November 28, 2012

Rochelle Municipal Utilities
Specifications for a
Hydraulically Actuated Digger Derrick

This specification is to set forth the specific requirements for a new **Hydraulically Actuated Rotating Digger Derrick Device** with a **fiberglass** service body and an appropriate chassis/cab unit.

This unit shall be built new to the most current ANSI standard. It shall be equipped with the manufacturer's equipment and accessories which are included as standard in the advertised and published literature for the unit. No such item of equipment or accessories shall be removed or omitted for the reason that it was not specified on the bid.

If it is necessary to bid alternate equipment or to take exceptions to the specifications as set forth, this must also be stated in your bid. For each item place an "X" in the appropriate space (Yes ___ No ___) to signify whether or not you are in complete compliance with the specifications. Please enter your bid amount and lead time in the areas provided. Failure to follow format or answer the specification may cause your bid to be disqualified. For each item marked "No", please explain your variance using a separate sheet and identifying each item by specification number.

CHASSIS: **SEE CHASSIS CLARIFICATION** **YES____NO____**

-108" cab to axle, clean back of cab
-Single rear axle
-Inline 6-cylinder diesel engine 230 HP or equal – list options
-6-speed Allison automatic transmission
-GVWR 33,000 lb. min. (12,000 front axle and 21,000 rear axle min.) to support all equipment provided by manufacturer
-Frame drillable and weld-able
-Dual fuel step tank – max. fuel cap. – please state to maintain clean back of cab
-16-ply tires front and rear – rear off-road tires (Ex. – Goodyear G7)
-Cab painted white to match utility body
- Tow hooks mounted on front bumper
- New 2013 unit

-Standard cab: **YES to all ____NO____**
with bucket seats; instrumentation package including dial-gauges; cigar lighter; am/fm radio; a/c; heater; defroster; two-speed wipers with intermittent feature; power steering; full air brakes with dryer; heavy duty coolant system; 140 amp alternator; directional signals with steering column switch and dual-faced turn signals; dual west coast mirrors; full tinted glass.
*please state which items you are omitting: _____

-Back-up alarm installed **YES_X__NO____**

-Warranty period on chassis _____

	DIGGER DERRICK:	**COMPLY YES NO**
1	The derrick is to be in compliance with ANSI A10.31-1999	YES___X____ NO____
2	The derrick is to be manufactured in a facility that is certified to meet ISO 9001 requirements	YES___X____ NO_____
3	The derrick shall have approximately forty-seven (47) feet of sheave height when mounted on a chassis having a 40 inch frame height	YES___X____ NO_____
4	Mounting location shall be at the rear center of the chassis. Derrick pedestal is to be of a rectangular construction welded to a sub-base assembly	YES___X____ NO_____
5	Derrick shall be equipped with a turntable winch having 15,000 pounds of bare drum capacity, self-locking, high torque, worm gear motor, equipped with oil cooled brake with provisions on drum for attaching wire or polypropylene rope. Hinged cable guides are to be furnished to retain rope on top of booms	YES___X____ NO_____
6	115 feet of 1-inch synthetic rope with eye in each end.	YES___X____ NO_____
7	Crosby Laughlin 8.5-S-1 swivel hook (33 pound down haul weight)	YES___X____ NO_____
8	4 foot x 2 inch endless nylon type sling and 4 foot x 1/2 inch wire rope sling	YES___X____ NO_____
9	The steel structures shall be designed and tested so that the yield	

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CHASSIS: YES ✓ NO ____

-108" cab to axle, clean back of cab - comply
-Single rear axle - comply
-Inline 6-cylinder diesel engine 230 HP or equal – list options - comply
-6-speed Allison automatic transmission – comply
-GVWR 33,000 lb. min. (12,000 front axle and 21,000 rear axle min.) - comply
to support all equipment provided by manufacturer
-Frame drillable and weld-able – comply
-Dual fuel step tank – max. fuel cap. – please state to maintain clean back of cab - 50 gal.
-16-ply tires front and rear – rear off-road tires (Ex. – Goodyear G7) - comply
-Cab painted white to match utility body - comply
- Tow hooks mounted on front bumper - comply
- New 2013 unit - comply

-Standard cab: **YES to all** ____ **NO** ____ *

with bucket seats; instrumentation package including dial-gauges; cigar lighter; am/fm radio; a/c; heater; defroster; two-speed wipers with intermittent feature; power steering; full air brakes with dryer; heavy duty coolant system; 140 amp alternator; directional signals with steering column switch and dual-faced turn signals; dual west coast mirrors; full tinted glass.

