Request for Bids
Chippewa/Luce/Mackinac Conservation District (CLMCD)
Munuscong River Watershed Conserving Our Waters Partnership Project #2

Requests Period Open: August 3, 2023 to August 14, 2023 at 9:00 AM
Request Opening: August 14, 2023 at 9:01 AM

Munuscong River Conserving Our Waters Partnership Project #2 – Livestock Watering System Instillation

CLMCD invites qualified contractors to provide bids for Project #2 for late Summer to early Fall 2023 installation.

1. SUMMARY
Professional contractors with experience and expertise in livestock pipeline installation using standards from the Natural Resources Conservation Service (NRCS) are invited to submit a competitive bid for work associated with the Munuscong River Watershed Conserving Our Waters Partnership Project #2. The project site is located approximately 4 miles west of Pickford, Michigan on W. Townline Road. Contractors should have experience in the project components and will be expected to comply with standards provided by CLMCD using NRCS standards. An underground pipeline measuring roughly 650 feet will be installed connecting a livestock ice-free waterer to a water hydrant. Installers will need to have a high degree of flexibility and communication. Installers will need to have the ability to meet with CLMCD to complete the project and be able to provide itemized invoices.

The Request for Bids does not constitute a contract for services performed or to be performed. Following the selection of the successful contractor, CLMCD and the contractor will negotiate a contract including a full scope of services. If there are any questions, contact Mr. Michael McCarthy, CLMCD Executive Director at 906-635-1278 or clmcd@macd.org. The contractors’ services will consist of providing all necessary labor, equipment and materials for the completion of this project in accordance with the anticipated scope of service specifications in Section 2.

2. ANTICIPATED SCOPE

A. Pipeline: Approximately 650 feet of underground, insulated 1.25” waterline will be run from a nearby barn to a Ritchie Thrifty King CT4-2000. The Ritchie waterer will be provided by CLMCD. All work will be done to NRCS livestock pipeline standards. A LEVEL 4”x80”x70” concrete pad will need to be installed to ensure the waterer works properly, with a hole to allow waterline connections. The base for the concrete slab will need to be stripped of its top soil and 12” of quality gravel will need to be placed to insure proper drainage and a level surface. A water shutoff valve will need to be installed below the waterer for maintenance purposes. Concrete near the barn will have to be removed to access the water supply and replaced once complete. During instillation of the
water a dual check valve will need to be installed downstream of the pressure tank and household connection and upstream of any livestock connection.

3. SCHEDULE FOR COMPLETION

CLMCD is expecting to have the project completed by October 2023.

- Contractors should purchase materials and begin installation as soon as permitted. If the contractor is not able to meet the timelines, the contractor bid should provide a timeline of their own to be considered.
  - Pre-construction meeting is required with CLMCD and landowner.
- August-October 2023 – Contractor should complete the given project to NRCS standards provided by CLMCD. Finished project will be inspected for quality and quantity upon completion by CLMCD. Invoice should be submitted to CLMCD itemized within 30 days of completion.

Any bidder will be given the option to see the project area with CLMCD project staff before the bidding period ends. Bidders can request a to see the project area by contacting Jacob Hartman, Watersheds Technician at 906-748-0837 or by email at jacob.hartman@macd.org.

4. SUBMITTAL REQUIREMENTS

Please submit one electronic copy of your bid in .PDF format no later than 9:00 AM eastern daylight time on August 14, 2023 to: Mr. Mike McCarthy at clmcd@macd.org

In the interest of fairness to all bidders and to facilitate timely review, any bids received after the scheduled receipt time stated above will be rejected and not reviewed. All bids received on time become the property of the CLMCD and will not be returned.

In compliance with CLMCD policy, all bids will be opened on August 14, 2023 at 9:01 am. The bid will be opened by a CLMCD Staff member, analyzed and brought to the CLMCD Board for approval. All contractors may be present for the bid opening.

