AB McLauchlan :: Welliver Metal

Bid Specifications H500C-Paver or Equal

[The Information enclosed within brackets is for justification and not necessarily part of the specification. With Layton's policy of continually improving products, specs are subject to change without notice]

1. **Tow Type Asphalt Paver**
    a. **The towed-type Paver shall be constructed by using high quality components, steel, and manufacturing processes.** *[Reliability and dependability minimize maintenance and costly downtime]*

    b. **The quality of manufacture and dependability of parts and service provided by the manufacturer shall be consideration in then award of this bid.** *[The useful life, operational costs, and maintenance expense, are key factors in determining the true life cycle of the Paver]*

    c. **The Paver shall be capable of laying asphalt from a minimum depth, being determined by the largest size aggregate in the mix, to a maximum of 6" depth.** *[The flexibility of paving depths provides maximum Paver utilization on multiple applications]*

    d. **The Paver shall be capable of paving from 8' to 12' wide and be able to vary width while paving.** *[The variable width allows for various applications and permits paving close to obstructions and around obstacles, which reduces hand labor]*

    e. **The Paver's production capacity shall be a minimum paving speed of 100 feet per minute while laying 2" depth of 300 degree asphaltic concrete at a 12 foot width.** *[This Production capability assures effective use of both men and machines]*

2. **Hopper**
    a. **The Paver shall have a 3-ton storage hopper.** *[This capacity allows for a sufficient inventory of asphalt or base rock between the truck and the pavement to assure a smooth distribution of material. This also minimizes the variation of dumping techniques among different truck drivers.]*

    b. **The Hopper shall be of such a design to allow it to flex.** *[This allows an operator to pave up to 5" deep on one side while paving 0" on the opposite side]*

    c. **The hopper shall be equipped with a shut-off gate operated by a hydraulic cylinder capable of closing the Shut-Off gate with a full**

hopper of material. *[There are many times when it is necessary to shut off the flow of asphalt when the Hopper is still full. This feature provides the ability to stop one pass, pick up and move to another location. This makes the tow paver very maneuverable.]*

d. **The front of the hopper shall be equipped with 4 Bump Rolls; 2 on each side.** *[These Bump Rolls are for the truck tires to run against while backing up.]* **Each Bump Roll shall have 2 Heavy Duty sealed Ball Bearings (Bronze Bushings are not acceptable).**

e. **The Hopper shall be of sufficient strength to support the total weight of the paver and a full load of asphalt.** *[The H500C Hopper is designed and engineered for this purpose.]*

f. **The Hopper Wings shall have Handles.** *[This allows the operator to raise and lower the side wings for easier access to material in the hopper.]*

g. **The Hopper shall be supported on pneumatic rubber tires that are walking-beam mounted to an adjustable undercarriage frame that provides four different height settings.** *[This feature provides the ability to lay deeper lifts of asphalt or base rock.]*

3. Undercarriage

a. **The Rubber-Tired Undercarriage shall be designed as follows: Two sets of dual tandem pneumatic rubber tires (8 tires), 5.30 x 6 six-ply, mounted in line; two tires in front, and two directly behind, on each side.** *[This allows the operator maximum efficient grade and depth control of the paver.]*

b. **Each set of tires will be walking-beam mounted with the distance between pivot point and trailing edge of the screed a minimum of 56-¾".** *[This allows the paver gradability to compensate for slight deviations in the sub-base, without operator correction.]*

c. **Each set of Rubber Tires shall be mounted in such a manner as to follow directly in the track of the dump truck tires.** *[This allows greater stability and operator control of the Paver while paving in soft or irregular base conditions. Wide track design will minimize problems created by spillage between the truck and paver, which is most common in the center area of the front of the paver. Spillage between the tires does not affect screed control.]*

d. **Each Tire shall be independently mounted to a walking beam on stub axles, with no external frame work outside the tires.** *[This will reduce the asphalt build-up around the tires; reducing tire wear and making it easier for clean up. Also, it makes it easier to service or change a tire.]*

e. **The Rubber-Tired Undercarriage shall be designed and constructed in such a manner as to allow the paver to be towed safely and legally**

at normal traffic speeds, up to 55 mph, while using the optional Tow Bar.