*please state which items you are omitting: Comply

-Back-up alarm installed YES ✓ NO ____

-Warranty period on chassis See Attached

	point of the steel structural components is not exceeded when the derrick is loaded to three times its rated capacity	YES___X___ NO_____
10	Hydraulically powered 360° continuous rotation shall be accomplished by a high efficiency worm gearbox, equipped with counterbalance holding valves to insure positive starts and stops. Gearbox is to be adjustable by use of an eccentric ring to adjust backlash easily	YES___X___ NO_____
11	Unit shall be equipped with side load protection to consist of a spring applied, hydraulically released, brake mounted with the rotation gearbox assembly	YES___X___ NO_____
12	Shear-type ball bearing rotation gear shall be utilized with induction-hardened bearing races	YES___X___ NO_____
13	The 1.25 inch pedestal top plate is to be machined after welding to provide a rigid, flat mounting surface for the rotation bearing	YES___X___ NO_____
14	Main control system shall be proportional electro-hydraulic pilot-operated. Control levers are required for boom elevation, rotation, intermediate boom, upper boom, digger and winch operation. Control levers are to be fitted with detent locks, which maintain the controls in neutral. Panel lights are to be furnished for night operation	YES_____ NO___X___
15	Junction box for control system shall be installed inside turntable under steel covers	YES_____ NO___X___
16	Main control panel shall be t-box type. Riding seat console equipped with hydraulic foot throttle furnished at the seat.	YES___X___ NO_____
17	Standard system operating pressure shall be 2,500 psi	YES___X___ NO_____
18	Hydraulic system shall be open-center type and include shut-off valve in suction line, filters, tandem vane pump, and appropriate power takeoff to match chassis engine and transmission selected	YES___X___ NO_____
19	The reservoir shall be 60-gallon capacity with baffles, filters, and magnetic suction separator	YES_____ NO___X___
20	The forty-seven (47) feet of sheave height shall be accomplished using three (3) boom sections. The intermediate boom and upper boom shall be hydraulically extended using independent cylinders	YES_____ NO___X___
21	The cylinder for the intermediate boom shall be mounted underneath the boom to reduce overall width	YES_____ NO___X___
22	The cylinder for the upper boom shall be mounted inside the intermediate boom at the lower end and trunion mounted to the inside of the upper boom at the lower end	YES___X___ NO_____
23	The upper boom shall be cylindrical in shape and constructed of centrifugal-cast fiberglass	YES_____ NO___X___
24	The upper boom shall have a 4:1 to the Kaiser effect point safety factor. (This is 5:1 to ultimate). This shall be a full capacity boom that can be used to lift the maximum capacity of the boom lift cylinder in any position (i.e. the intermediate stage boom may	YES___X___ NO_____

