

Trinity Diversified, Inc.

14550 S. Main St.

Gardena, CA 90248

562-432-7888 Fax.562-432-7338

Estimate

Date	Estimate #
5/5/2021	604

Name / Address
City Of Carson Gary Hild

Ship To

Project

Item	Description	Qty	Rate	Total
NRR Gas	Gas NRR 150" Wheelbase Standard Options 127.5 CA	1	60,000.00	60,000.00T
TRI-2000LT-D	Highway Line Striper Body As Per Specification dated 5/5/2021	1	186,674.10	186,674.10T
<p>Please Note: This bid is for budgetary purposes. We are the Subcontractor of a prime bidder. We are not truck dealership but have consulted our prime bidder on the cost of the Cab and Chassis.</p> <p>Please Note: The Spare tire, Additional keys and Chassis Manuals will be from the Dealership but Quoted here in the Estimate.</p> <p>Please see specification for the additional changes.</p>				

Subtotal		\$246,674.10
Sales Tax (9.5%)		\$23,434.04
Total		\$270,108.14

TRINITY DIVERSIFIED INC.

SPECIFICATIONS FOR TRUCK MOUNTED, 165 GALLON HIGH PRESSURE AIRLESS, HIGHWAY LINE STRIPER BODY

AND

SPECIFICATION FOR TRI-2000-LT-D (Dated 5-5-2021)

GENERAL INTENT:

To define an airless, dual operator road surface marking machine. That is completely factory assembled and ready to operate upon delivery. Applying conventional non pre-mix highway paints including fast dry waterborne by the airless method.

The striper shall be capable of applying these materials having a wet film thickness of .015 inches (15 MILS) at operating speed of from 4-10 MPH, three lines, two colors in either solid or skip patterns.

This truck mounted striping body shall be mounted on a cab and chassis capable of a Payload of 12500 lbs minimum. The wheel base shall be approximately 150" or Cab to axle Approx. 127.5"

Recommended Body: Isuzu NRR 19500 GVW with 150" wheelbase

PLATFORM, MUD FLAPS AND REAR BUMPER:

The chassis shall be equipped with a platform adequate size and strength to accommodate all the component equipment and accessories required to result in a pavement marketing machine.

Maximum width of the platform shall not exceed 96".

It shall be constructed of 4"-7.25lbs/ft Longitudinal Rails these rails shall be Structural "C" Channel, platform to be constructed of 3" Structural channel @ 4.1lbs/ft., upright stringers to be minimum of 4" Channel Iron 7.25 Lbs/ft. or 6" wide x 1/2" thick flat bar minimum. Cross beams for the platform shall be minimum of 2" x 2" X 1/8" thick steel square tubing on 12" centers. The deck plate shall be a four-way safety tread plate, minimum of 1/8" thick, which will cover the entire deck surface the entire platform shall be welded construction. The structure shall be mounted to the truck chassis with grade 8 structural bolts minimum 1-1" Bolt each Upright or 2-3/4" Bolts Each Upright or 3-5/8" Bolts Each Stringer or 4-1/2" grade 8 bolts per upright.

Mud flaps shall be mounted behind the rear tire. The flaps shall be the full width of the dual tires and extend from the platforms within 8" of the ground.

Rear bumper: A rear rectangular steel tubing bumper shall be supplied the tubing shall be 4" wide x 6" on the vertical surface and 1/8" minimum thickness. The bumper length shall be 92" long shall be mounted on the rear frame extension.

There shall be two operator's stations each equipped with a vinyl covered seat. The seats shall have air ride suspension and high backs. The seat location shall be at the rear of the truck platform to control the right hand and left hand outriggers and gun carriage.

The platform shall be equipped with a rear overhead canopy 60" deep x 96" wide x 74" Height.

The rear /operators platform area shall include a right and left ladder for access to the operator stations.

Cone Platform: 36" x 93" open area for cones supplies and operator. The operators legs shall have a recessed sealed compartment on the left side. This operator location shall be equipped with a DOT approved seatbelt. The load capability of the platform shall not be less than 1000 Lbs.

