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The purpose of these specifications is to describe a Pavement Router Self-Propelled with Dust Control. This unit must be of the manufacturer's current production. This unit shall be capable of routing while accurately following random cracks in asphalt or concrete surfaces at an estimated speed of 1,500 linear feet (500 meters) per hour. The Self-Propelled reduces worker fatigue by moving the router effortlessly from one distressed pavement area to another, working especially well on roads with inclines or hills. The router also reduces physical strain associated with loading and unloading the router onto a trailer during transport. The Dust Control is designed to reduce the particle pollution inherent in asphalt pavement crack routing that protects people from excessive dust, and surrounding areas and vehicles from flying debris.

	<u>Comply</u>	<u>Does Not Comply</u>
<b>1. <u>DUST CONTROL</u></b>		
A. The Pavement Router Self-Propelled with Dust Control meets EPA visible Emissions Standards per Maricopa County, AZ Air Pollution Control Regulations Appendix C Section 3.3.2 by emitting 1.25% average dust opacity.	_____	_____
B. The Pavement Router Self-Propelled with Dust Control confines the debris path to an 8 inch (20.3 cm) windrow for easy clean-up.	_____	_____
<b>2. <u>FRAME</u></b>		
A. There shall be a stub axle attached on each side of the frame assembly in line with the cutter head.	_____	_____
B. Attached to each stub axle shall be a pneumatic tire with tapered bearing. (Total tires on machine is 2)	_____	_____
C. The entire assembly of engine, cutter head, cutter head housing and all other part assemblies shall be mounted on a heavy steel frame, electric welded through 100% of the metal thickness at each joint for maximum strength and rigidity.	_____	_____
<b>3. <u>ENGINE</u></b>		
A. The engine shall be mounted on a hinged saddle to permit belt tension.	_____	_____
B. The cutter shall be powered by a Kohler Command Pro engine with hour meter. This engine shall be capable of producing 27 HP (20.1 kW) at 3600 RPM.	_____	_____
C. The engine shall have a full flow oil filter and oil cooler.	_____	_____
D. A dual element air cleaner shall be installed on the engine.	_____	_____
E. A dirty air cleaner indicator will be installed between the two air	_____	_____

filtration systems and the engine.

<u>Comply</u>	<u>Does Not Comply</u>
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**4. CUTTER HEAD**

- A. The cutter head shall be mounted on a drive shaft having a minimum diameter of 1<sup>3</sup>/<sub>4</sub> inch (4.4 cm) and is fastened with a minimum of two 1/2 inch (1.2 cm) hex head cap screws in conjunction with a minimum 3/8 inch (0.95 cm) x 4 inch (10.2 cm) key.
- B. The cutter head drive shaft shall be mounted by means of two self-aligning ball bearings. The cutter head shall accommodate a minimum of six - eight tooth carbide tipped cutters.
- C. These cutters shall be equally spaced on the cutter head and revolve on the hardened pins of a length that permits the use of spacers.
- D. By rearranging the spacers, the cut width can be varied from 1/2 inch (1.2 cm) to 2 inch (5.1 cm) wide.
- E. The cutter head shall be housed in a steel-housing capable of containing the cutter assembly and covering 80% of the total cutter assemblies surface area.
- F. The driving force from the engine to the cutter head shall be transmitted through a clutch and twin grooved sheaves and twin matched "V" belts covered with a removable metal guard ventilated to prevent upward suction of pavement debris.
- G. The cutter head and its protective housing shall be able to raise and lower a minimum of four inches by means of an electric lineal actuator operated by a fingertip control switch mounted on the operator handle.

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**5. CLUTCH**

- A. An electric clutch shall be mounted on the engine in such a manner as to stop the cutter head on demand without stopping the engine.
- B. The clutch switch shall be located on the handle in order to facilitate easy access by the operator.

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**6. BLOWER**

- A. The blower shall be cast with commercial grade 319 cast aluminum, having a 3/16 inch (0.48 cm) minimum wall thickness.
- B. The housing halves should be attached with tapered lugs having a minimum 45 degree taper from centerline for additional strength.
- C. The blower shall be AMCA type B spark resistant or better.