	be fully retracted and the upper boom used as an intermediate boom)	
25	The fiberglass tip shall be a solid fiberglass head equipped with two (2) 6 inch non-conductive sheaves	YES_____ NO__X___
26	Unit to be equipped with transferable steel boom flares. By placement of a single pin in one of two pinning locations, the transferable boom flares shall be attachable to the end of the fiberglass upper boom or retained at the end of the intermediate boom. This shall be accomplished without manually connecting or disconnecting hydraulic lines	YES__X___ NO_____
27	Pole guides shall be installed on the transferable boom flares. Guides shall open, close, and tilt hydraulically	YES__X___ NO_____
28	Pole guide interlock shall be furnished which prevents upper boom extension from the fully retracted position until pole guides are articulated to the "full-up" position when the transferable flares are pinned to the intermediate boom. This also prevents the pole guides from tilting down when the upper boom is extended and when transferable flares are pinned to the intermediate boom	YES__X___ NO_____
29	A tool circuit capable of continuous operation with out overheating shall be located at the boom tip, independent of other functions, equipped with on/off control at the boom tip. Tool circuit to provide adjustable flow and pressure set at 8-9 GPM and 2,000 PSI	YES_____ NO__X___
30	Unit shall be equipped with two-speed digger capable of developing 12,000 ft-lb. digging torque. Digger shift controls shall be designed to prevent the operator from shifting while the motor is turning. Digger shall be stowed alongside boom in a bracket utilizing a sliding latch, which is closed by a heavy-duty spring mechanism and opened hydraulically. Furnish 20 inch diameter auger, full flight with Pengo boring head and 2-1/2 inch hex drive	YES__X___ NO_____
31	Digger transfer mechanism shall allow digger to remain stowed on the lower boom until lowered. Once lowered, the digger should be extended and retracted with the end of the intermediate boom	YES__X___ NO_____
32	Provide digger transfer protection system to prevent damage should the digger be lowered with the intermediate boom extended	YES__X___ NO_____
33	Derrick should provide up to 26.7 feet of digging radius	YES_____ NO__X___
34	Primary set of outriggers to be of telescoping construction with 164 inches of spread at ground level. Double acting, pilot-operated check valves are provided at each cylinder	YES_____ NO__X___
35	Auxiliary set of outriggers to be of full A-frame construction	

	with fold-up shoes providing 153 inches of spread at full penetration. Double acting, pilot-operated check valves are provided at each cylinder	YES_____ NO___X___
36	Provide full sub-base consisting of rectangular structural tubes, one each side of chassis frame with top and bottom plate connecting tubes. Sub-base to connect front and rear outriggers and provide mounting surface for the derrick pedestal	YES___X___ NO_____
37	Sub-base to be mounted to chassis frame with Huck bolts	YES___X___ NO_____
38	Lower tool circuit required. Outlets with quick couplers to be located alongside outrigger control valves at the rear of the vehicle	YES___X___ NO_____
39	Main boom lift cylinder shall be equipped with an internally mounted counterbalance holding valve and velocity fuse to aid in load holding and provide for thermal expansion. Pad mounted holding valves are not acceptable	YES_____ NO___X___
40	Capacities listed below are to be hydraulic and structural capacities of the derrick when equipped with turntable winch, hydraulically extended upper boom, digger and auger with options installed on the derrick (measured in pounds)	

Distance from Centerline of Rotation	Capacity	State Capacity of Machine Quoted
Booms Retracted		
5 feet	22,386	24,750
10 feet	11,658	11,000
16 feet	6,883	/
20 feet	4,454	/
Intermediate Boom Extended		
6 feet	16,831	17,520
10 feet	10,488	11,000
15 feet	6,546	/
20 feet	4,716	/
25 feet	3,532	/
All Booms Extended		
8 feet	13,774	13,280
10 feet	10,190	9,640
15 feet	6,312	/
20 feet	4,589	/
25 feet	3,539	/
30 feet	2,813	/

35 feet	2,143	
37 feet	1,469	

41 Derrick Protection:

a. Overload Protection - Shall protect derrick from being overloaded. Cuts off winch up, digger dig, intermediate and upper boom extensions and boom down. Leaves other functions operational — YES___X___ NO_____

b. Double Auger Stow Protection - Primary system shall protect against damage to auger and auger mechanism by cutting off stow function when auger is stowed. A secondary system shall be a roll pin-in-cable attachment fabrication which shears when the cable is overstressed to reduce the chance of cable breakage — YES_____ NO___X___

c. Boom Stow - Shall protect against damage resulting from excessive down pressure by cutting off stow function when boom reaches stowed position in rest — YES___X___ NO_____

d. Oil Filter Change Light - When return line oil filter needs changing, warning light at control panel warns operator — YES___X___ NO_____

e. Digger Transfer Protection - Shall protect against damage to transfer mechanism when un-stowing digger and auger — YES___X___ NO_____

