A

CUSTOMER: CITY OF FULLERTON

BODY TYPE: CTEC 16668-VFT-101

CHASSIS INFO : N/A

ENGINEER: K.D. CHECKED BY:

DATE: 11/06/2025 | SHEET NO: 1 OF 6

CUSTOMER APPROVAL :

REVISION NO:

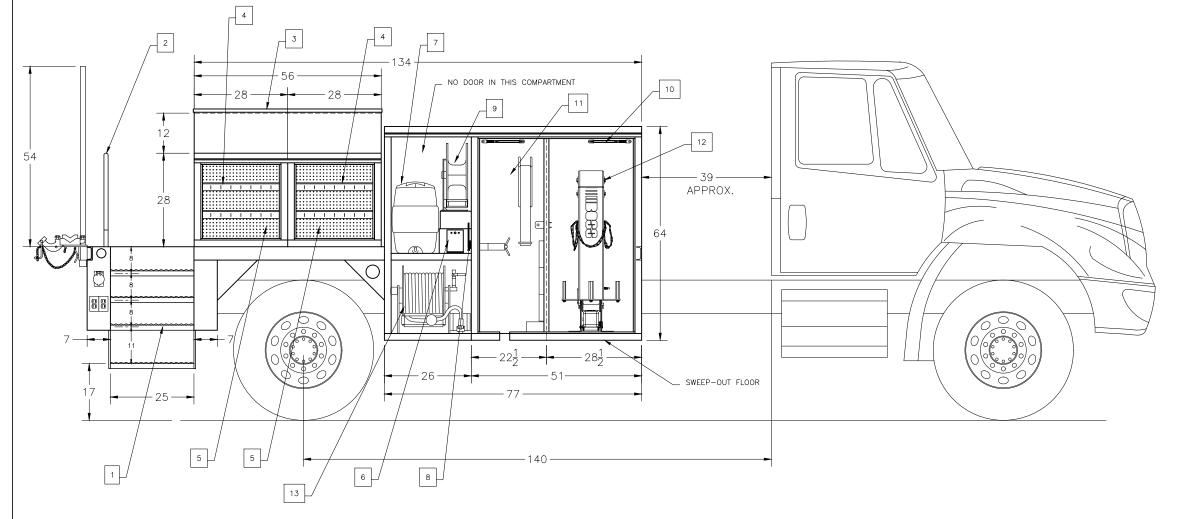
DATE: SIGN:

•

CALIFORNIA TRUCK EQUIPMENT CO.



12351 Bellflower Blvd.
Downey, CA. 90242
(800) 567-2832
(562) 803-4466
FAX (562) 803-8795
www.ctec-truckbody.com



CURB SIDE VIEW

SOUTHERN CALIFORNIA GAS CO.

VEHICLE SPECIFICATION NO.: L16ACFC (601CG02)

CNG CREW TRUCK WITH BACKHOE

		BILL OF MATERIALS
NO.	QTY.	DESCRIPTION
1	1	STAIRWELL ENTRY (PER SPEC.)
2	1	GRAB HANDLE (PAINTED YELLOW)
3	1	FLIP-UP OPEN TOP LID
4	2	ADJUSTABLE DIVIDER SHELVES
5	2	PEG BOARD STYLE INNER PANEL
6	1	COMPRESSOR CONTROLS, A/C GFCI
		CIRCUIT BREAKER BOX (PER SPEC.)
7	1	WATER CASK 5 GAL.
8	1	RETRACTABLE PIPE STAND FOR VISE
9	1	COX REEL SH-N3100 3/8" X 100'TF.
10	2	SPRING DOOR CHECK
11	1	OXY./ACET. BOTTLE COMPT. (PER SPEC.)
12	1	BOSS TITAN E-Z LIFT
13	1	REELCRAFT #EA33112L12DLV 12V. ELECT.
		REWIND. 3/4"I.D. HOSE X 90'FT.
		(SEE SPEC. FOR INSTALLATION)

WORK ORDER NO : N/A

CUSTOMER: CITY OF FULLERTON

BODY TYPE: CTEC 16668-VFT-101

CHASSIS INFO : N/A

ENGINEER: K.D. CHECKED BY:

DATE: 11/06/2025 | SHEET NO: 2 OF 6

CUSTOMER APPROVAL :