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	<u>Comply</u>	<u>Does Not Comply</u>
D. The blower performance shall be derived from data as tested per AMCA Standard 210. The blower wheel shall be direct drive, 8 inch (20.3 cm) diameter and 2 ¼ inch (6.9 cm) width.	_____	_____
E. The inlet shall be 4 inch (10.2 cm) with a CFM rating of 344 (9740 l/m) @ 1 inch (2.5 cm) static pressure.	_____	_____
<b>7. <u>CYCLONE</u></b>		
A. The cyclone shall be made from steel with a cone shape design, 2 ½ inch (6.4 cm) side inlet, 4 inch (10.2 cm) top exhaust outlet and a 4 inch (10.2 cm) bottom opening for large particles to drop out of the air flow.	_____	_____
<b>8. <u>LARGE PARTICLE DUST COLLECTION BIN</u></b>		
A. The large particle dust collection bin shall be designed to hold 438 cubic inch (7177 cubic centimeter) of particles before needing to be emptied.	_____	_____
B. The large particle dust collection bin shall include a quick release system to easily remove, empty and re-install the large particle collection dust bin.	_____	_____
<b>9. <u>DUST COLLECTION BAG</u></b>		
A. The dust collection bag shall be a 16 ounce (454 g) polyester felt filter bag.	_____	_____
B. The dust collect bag shall be 23 inch (58.4 cm) diameter by 26 inch (66 cm) long with one 4 ¼ inch (10.8 cm) diameter by 2 inch (5.1 cm) long inlet on one end only.	_____	_____
C. The dust collection bag shall include a heavy duty zipper 30 inch (76.2 cm) in length around the bottom circumference of the bag with a double flap along the zipper to create a dust seal.	_____	_____
D. The dust collection bag shall include a quick release system to easily remove, empty and re-install the dust collection bag.	_____	_____
<b>10. <u>CUTTER HEAD DUST SHROUD</u></b>		
A. The cutter head dust shroud shall be designed to extend from the bottom edge of the router housing to the pavement below and be able to adjust with the different cutting depths of the pavement router.	_____	_____
B. The cutter head dust shroud shall be attached to router using a quick release system that simplifies the process of adding and removing the shroud.	_____	_____

C. Internally the cutter head dust shroud shall have a stationary screen to stop large chunks of asphalt and/or rocks to enter the air flow leaving the cutter head dust shroud.

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Comply      Does Not Comply

D. Externally the cutter head dust shroud shall be made up of a series of brushes to reduce the dust from leaving the cutter head dust shroud. These brushes shall be easily removed and replaced as normal day to day wear occurs.

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E. There shall be a storage location on the cyclone assembly to store the cutter head dust shroud overnight and during long periods of non-use of the Pavement Router.

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**11. DRIVE / PROPEL COMPONENTS**

A. The drive shall consist of a belt driven propelling clutch, which can be engaged or disengaged at the operator's handle.

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B. By engaging the control handle, the propelling drive clutch is activated and transmits power to the wheels.

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\_\_\_\_\_

C. The control handle at the operator station can be feathered for speed control.

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D. There shall be an interlock which prevents the cutter head from rotating when the propelling drive is engaged.

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E. All belts and chains shall be guarded for safety.

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**12. CARBIDE SKID PLATE**

A. A pavement router shall be equipped with a replaceable carbide skid plate mounted at the rear of the cutter head housing in order to facilitate stopping of the unit, controls speed and increases crack tracking accuracy.

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**13. BATTERY**

A. The unit shall be equipped with a 12-volt battery capable of starting the engine and operating the clutch and actuator.

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B. The battery shall also be housed in a fully enclosed box that is weather resistant and heavy duty.

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**14. FUEL TANK**

A. The unit shall be equipped with a 6 gallon (22.7 l) minimum size gasoline tank.

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B. The tank shall be safely strapped to the frame and shielded by means of a metal guard that protects the front and corners of the tank.

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C. The tank shall also be manufactured from unbreakable, shatterproof, nonmetallic materials.

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<b><u>Comply</u></b>	<b><u>Does Not Comply</u></b>
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**15. CUTTERS**

A. The unit shall be supplied with pins, spacers and a complete set of wide hub carbide cutters.

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**16. TRAINING**

A. An authorized, factory-trained representative will be made available for a full day of "on the job" training at a facility designated by the bidding agency.

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B. At this training session a complete operational, mechanical and safety overview will occur. The CD manual and startup video will be viewed and discussed with all concerned personnel.

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**17. MANUALS**

A. An instruction manual containing warranty information, safety instructions, as well as an operation guide shall be provided.

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B. The instruction manual shall also contain a complete parts list with detailed service and maintenance instructions.

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**18. PARTS**

A. Bidders must show proof that a large stock of parts for the model of equipment upon which he is bidding is maintained at his facility.

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**19. WARRANTY**

A. The manufacturer shall warranty the equipment for no less than one year.

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B. A written manufacturer's standard warranty policy shall be provided in the Operator's Manual.

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**20. QUALIFICATIONS OF BIDDERS**

A. The bidder of this equipment must (1) meet the requirements of the specifications without material changes or modifications and (2) have been engaged in the manufacture of said equipment for at least forty-eight months.

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