RUSK COUNTY
REQUEST FOR PROPOSAL

HYDRAULICS

The Rusk County Highway Department request bid proposals to supply the following.

SPECIFICATIONS

1. HYDRAULIC PUMP:
   a. The hydraulic pump shall be a U.S. manufactured axial piston pressure and flow compensated load-sensing type. The pump shall be cast iron construction and rated to 6.0 cubic inches per revolution at maximum stroke which will deliver 25 GPM @ 1000 engine rpm. The pump shall have a 2-inch suction line. The pump shall be rated for up to 2600 rpm and 3000 PSI. The pump shall have a 1 ¼ inch keyed drive shaft and SAE type C mounting flange. A 1-inch steel ball valve shall be at the outlet of the pump.

2. MOUNTING:
   a. The hydraulic pump shall be mounted with shaft center line parallel to the crankshaft center line and at a level to create not more than a **three-degree angle** on the driveline. The pump mounting shall be incorporated with a bracket fabricated to mount in the extended frame rails of the truck.

3. DRIVE LINE:
   a. The hydraulic pump shall be driven directly off the engine crankshaft via a splined driveline to allow for movement. The driveline shall include grease fittings on both u-joints (Spicer model 1310 series).

4. RESERVOIR:
   a. Hydraulic reservoir shall be 40 gallon capacity and be mounted on the frame rails between the cab and box and be fabricated out of 10 gauge pickled steel and equipped with the following:
      Basket type filler breather cap
      Magnetic drain plug
      Two inch NPT suction with 100-mesh screen type filter
      Separate return port for control drain line
      Sight temperature gauge externally mounted
      Two inch full flow ball valve
      Low level indicator and alarm in cab

5. FILTER:
   a. Hydraulic oil filter shall be mounted in the reservoir. Hydraulic filter shall be rated for no less than 80 GPM. Filter shall be ZINGA model PS-1200-25-1-0 with ZSRE-409-10 micro-glass filter element and be equipped with a filter condition indicator gauge. Filter shall also include a TD-150-PMI tank diffuser.

6. VALVE CONTROLS:
   a. The valve controls shall be Morse remote control system with dynamic rod seal cables. Must be bulkhead type connections at the hydraulic valve sections. Valve controls shall be mounted at the right of the driver. A combination of dual axis levers stacked together for operation of all sections in hydraulic valve bank. The hoist section shall have a center lock to prevent accidental actuation. Cable core shall be stainless steel capable of 100 pounds of push and pull.

7. HYDRAULIC VALVE ENCLOSURE:
   a. The valve assembly shall be mounted in weather-tight enclosure. The valve enclosure shall be fabricated of 12-gauge steel. Enclosure shall be designed to not allow humidity to be trapped inside. Valve to be mounted with all ports coming out the bottom and holes allowing for hose

adapter fitting. Enclosure will allow for bulkhead style cable to enter the front. Valve will be "Boxed In" with the cover and not the base. The cover shall be held to the enclosure by four heavy rubber latches. All plumbing shall be external, directly out the bottom of the valve enclosure.

b. Add-A-Stack Valving

8. CONTROL VALVE:

a. Control valve shall be U.S. manufactured. Valve to be a load sensing type with o-ring ports. Mid-inlet section porting will be #16 inlet, #20 outlet, #16 hoist section, #4 load sense port, and #10 or #12 for all other sections. The hoist section shall be stacked to one side of the mid-inlet and all other sections will be stacked on the other side. All ports shall be level with each other so as to lay flat on its base.

b. Valve section to be arranged as follows:

1. Hoist, 4-way for a double acting cylinder with down side work port relief set at 2500 psi with a cable pull-off valve model 904-S-C-16.
2. Plow Lift, 4-way for a double acting cylinder with detent in the down position for float; Plow Angle 4-Way for a double acting cylinder with flow control. (single lever)
3. Right Wing, Tow and Heel shall have double acting cylinders with Flow control and Float position.

9. SPREADER CONTROL VALVE:

a. Force America patrol commander ulta with ground speed trigger mounted near the spreader control lever for easy access. Control must be lighted. Closed System.

b. Controller must be compatible for AVL/GPS.

c. Hydraulic lines for the spreader, head plow and wing shall be ½" 304 stainless-steel to run the length of the body with the ends being a minimum length of 2-wire hydraulic hose.

10 PLUMBING:

a. Approved SAE steel fittings, preferable 37 degree flare out of valve ports. All pressure, return, and inlet hoses shall be of sufficient size and pressure ratings. Minimum of 2-inch suction hose, 1-inch pressure hose from the pump to the valve and 1 ¼ inch return line hose from the valve to the filter. All hose ends that require to be clamped, a high torque clamp must be used. All hoses must be anchored away from bolts, sharp edges, and hose protectors used where hoses are against metal. No hydraulic lines shall be run near the trucks turbo or exhaust system. All hydraulic lines running on the frame rail shall be 304 stainless-steel.

11. MISCELLANEOUS:

a. All Vendors must supply a complete list of all components they are bidding.

b. Vendors must supply Parts and Service Manuals.

c. State trucks to have County Provided AVL GPS Installed on Truck.

d. County Trucks to have County Provided GPS installed on truck.

e. State trucks to have Ground Speed Controllers installed.

f. State and County trucks to have infrared pavement temperature sensors installed.

12. DELIVERY DATE:

Vendor must provide: _____

Contract Hydraulics