PAINT SYSTEM:

- **PAINT STORAGE:** Paint shall be carried on board the striper in 55 gallon drums. Space shall be left open to carry 4 drums of paint-although only 3 will be carried at any one time. The siphon tube for each of the paint filters shall be able to reach all drums. The drums shall include DOT approved securement.
- **PAINT STRAINER:** Strainers shall be supplied for each paint system and installed in the paint pump suction line. The strainers must be readily accessible with sufficient clearance for servicing the strainer element. The strainer shall have a valve on the inlet side to isolate the strainer for servicing. The strainer shall be stainless steel. The strainer shall have a minimum flow rating of 25 GPM.

A 6000 psi high pressure paint filter shall be provided with 70 mesh stainless element and a nitrogen charged 30 Cubic Inch surge suppressor must be installed in the paint high pressure line on the discharge side of each of the airless paint pumps.

- **PAINT GUNS:** The paint guns shall be high pressure 5000 PSI with stainless steel fluid sections. These guns shall have covered needles. The paint gun upper piston shall be sealed by "O" ring design no Diaphragms allowed. These airless guns shall be double acting. In design. There shall be seven (7) paint guns. Five (5) shall be mounted on the left hand gun carriage assembly capable of painting three (3) lines in two colors simultaneously. Each gun on the gun carriage assemblies are to be mounted to swing upward if struck by a solid object. The guns are to be adjustable vertically and laterally for line width and spacing. On the left hand outrigger two guns shall be white beaded, two guns shall be yellow beaded and one gun shall be black un-beaded.

Two (2) high pressure paint guns shall be mounted on the right hand outrigger. These guns will be mounted in the same manner as the left hand mounted guns. These guns shall be one black and one glass beaded white gun.

All paint guns shall be in clear view of the operator.

- **PAINT PUMPS:** Three Titan/Specflo high pressure hydraulic actuated paint pumps shall be provided. The pump shall have a maximum capacity of 8.6 GPM and a maximum output paint pressure of 2000 PSI. All wetted parts in these pumps shall be stainless steel or hardened chrome. Model #441-315A or equal

PLUMBING: All rigid plumbing is to be stainless steel ample use of unions or hoses that will allow easy dis-assembly of the system. All paint suction hosing shall be chemically resistant to the material being used.

SPRAY CARRIAGES:

A side mounted spray gun carriage shall be provided along left and right side of the machine to support spray guns and sphere dispensers for edge line and lane line applications. The carriages shall be retractable to within the overall vehicle width and lifted off the roadway for high speed transport. The carriage(s) shall have a outward reach of 4'.

A poly-filled pneumatic tire and wheel mounted on a casting axle shall support each carriage and maintain it at a fixed height from the road surface. A parallelogram system shall maintain the spray guns normal to the road surface at all times. A pneumatic lift cylinder controlled from the operator's position to raise and lower the carriage. This carriage shall be equipped with a down pressure regulator. A positive carriage locking support pin shall be provided for transport shall be used. No chains allowed.

The gun carriage shall be built in such a way as not to have any framework obstructing the forward view of the paint guns. The gun carriage shall be built with replaceable standard size pillow block bearings 1" minimum ID, allowing for parallelogram operation of the gun carriage. Flat bar parallelograms/linkage system shall not be allowed. Due to wear and stability.

The gun carriage location shall be forward of the rear tires.

Control of the outriggers will be by hydraulic orbit type steering valves and cylinders and hand steering wheels located at each operator's stations.

BEAD SYSTEM:

The unit shall be equipped with a 1120 lb. Pressurized bead tank. This tank shall be capable of 80 psi operating pressure. The container shall have a 0-160 PSI pressure gauge and a 75 PSI pressure relief valve. The container shall have a 10" diameter top opening for loading.

The beads shall be moved by air pressure from the tank to the bead guns.

A vacuum bead loading system with an approximate capacity of 200# of glass beads per minute will be included in the glass supply system. This vacuum bead system shall be operated using compressed air into a jet pump. No moving parts other than control valves shall be allowed.