5. Submittal Outline

To facilitate review of the bids, the bidders are requested to organize the bid package as follows:

- 1-2 page 8.5” x 11” letter sized paper with company’s name, address, telephone number, and email.
- Brief paragraph providing experience for the type of project being bid on and using 3rd party standards, specifically NRCS standards.
- Bid price for the project with a breakdown showing the price of each component. See below for an example
  - A timeline of when the project will be complete
  - Date bid was submitted
  - Signature of bidder.
Itemized List Example

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Price</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.25” NSF Grade Poly Tube 500ft roll</td>
<td>1.3</td>
<td>$300</td>
<td>$390.00</td>
</tr>
<tr>
<td>Labor - hours</td>
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<td>$50</td>
<td>$2,250.00</td>
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<tr>
<td>Earth work</td>
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<tr>
<td>1.25” Shut off valve</td>
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<td>$15</td>
<td>$15.00</td>
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<tr>
<td>1.25 Double Check Valve</td>
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<td>$550</td>
<td>$550.00</td>
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<tr>
<td>Equipment fee/rental</td>
<td>1</td>
<td>$300</td>
<td>$600.00</td>
</tr>
<tr>
<td><strong>Total Cost</strong></td>
<td></td>
<td></td>
<td><strong>$5,805.00</strong></td>
</tr>
</tbody>
</table>

Attached: Map of Project Area and Water Facility instructions

*This request for bid does not commit CLMCD to enter into agreement, to pay any costs incurred in the preparation of a proposal in response to this request or in subsequent negotiations, or to procure a contract for the project. CLMCD will require the selected bidder, if any, to participate in negotiations and to absorb such cost, technical and/or other revisions to the proposals as may result from negotiations. CLMCD reserves the right to perform all or some of the scope items listed herein with its own work force.*
Thrifty King fountains are intended to be energy-free; however, several factors must be met for this to be the case:

- There must be at least 10 animals per drinking area that have the Thrifty King fountain as their only source of water.
- There must be a good seal against wind between the concrete platform and base of the unit.
- The water seal grooves between the base, and top of the unit, and between the top of the unit and the valve cover must be filled with liquid.
- The supply water temperature must be at least 42°F. (This may be an issue for rural or municipal water supplies.)

If these factors are not met, supplemental heat is recommended. Please see Supplemental Heat in the Special Situations section of this manual.

A. **Location** - Putting the fountain in a location that offers protection from the wind will enhance the performance of the fountain. Livestock will tend to gather in this protected area, enticing them to drink more. If possible, the side that supply line enters the fountain should be opposite of prevailing winter wind to give additional protection to the supply line.

B. **Water Supply Line** – Horizontal underground water line should be sized to account for pressure drop, relating to distance, and placed one foot below frost line. A one-inch vertical supply pipe is recommended. A shut-off valve should be installed under fountain to allow for easier servicing. For optimum serviceability, a stop and waste valve can be installed below frost level to drain water when unit is not in use. Vertical supply line must be centered in riser tube to provide an air space between the line and frozen ground outside of tube. Flush water supply line thoroughly before connection to fountain. Water supplies with foreign material such as sand, rust, etc. may require a filter to keep fountain valve working properly.
C. **Riser Tube** – Install a riser tube and extend it at least one foot below frost line or down to horizontal underground water line. For optimum water line protection, use the 12” diameter insulated Ritchie Thermal Tube, part numbers and sizes are shown to the right. Tube opening must be kept clear.

**NOTE:** The supply line touching the riser tube is the most common cause of the supply line freezing. Do not surround the supply line with insulation, wood, or other foreign material. Any foreign material in the tube may cause frost to migrate to the supply line causing it to freeze.

D. **Electrical Connection (Optional)** – Although Thrifty King fountains are designed to be electric free, there are circumstances where supplemental heat may be required. If electricity is available, it is a good management decision to run the electrical line for future use in the event your operation changes.

**WARNING:** ANY ELECTRICAL SERVICE MUST BE INSTALLED AND MAINTAINED BY A QUALIFIED ELECTRICIAN IN COMPLIANCE WITH LOCAL CODES.

E. **Mounting Platform** – A concrete platform should be provided for all fountains. It should be at least 4” thick and large enough to accommodate fountain. An additional 4” high step 18” out from each side of the unit will protect the unit from manure handling equipment, as well as discouraging animals from defecating in the fountain. Extending the platform provides animals a place to stand while drinking, consider the size of your animals when determining the dimensions of your platform. Slope the platform away from the fountain for drainage. A rough broom finish on the concrete surface provides better footing for animals.

F. **Preparing the Bottom** - Apply the foam weather stripping to the bottom of the unit, around the outside edge of the fountain.