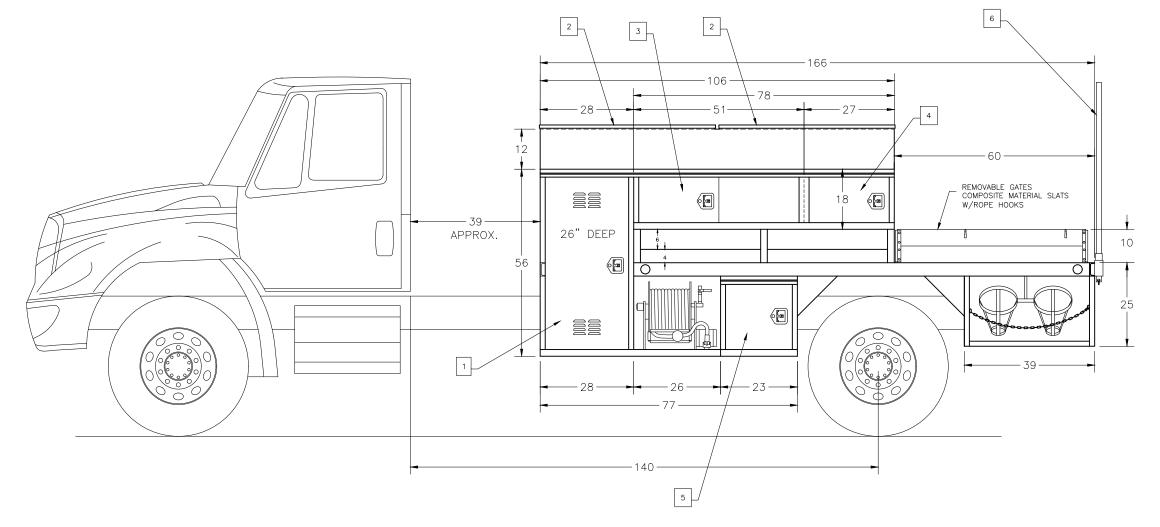
REVISION NO:

DATE: SIGN:

CALIFORNIA TRUCK EQUIPMENT CO.



12351 Bellflower Blvd. Downey, CA. 90242 (800) 567-2832 (562) 803-4466 FAX (562) 803-8795 www.ctec-truckbody.com



STREET SIDE VIEW

SOUTHERN CALIFORNIA GAS CO.

VEHICLE SPECIFICATION NO.: L16ACFC (601CG02)

CNG CREW TRUCK WITH BACKHOE

	BILL OF MATERIALS		
NO.	QTY.	DESCRIPTION	
1	1	SINGLE VERTICAL LOUVER DOOR	
2	2	FLIP-UP OPEN TOP LID	
3	2	VERTICAL DOUBLE DOORS	
4	1	VERTICAL SINGLE DOOR	
5	1	VERTICAL SINGLE DOOR	
6	1	REMOVABLE 1-1/2" PIPE WORK LIGHT	
		STANDS.	

WORK ORDER NO : N/A

CUSTOMER: CITY OF FULLERTON

BODY TYPE: CTEC 16668-VFT-101

CHASSIS INFO : N/A

ENGINEER: K.D. CHECKED BY:

DATE: 11/06/2025 | SHEET NO: 3 OF 6

CUSTOMER APPROVAL :

REVISION NO:

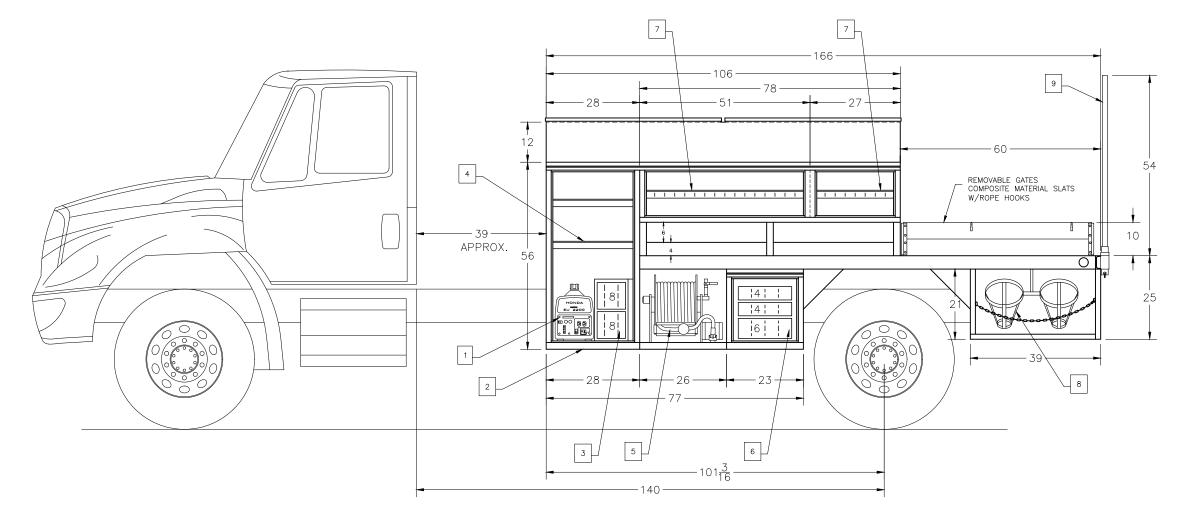
DATE: SIGN:

•

CALIFORNIA TRUCK EQUIPMENT CO.



12351 Bellflower Blvd. Downey, CA. 90242 (800) 567-2832 (562) 803-4466 FAX (562) 803-8795 www.ctec-truckbody.com



STREET SIDE VIEW

SOUTHERN CALIFORNIA GAS CO.

VEHICLE SPECIFICATION NO.: L16ACFC (601CG02)

CNG CREW TRUCK WITH BACKHOE

		BILL OF MATERIALS
NO.	QTY.	DESCRIPTION
1	1	HONDA GENERATOR #EU20001
2	2	SWEEP OUT COMPARTMENT FLOOR
3	2	8.5"W. X 8"H. X 22"D. ROLL-OUT
		DRAWERS W/REMOVABLE DIVIDERS
4	2	ADJUSTABLE SHELVES
5	1	REELCRAFT #EA33112L12DLV 12V. ELECT.
		REWIND. 3/4"I.D. HOSE X 90'FT.
		(SEE SPEC. FOR INSTALLATION)
6	2	15"W. X 4"H. X 22"D. ROLL-OUT
	1	15"W. X 6"H. X 22"D. ROLL—OUT
		DRAWERS W/REMOVABLE DIVIDERS
7	2	ADJUSTABLE DIVIDER SHELVES
8	2	CONE HOLDER STORAGE COMPT.
9	1	REMOVABLE 1-1/2" PIPE WORK LIGHT
		STANDS.

WORK ORDER NO : N/A

CUSTOMER: CITY OF FULLERTON

BODY TYPE: CTEC 16668-VFT-101

CHASSIS INFO : N/A

ENGINEER: K.D. CHECKED BY:

DATE: 11/06/2025 | SHEET NO: 4 OF 6

CUSTOMER APPROVAL : REVIS

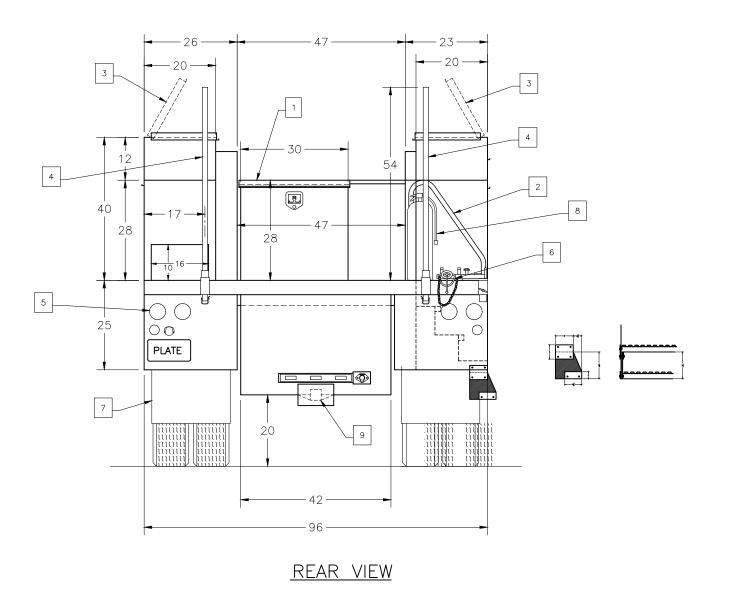
DATE : SIGN :

REVISION NO:

CALIFORNIA TRUCK EQUIPMENT CO.



12351 Bellflower Blvd. Downey, CA. 90242 (800) 567-2832 (562) 803-4466 FAX (562) 803-8795 www.ctec-truckbody.com



SOUTHERN CALIFORNIA GAS CO.