The glass filling system shall include a 12' long, 2" ID fill hose with male and female quick coupler fittings on one end and a 36" long 2" OD x 1-7/8" ID steel tubing attached to the suction end. And a new unused, 55 gallon drum and bag splitter and screen strainer shall be supplied.

There shall be 3 bead guns on the left carriage, 1 bead guns on the right carriage. The bead guns shall be coordinated with the paint guns for simultaneous operation of the required pattern and shall give uniform bead coverage to the painted lines. The bead system shall include a 2 stage air dryer system, First stage shall include a Laman 50 cfm air dryer or equal. After the first stage system there shall be a 30 CFM Coalescing air dryer mounted at the bead tank lid.

AUXILIARY ENGINE AND COMPESSOR:

A water cooled Gasoline engine of sufficient horsepower and reserve (85 HP MIN@2400 RPM 186ft lbs@2400RPM) shall be provided to drive the hydraulic pump or pumps for the entire hydraulic system, as well as the Hydraulic operated screw compressor. In order to suppress noise, the diesel engine shall be in a minimum of 3/4 enclosure. This engine shall be a CARB approved gasoline engine with 23 Gallon Minimum Approved Fuel Tank.

AIR SYSTEM:

The air compressor shall be a minimum 40 CFM hydraulic operated screw air compressor mounted adjacent to the Gasoline engine on a forklift removable platform. The air compressor system shall include a Minimum 6 Gallon ASME pressure vessel with automatic moisture drain. Mounted forward on the Striper platform. The engine shall mounted street side to lower decibel levels for the truck cab.

An oilier shall be installed in all air lines gong to the solenoid valves that actuated the guns. All paint guns shall be actuated with electronic-solenoid operated air valves.

The each gun carriages shall be equipped with adjustable 33 CFM air blower assembly.

HYDRAULIC SYSTEM:

The hydraulic supply pump shall be a variable volume, pressure compensated , piston pump with a maximum displacement of 2.75 cubic inches per revolution. This piston pump shall include a minimum 1.58 CI/rev piggy back gear pump for the Air compressor operation. This pump shall be driven off the auxiliary engine and supply all the hydraulic requirements for the paint pumps and auxiliary equipment as required.

The main hydraulic pump and hydraulic accessories shall be plumbed in a closed center circuit, with each paint pump having its own shut-off and pressure control valves. All paint pump controls shall be located within easy reach of the operator while seated in the operator's seat. Each paint pump shall have a liquid filled pressure gauge in full view of the operator.

The hydraulic reservoir shall have a 12 gallon capacity and be equipped with a suction line strainer and a return line throw-away type filter with built-in by-pass.

This hydraulic system shall be Minimum HK-10-80 Hydra-kool Hydraulic conditioning system for correct hydraulic oil conditioning of the hydraulic fluid.

All hydraulic line shall be high pressure hose or tubing capable of withstanding working pressure to 2000 PSI

SKIP LINE CONTROLLER:

The paint line controller is a microprocessor based control unit. The unit shall be equipped with 2- Microprocessor based skip controllers the controllers shall be a Skip-line model SC-12 or equivalent system. It will allow remote electrical control of the paint and bead spray guns. The paint controllers shall be equipped with 5- Striping gun control switches, the units shall include bead on/off control option, a digital speedometer shall be standard in both boxes. The system shall be capable of raised pavement marker layout with the option of a mid spot reflector.

The striping computer shall incorporate air blower switches, and allow for the raising and lowering of the gun carriages.

And permit the application of various line patterns.

The system shall retain programmed and accumulated information. Even if the emergency off (master) switch is activated, or the unit is removed from the vehicle.

The unit shall operate entirely upon 12 VDC.

Skip system pulses driven by the vehicle drive line no other methods shall be allowed.

Calibration to the vehicle is performed electronically by the controller programming.

Controls and functions of the controller shall be programmable by means of membrane touch panel switches to the nearest .1 of a foot.

The unit shall be capable of accuracy to within .1 of a foot at speeds of up to 40 MPH.

Paint and cycle lengths may be varied from .1 ft to 99.9 ft.

There shall be provisions for reset to zero or instant start of striper for full cycle lengths. Also, there shall be provision for instant off

The controller may be configured to begin the painting cycle with the paint line or the skip interval.