G. **Position Fountain** - Connect hose to the top of the supply line, or the customer supplied shutoff valve at the top of the concrete. Place fountain on the concrete platform over the riser tube so the supply hose is centered in riser tube. Set the fountain on the concrete pad to inspect positioning of the installation. Once all connections are lined up, marking anchor bolt location can easily be done with a drill.

H. **Hold-Downs** – Thrifty King Fountains have mounting pockets molded into the base. Use of Ritchie stainless steel anchor bolts (not included) is recommended for concrete installations. Anchor bolts are available from any Ritchie authorized dealer, in packages of two, part # 16555. Once you have verified the positioning of the fountain, drill, install, and tighten down anchor bolts. Use the large washers provided to hold unit down. Tighten hold down anchors tight, but do not over tighten as this could damage the plastic feet.
I. **Assemble Valve** – Follow the steps to assemble the high-pressure valve included with your waterer.

1. Insert valve rubber into the valve rubber retainer.
2. Attach float arm to float as shown in diagram. The raised emboss on top of float should be orientated as shown.
3. Screw thumb screw into cam arm. To adjust water level, tighten thumb screw to lower, loosen thumb screw to raise.
4. Insert the valve rubber retainer into the valve body with the valve rubber up. Align the cam arm to the valve body and insert first pin.
5. Align the float arm and attached float to the cam arm and insert second pin.

J. **Valve mounting** – After the fountain is in the proper place, place rubber washer, plastic washer, and nut on bulkhead, cut the hose to length and connect the valve bracket with hose clamp. Place the valve and bracket assembly in the slot provide in the wall of the valve chamber and tighten nut. Slide hose insulation up toward valve as far as possible and fasten with nylon tie wrap.

K. **Seal the Base** - After the unit is completely installed, apply a bead of caulking around the base of the fountain to ensure no wind enters through the base of the unit.

**NOTE:** Sealing the bottom of the unit from cold air is an important aspect of the unit's thermal performance.

L. **Drain Plug** – The pre-assembled drain plugs should go on the lower holes on the sidewall of the unit. **Install drain plugs from inside of trough.** Tighten plastic wing nut to secure plug.

**NOTE:** To drain the unit, you can push the plug from outside of the unit into the center of the unit, instead of reaching into the water to pull the plug out. After the fountain drains, then reach in to retrieve the plug and install it from the inside.

M. **Install Unit Top** - Set the elliptical closures inside the unit base. Place the top of the fountain on the base and position the elliptical closures to sit in the drink wells. (Final placement will require the closures to float in the well.) Thrifty King fountains employ the water seal design. Fill the water seal groove with liquid to seal against air infiltration before assembling. Do not use foam seal in this area. Bolt the unit top down to the base using the bolts, washers, and nuts provided.

**Tip:** You may use vegetable oil to fill the water seal groove or coat the inside of the groove with baking pan coating spray before filling with water to make the cover easier to remove and reinstall during freezing weather. For areas with high evaporation, using vegetable oil may be necessary.

N. **Float Adjustment** - Turn on the water supply, check for and correct any leaks, and adjust float levels. The water level should be adjusted to leave a gap of 1/2” between the elliptical closure and the rim of the water well. If the closure rests against the rim, they are more likely to freeze together.
O. **Water Seal Drain** – Install the small drain plug into the drain hole in the water seal groove around the valve chamber seal. This plug may be removed during non-freezing periods to allow the water seal groove to drain.

P. **Install Valve Chamber Cover** - Fill the water seal groove with liquid to seal against air infiltration before assembling. Drop in the valve chamber cover. Note: Serial number or date code is found on underneath side of top red valve cover.

Q. **Cleaning Your Fountain** – To clean your watering fountain you will need a good stiff bristled brush. Remove the cover then brush the water seal groove to remove any build-up then brush the tank. Remove the drain plug that is in the drink area to drain out the water and debris. You can shut off the water with the shut-off valve located under the unit or by holding the float in the up position. After the water and debris has drained reinstall the plug and let the tank refill. Now is a good time to readjust the float if needed. Reinstall cover and you are done.

### Special Situations

**Supplemental Heat**

Immersion heaters are available for cold weather climates. The 250-watt heater part #16311 should be adequate for Thrifty Kings. Additionally, self-regulating heat cables are available to protect supply hose from freezing, 120V, part #16276. Immersion heaters should be placed flat on the bottom of the valve chamber. Ensure that the placement of the heater and its power cable do not interfere with the motion of the float assembly.