4. **Screed**
    a. **The screed shall be designed and constructed to allow the flexibility needed to maintain independent depth control from left to right.**

    b. **The Screed shall be equipped with a bolt-on, reversible Screed Plate.**

    c. **The Screed Plate shall be 3/16" thick and made of a material with a minimum rated 360 Brinell hardness.**

    d. **The Screed Plate shall be heat-treated and abrasion-resistant steel with a tensile strength rated 190,000 P.S.I.** *[The Screed Plate material is extremely important to assure extended life; the screed plate is the main wear item on the Paver.]*

5. **Crown and Invert**
    a. **The Screed shall be equipped with a Crown and Invert device which can be operated by one ratchet, controlling both the leading and trailing edge adjustment simultaneously.** *[With both the leading and trailing edge crowning or inverting equally and simultaneously, you are assured the screed will maintain proper weight distribution on the trailing edge of the screed.]*

    b. **The screed shall be capable of a crown or inverted crown of up to 3".**

    c. **The Crown and Invert device shall be mounted on universal joints in such a manner as not to restrict the screed flexibility needed for independent depth control from left to right.**

    d. **The Crown/Invert Assembly shall have a cover of nonskid material which can be used as a step when hooking or unhooking the Screed Hoist.**

6. **Screed Hoist**
    a. **The Paver shall be equipped with a single hydraulically operated Screed Hoist mechanism, with one cylinders powered by the Central Hydraulic System (or the optional Electric Hydraulic System), which allows the screed to be raised with a full hopper of material.** *[The reliability of operations is enhanced with this specification because either one of two separate systems can operate the Screed Hoist.]*

7. **Screed Control**
    a. **The paving depth shall be controlled by two screw jacks, manually operated, located conveniently on each side of the screed.**

    b. **Depth adjustment on either side of the Screed shall not affect the depth setting on the opposite side.**

c. **Screed Strike-Off Extensions for paving width up to 12' shall be provided and shall be manually adjustable with gear rack and pinion located conveniently for the paver operator.**

8. **Central Hydraulic System (Standard)**
   a. **The paver shall be equipped with a Hydraulic Hand Pump of 3-Piston design that allows each of the hydraulic functions (Screed Hoist, Shut-Off Gate, and Hitch Arms) to work independently of each other.**

   b. **This Hand Pump shall be mounted on the left-hand side of the Paver to allow the operator to operate each of the hydraulic functions and still maintain eye and hand signal contact with the truck driver.**

9. **Electric Hydraulic System (Optional)**
   a. **The paver shall be equipped with an Electric-Powered Hydraulic System which includes 3 each, three position, positive look center rotary valves. One each for Hitch Arms, Shut-Off Gate, and Screed Hoist. The electric power source to be a 12 volt, size 27F, minimum 90 amp. Battery,**

   b. **A Central Hydraulic Hand Pump shall also be mounted on the paver to be used as a backup in the event of any possible electric failure.**

   c. **The controls for the Electric-Powered Hydraulic System shall be mounted on the left-hand side of the paver to allow the operator the ability to operate all hydraulic functions as well as maintain eye and hand signal contact with the truck driver.**

10. **Heavy Duty Hitch Arms (Standard)**
    a. **The Paver shall be equipped with Hydraulically Operated Hitch Arms (hookup arms) that insert rim rollers into the truck wheels.**

    b. **These Hitch Arms shall be Heavy Duty made of Alloy Steel.** *[This gives added strength necessary because of the additional weight.]*

    c. **These Hitch Arms shall have Side rollers that roll against the side wall of the tires.** *[This eliminates rubbing on the sides of the truck tires and increases the life of the Hitch Arms and the Tires]*

    d. **These Hitch Arms shall have roller bearings in the rim rolls and roller thrust bearings in the side rolls.** *[This feature provides longer life for the Hitch Arms.]*

    e. **The Hitch Arms shall be manufactured in such a manner that the arm can be disassembled for maintenance and bearing replacement, as required.** *[Since there is a lot of movement and contact in this area, maintenance should be made easy.]*

    f. **The Hitch Arms shall be operated from either the Central Hydraulic System or the (optional) Electric Hydraulic System.**

11. Adjustable Hitch Arms (Optional <u>in lieu</u> of Heavy Duty Arms)

a. **The Adjustable Hitch arms can be adjusted in 3" increments; from standard to a maximum additional length of 6", 9", or 15 ¾". (Please specify your preference.)**

b. **The Adjustable Hitch Arms shall be designed in a way as to allow trucks to hook up to the Paver, dump, and pave without the removal of any low hanging, truck mounted hitches or towing devices.**

c. **The Adjustable Hitch Arm shall be made of Alloy Steel.** *[This increases the strength of the Hitch Arms.]*

d. **The Adjustable Hitch Arms shall have (easily) replaceable bronze bushings in the Rim Rolls and Side Rollers.**

e. **The Rim Roll and Side Roll shall adjust together, as an assembly.** *[This will insure proper positioning of the side to the truck tire.]*

f. **The Hitch Arms shall be operated from either the Central Hydraulic System or the (optional) Electric Hydraulic System.**