42 Load indicator gauge installed at operator's controls to show percentage of total hydraulic lifting capacity. Gauge to have green zone up to 100 % of rated hydraulic capacity. Gauge to also have red zone to show when unit is operating past 100 % of rated hydraulic capacity — YES___X___ NO_____

43 To be equipped with four DICA D2224 down rigger pads and underbody storage, two curbside and two streetside. — YES___X___ NO_____

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1.1 BODY AND ACCESSORIES

The body shall be **fiberglass**, and shelving material shall be fabricated from a 60 grade 100% zinc-alloy coated steel. — See body clarifications

1.2 Left compartment top is to be covered with 12-gauge galvanealed treadplate; right compartment top is to be covered with with gripstrip.

1.3 Body understructure fabricated from heavy-duty structural steel channel — YES___X___ NO_____

1.4 All hooks to be minimum 3/8 inch cold rolled bar — YES___X___ NO_____

1. 5	Wheel fender panels to be equipped with Neoprene fenders	YES_____ NO__X__
2	Body Dimensions: Body Length: 124 inches Body Width: 93 inches Front of Body Height: 46 inches Rear of Body Height: 46 inches Compartment Depth: 18 inches Deck Width: 57 inches	YES_____ NO__X__
3	Compartmentation - Right Side	YES_____ NO__X__
3.1	First Vertical 32 inches Wide Treadplate access steps to cargo area including grab handle	YES_____ NO__X__
3.2	Second Vertical Compartment 32 inches Wide Ten (10) sliding material hooks	YES_____ NO__X__
3.3	Horizontal Compartment 60 inches Wide Two (2) fixed shelves with removable dividers on 8 inch centers	YES_____ NO__X__
4	Compartmentation - Left Side:	YES_____ NO__X__
4.1	First Vertical Compartment 32 inches Wide Ten (10) sliding material hooks	YES_____ NO__X__
4.2	Second Vertical Compartment 32 inches Wide Three (3) adjustable shelves with adjustable dividers on 4 inch centers	YES_____ NO__X__
4.3	Horizontal Compartment 60 inches Wide One (1) plain fixed shelf	YES_____ NO__X__
4.4	Hotstick Compartment Through shelf - from first vertical to rear of body with two hotstick brackets and rear access door	YES__X__ NO_____
5	Doors:	YES_____ NO__X__

5.1	All doors are full double-paneled, self-sealed with built in drainage for maximum weather tightness	YES_____ NO__X___
5.2	Doors are to have electro-zinc plated, cold-rolled, steel hinge rods extending full length of door	YES_____ NO__X___
5.3	Door hinges are to be zinc-alloy material	YES_____ NO__X___
5.4	Doors are to have cadmium plated flush type, single point, paddle type, recessed handles with adjustable two stage strikers, locks keyed alike	YES_____ NO__X___
5.5	Door handles to be riveted to outer door panel. Back panel to provide opening to back of handle	YES_____ NO__X___
5.6	Door facing to be equipped with automotive type non-porous door seals mechanically fastened to door facing. Self adhesive or glued door seal is not acceptable (except rear access door to hotstick compartment)	YES_____ NO__X___
6	Other Requirements:	YES_____ NO__X___
6.1	All shelving to have 2-1/4 inch lips (through shelf to have 1 inch lip)	YES_____ NO__X___
6.2	Edges either rolled or folded for strength and safety	YES_____ NO__X___
6.3	Door header drip rail to be provided at top of body for weather protection	YES__X___ NO_____
6.4	Body to be undercoated with automotive under sealant	YES__X___ NO_____
6.5	Wheel chock holders to accommodate rubber "V" type wheel chocks, 10 inches long x 5-1/2 inches high and 8 inches at base - chock holders to be provided one each side in rear portion of wheel panel	YES__X___ NO_____
6.6	A heavy-duty boom support is to be supplied	YES__X___ NO_____
6.7	Platform extension, with treadplate top with light channels; to be installed	YES__X___ NO_____
6.8	Two (2) cable steps are to be installed, one each side at rear	YES__X___ NO_____
6.9		YES_____ NO_____
6.10	Two (2) grab handles are to be installed at derrick riding seat	YES__X___ NO_____
6.11	Two (2) grab handles are to be installed, one each side at rear	YES__X___ NO_____