VEHICLE SPECIFICATION NO.: L16ACFC (601CG02)

CNG CREW TRUCK WITH BACKHOE

BILL OF MATERIALS			
NO.	QTY.	DESCRIPTION	
1	1	STORAGE CHEST.	
2	1	GRAB HANDLE (PAINTED YELLOW)	
3	2	FLIP-UP OPEN TOP LID	
4	1	REMOVABLE 1-1/2" PIPE WORK LIGHT	
		STANDS.	
5	2	LED LEGAL LIGHT (PER SPEC.)	
6	1	RIGID MODEL BC-410 CHAIN VISE	
7	2	TIRE MUD FLAPS	
8	1	ABC FIRE EXTINGUISHER AMEREX 20 LBS.	
9	1	TRAILER HITCH (PER SPEC. 10.0-10.7)	

WORK ORDER NO : N/A

CUSTOMER: CITY OF FULLERTON

BODY TYPE: CTEC 16668-VFT-101

CHASSIS INFO : N/A

ENGINEER: K.D. CHECKED BY:

DATE: 11/06/2025 SHEET NO: 5 OF 6

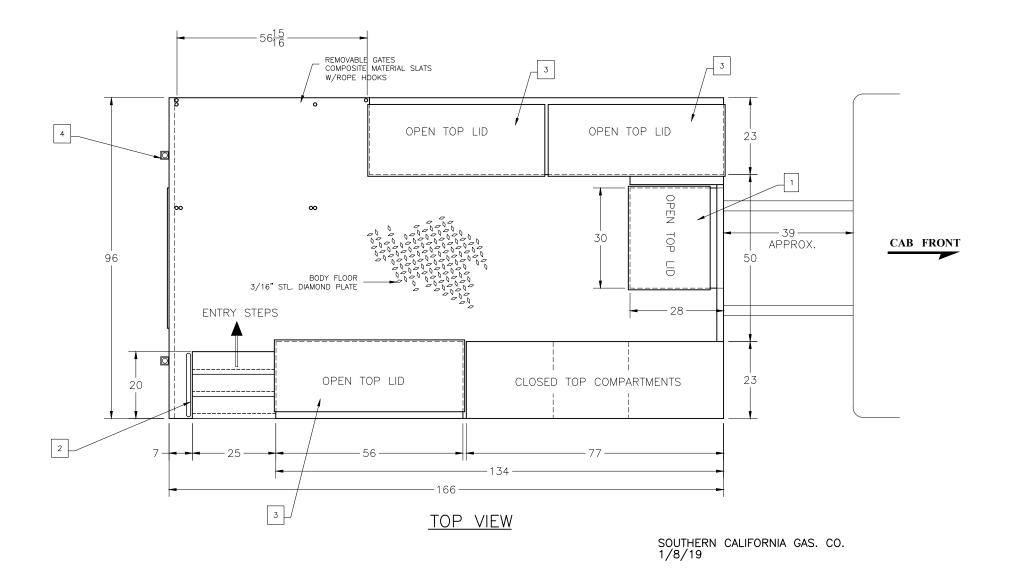
CUSTOMER APPROVAL : REVISION NO:

DATE: SIGN:

CALIFORNIA TRUCK EQUIPMENT CO.



12351 Bellflower Blvd.
Downey, CA. 90242
(800) 567-2832
(562) 803-4466
FAX (562) 803-8795
www.ctec-truckbody.com



SOUTHERN CALIFORNIA GAS CO.

VEHICLE SPECIFICATION NO.: L16ACFC (601CG02)

CNG CREW TRUCK WITH BACKHOE

	BILL OF MATERIALS				
	NO.	QTY.	DESCRIPTION		
	1	1	STORAGE CHEST.		
	2	1	GRAB HANDLE (PAINTED YELLOW)		
	3	3	FLIP-UP OPEN TOP LID		
	4	1	REMOVABLE 1-1/2" PIPE WORK LIGHT		
			STANDS.		
Ī					

WORK ORDER NO : N/A

CUSTOMER: CITY OF FULLERTON

BODY TYPE: CTEC 16668-VFT-101

CHASSIS INFO : N/A

ENGINEER: K.D. CHECKED BY:

DATE: 11/06/2025 | SHEET NO: 6 OF 6

CUSTOMER APPROVAL :

REVISION NO:

DATE: SIGN:

CALIFORNIA TRUCK EQUIPMENT CO.



12351 Bellflower Blvd.
Downey, CA. 90242
(800) 567-2832
(562) 803-4466
FAX (562) 803-8795
www.ctec-truckbody.com