There shall be provision to move the striper/cycle function ahead or back while the vehicle is in motion. (Advance or retard of the stripe)

The controller will be equipped with a LCD display having capability of displaying 20 characters. The intensity of the display shall be variable to accommodate for changes in ambient light conditions.

Vehicle speed to nearest .1 MPH and time will be displayed simultaneously on the readout of the controller.

An odometer function will indicate the total distance the vehicle has striped in feet.

The controller will accumulated and display upon command the total length on feet of the paint applied by each individual paint gun, and the total length of feet of paint by all guns.

The controller shall provide for delay of glass bead application for complete coverage of painted line.

Both right and left control boxes must be interchangeable.

SPRAY AND CONTROL EQUIPMENT:

The spray equipment shall be electrically controlled by means of toggle switches and solenoid valves. The switches shall be installed in a metal enclosure at the rear operator station. A master "kill" switch shall be located in the truck cab.

All electrical wiring shall be ran using protective split loom and properly secured.

FRONT GUIDE: A front mounted adjustable pointer guide shall be provided. The pointer shall be adjustable in length from 7'3" to 13'. The unit shall be mounted directly on the front bumper, and so designed that it can easily be swung and secured to brackets attached to the bumper face for easy transport. The guide shall be moveable from the left hand side to the right hand side operating positions. The guide shall be constructed of tubular steel and have a pneumatic rubber-tired caster wheel, an adjustable pointer guide, and flag socket located at its forward end.

The pointer shall be equipped with a hydraulic lift capable of lifting the pointer off the ground approximately 45 degrees for transporting or maneuvering the striper. The controls for controlling the pointer shall be easily accessible to the operator. In order that the pointer will follow the road contour, There shall be a float position in the hydraulic controls when in the lowered position.

Hydraulic power from the chassis power steering is not acceptable.

INTERCOM SYSTEM:

An intercommunication system shall be furnished to provide a means of vocal communication between the driver of the vehicle and the operators of the striping equipment.

This system shall be headset type. With (4) four voice activated headsets total. Three headsets will be provided for the rear operator's position with two ear muff speakers and one will be provided for the vehicle driver with a single ear muff speaker. Sigtronics Model SPA-400 intercom system designed for highway paint strippers or equal.

AIR TAKE-OFF:

A quick disconnect air take- off fitting shall be mounted on both left and right side of the platform.

MESSAGE BOARD / LIGHTBAR(S)

The body shall be equipped with a National Signal Model TM250 Message board or equal. This message board shall be attached uppermost portion of the operator's canopy. The lower height of the Message Board shall be a minimum of 7' from the road surface. The control of the message board shall be at the front driver position.

The unit shall be equipped with 4-Whelen model MC11PA Amber light bars 2- mounted at the rear of the trucks canopy and (2) at the front right and left of the striper platform.

NITROGEN CHARGING STATION:

The unit shall be equipped with one (1) 40 Cu/ft Nitrogen Tank. One(1) Nitrogen charging station. For charging of the nitrogen surge suppressors as required. (Standard Maintenance)

KEYS:

The Cab and Chassis as well as the body shall be equipped with 2 sets on keys for all components required.

SPARE TIRE:

The Truck shall be equipped with (1) one standard size spare tire and wheel assembly.

LIGHTING:

All body lighting shall be approved DOT 108 and be LED.

PARTS BOOK AND SERVICE MANUALS:

Two complete sets of parts lists, service and repair manuals, and operator's handbook shall be furnished for all components of the machine as well as the complete machine itself at the time of delivery. Complete wiring and plumbing diagrams and all applicable technical information shall be furnished. These manuals shall include the Cab and Chassis.

TECHINCAL SERVICE:

The services of a competent technician thoroughly trained in the use and operation of the striping machine, shall be furnished for a period of 8-24 consecutive hours depending upon the customers comfort with the operation and maintenance of the unit. The instruction shall cover all operation, and maintenance of the machine. The training period shall not include any pre-delivery service required on the machine by the technician. The training period shall begin after the machine has been checked out and is ready for striping operations.

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