6.12	Body and accessories are to be mounted to chassis	YES___X___ NO_____
6.13	Rope-lighted compartments	YES___X___ NO_____
6.14	Lights and reflectors in accordance with FMVSS #108 lighting package are to be installed. High intensity strobe lights mounted 2 in front and 2 in rear	
6.15	Underbody safety lighting, by TST Inc. #LK104-H3UT, mounted at all four corners of the utility body	YES_____ NO___X___
6.16	One set splash aprons is to be installed behind rear wheels	YES___X___ NO_____
6.17	One high intensity strobe light is to be installed at left front of body on post mount. Strobe light is to be visible from the front and the rear of the vehicle	YES___X___ NO_____
6.18	One back up alarm is to be installed	YES___X___ NO_____
6.19	One triangular road emergency reflector kit is to be installed behind seat in chassis cab on passenger's side	YES___X___ NO_____
6.20	10 pound fire extinguisher with mounting bracket to be shipped loose	YES___X___ NO_____
6.21	Pintle hook, Holland T-125 with chassis frame reinforcement and two (2) safety chain rings to be installed	YES___X___ NO_____
6.22	Philips 1" D 6-way electrical trailer connector installed at rear	YES___X___ NO_____
6.23	Paint line body solid white to match truck chassis	YES___X___ NO_____
6.24	Paint derrick solid white to match truck chassis	YES___X___ NO_____
7	Miscellaneous	YES___X___ NO_____
7.1	Hannay Grounding reel with 50' payout of 2/0 cable to the rear of the turret	YES___X___ NO_____
7.2	Provide storage bracket for auger on top of left side compartment	YES___X___ NO_____
7.3	One 25 foot hydraulic hoses with two (2) quick couplings and dust caps	YES___X___ NO_____
7.4	Manually operated reel for storage of one 25 foot hydraulic hoses, installed	YES___X___ NO_____
7.5	Hydraulic pole puller with base plate	YES___X___ NO_____
7.6	Pole puller storage bracket	YES___X___ NO_____
7.7	Through box in platform with drop door at right side for storage	YES___X___ NO_____
7.8	Rubber dock bumpers installed on right and left sides of frame at rear	YES___X___ NO_____
7.9	Install safety and instructional signs	YES___X___ NO_____
45	Warranty on derrick and components supplied by successful bidder shall be one (1) year on parts and labor. Structural	YES___X___ NO_____

integrity of the following major components are to be warranted for so long as the initial purchaser owns the product: booms, boom articulation links, hydraulic cylinder structures, outrigger weldments, pedestals, sub-bases and turntables. Provide copy of manufacturer's warranty with bid

46 Heavy duty inverter pack, for 110V AC YES_____ NO___X___

47 Bidder shall indicate nearest full service facility

____Waukesha, WI

48 Does bidder offer on road service at customer's location?

YES___X___ NO_____

YOUR BID PRICE: _$184,393.00

USE OF OTHER NAMES AND REFERENCES:

Unless otherwise stated, the use of manufacturer's name and product numbers are for descriptive purposes and establishing general quality levels only. They are not intended to be restrictive. Bidders are required to state exactly what they intend to furnish, otherwise, it is fully understood that they shall furnish all items stated.

BROCHURES AND LITERATURE:

Your proposal **must** be accompanied by descriptive literature (marked), indicating the exact items to be furnished. The term "as specified" **will not** be acceptable.