12. Screed Heater (Optional)

a. **The Paver shall be equipped with a Screed Heater fueled by propane.** *[This provides a better quality mat when first starting paving operation.]*

b. **The Heated Screed shall have two Burners externally mounted and that swings away for lighting.** *[This feature is for safety]*

c. **The Burners shall be placed in such a fashion that igniting takes place outside of the Screed.** *[This reduces the possibility of combustion of explosive gases within the Screed compartment itself.]*

d. **The heated gases shall be fed through a heat conductor into two separate pipes which will allow both the leading and trailing edge of the Screed to be heated evenly.** *[This assures even distribution of heat (no hot spots) and reduces the possibility of warping the screed plate.]*

e. **The Screed Heat system shall be connected to the 5-gallon Propane**

f. **The Propane Tank shall be equipped with an adjustable Pressure Regulator and with a Pressure Gauge.** *[This allows the operator to monitor and control the pressure to the heater. The Screed Heater saves about 8-10 minutes per start up by the pre-heating. With these savings, the Screed Heater will soon pay for itself.]*

g. **There shall be an Excess Flow Check valve installed directly into the Propane Tank.** *[This is a safety consideration]*

13. Ditch Plates (Optional)

a. **The paver shall be equipped with a set of Plates which can be affixed to the Screed Extensions in such a fashion as to restrict the flow of**

material and allow the paver to pave areas less than 8' in width…to a minimum 2'. *[This feature makes ditch or trench paving profitable.]*

b. **These plates shall be affixed in such a manner as to allow variable width adjustment while on the move.** *[A Paver with Ditch Plates consistently lays 3-4 times the material in the same time on a job requiring asphalt pavement less than 8' wide.]*

c. **Installation of the Ditch Plates shall not restrict or reduce the use of the Shut-Off Gate.**

14. Joint-Matching Extension Plates, 1' Each Side. (Optional)

a. **The Paver shall be equipped with Joint-Matching Extension Plates.** *[This feature performs like an iron between adjacent mats and minimizes hand work and will provide 10' of screeded surface.]*

b. **This accessory consists of two plates, each 1' wide, which are attached (one on each side) to the Screed Frame, each mounted with two bolts.** *[This allows quick installation and removal of the Plates.]*

c. **These Plates shall also be designed in such a manner as to allow vertical adjustment to compensate for Screed wear and alignment.** *[This is to insure an even quality joint.]*

d. **These Joint-Matching Extension Plates shall be equipped with a heating device with externally-igniting burners that eliminate the possibility of the combustion of explosive gases which could accumulate within the Joint-Matching Extension Plate itself.** *[This makes the Screed and Extension Plates an even temperature and consequently results in a better quality job. Joint-Matching Extension Plates reduce the need of raking a seam (or joint) between two asphalt paving passes. This allows the Paver to move along without the delay of waiting for the raker to catch up. This increased paving speed allows faster emptying of the dump truck which reduces truck waiting time and expense. The Joint-Matching Extension Plates could possibly eliminate the need for one laborer on the job. The raker would have time to do some of the laborer's duties.]*

15. Joint-Matching Extension Plates, 2' Each Side. (Optional)

a. **The Paver shall be equipped with Joint-Matching Extension Plates.**

b. **The accessory consist of two Plates, each 2' wide, and are to be attached (one on each side) to the Screed Frame, each mounted with two bolts and an adjustable, diagonal strut which will support the additional widths.** *[This feature performs like an iron between adjacent mats and minimizes hand work, and will provide 12' of screeded surface.]*

c. **These Plates shall be designed in such a manner as to allow vertical adjustment to compensate for Screed wear and alignment.** *[This is to insure an even quality joint.]*

d. **These Joint-Matching Extension Plates shall be equipped with a heating device with externally-igniting burners that eliminate the possibility of the combustion of explosive gases which could accumulate within the Joint-Matching Extension Plate itself.**

16. Standard Equipment

a. **The Paver shall be equipped with a 12" Catwalk, Screed Covers, Tail Gate Stop, Hinged Spill Plate, a Depth Indicator Gauge on each side, 3 Gate Hooks, and a Crown and Invert Gauge.** *[These additional features are standard.]*

17. Manual

a. **A factory published Operator/Service/Parts Manual shall be provided for each Paver.**

18. Parts and Service

a. **Local Parts and Service availability shall be a major consideration in the award of this bid.** *[This will minimize expensive downtime.]*

19. Warranty

a. **The Paver shall carry a Warranty of twelve (12) months from date of purchase by the original purchaser. The Warranty shall cover all defective parts and workmanship (including engines), with the exception of certain wear items such as tires, battery, filters, hydraulic oil, etc. (For more detailed information, ask for a copy of the written warranty.)** *[This Warranty demonstrates our faith in the Quality and Reliability of the LAYTON paver.]*

b. **The Sales Company Warranty alone shall be unacceptable.**

20. Brochure

a. **The unit being quoted must be a current production model (no Proto-Type), and a brochure describing all specified features must be included with bid.**