**NOTE:** *Supply line heat cables should wrap around the valve and follow the supply line down into the riser tube. You may use nylon ties to anchor the heat cable to the supply line.*

**Non-Siphoning**

The Ritchie Thrifty King fountains meet Grade-A dairy non-siphoning guidelines.

**Ritchie Valves**

The Thrifty King CT4-2000 comes standard with our 3/4" yellow high-pressure valve that is rated up to 110 psi. If water pressure is very high and valve does not shut off consistently, a pressure-reducing valve may be needed. Your individual situations may require a change from the standard valve supplied with your fountain.
## Trouble Shooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elliptical Closure Sticking</td>
<td>Make sure the closure floats at least 1/2” below the rim of the water well, so water does not get trapped above the closure and freeze the closure to the rim of the well.</td>
</tr>
</tbody>
</table>
| Water Freezing in the Valve, Supply Line, or Drink Area | Make sure the fountain is sealed from wind between the concrete platform and bottom of unit  
Make sure both water seal grooves are filled with liquid  
Make sure there are at least 10 animals drinking from only this fountain. (No other source of water available.)  
Make sure incoming water is at least 42°F  
Make sure supply line is properly insulated:  
  - Foam rubber insulation around supply line  
  - Riser tube with supply line centered, and air space between riser tube and supply line. Ritchie Thermal Tubes are recommended.  
  - Horizontal supply line is at least 1 foot below frost line  
**If the above conditions cannot be met, use supplemental heat.** |
| Low Water Flow                                    | Check that valve inlet is not plugged or supply hose is not kinked  
Check system pressure from supply hose by installing a tee and pressure gauge in front of the valve to check pressure drop when valve is open. A severe pressure drop indicates a restriction or undersized supply system.  
Check that shut off valves are fully open |
| Valve Won’t Stop Dripping                         | Check float adjustment. Ensure float moves freely  
Take valve apart and check for sand or scale in valve rubber.  
Turn valve rubber over and re-assemble. See below  
Check for excessive water system pressure.  
Change to higher pressure valve. |
## Thrifty King CT2-2000

**Part # 16299**

### VALVE ASSEMBLY

**PRE-2019 UNITS**

<table>
<thead>
<tr>
<th>Item</th>
<th>Part #</th>
<th>Description</th>
<th>Qty</th>
<th>Item</th>
<th>Part #</th>
<th>Description</th>
<th>Qty</th>
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<td>16893</td>
<td>Thrifty King CT2 Cover</td>
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<td>10</td>
<td>18318</td>
<td>Bolt Down Washer (4/pkg)</td>
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<td>16894</td>
<td>Thrifty King CT2 Top</td>
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<td>16895</td>
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<td>HP 3/4&quot; Valve Assembly</td>
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<td>O-Ring Valve Seal Pkg (4/pkg)</td>
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<td>5</td>
<td>18849</td>
<td>Ritchie 2&quot; Plug pkg</td>
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<td>14866</td>
<td>Seal Foam 10' Roll</td>
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<td>6</td>
<td>16538</td>
<td>Top Bolt, Wshr, &amp; Nut (2/pkg)</td>
<td>pkg</td>
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<td>14859</td>
<td>Pipe Insulation</td>
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<td>18838</td>
<td>VLV HP Brkt Assy pkg</td>
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<td>Hose Clamp 1&quot; SS (5/pkg)</td>
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<td>Adapter 3/4&quot; x 5/8&quot; HB</td>
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<td>9</td>
<td>18314</td>
<td>Float with Hardware pkg</td>
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<td>18340</td>
<td>TK CT2 Accessory pkg</td>
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<td>10</td>
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<td>Hardware for Float pkg</td>
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<td>16646</td>
<td>Opt. Ribbed Elliptical Closures</td>
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</table>

**Thrifty King CT4 Instruction Manual**  
January 13, 2023  
Part # 24294
RITCHIE INDUSTRIES, INC.
LIMITED WARRANTY

Ritchie Industries, Inc., hereinafter referred to as Ritchie Industries, gives a LIMITED WARRANTY for the period of time(s) stated herein, subject to certain limitations, on your new watering system against defects in material or workmanship when properly installed, set up, operated, and maintained in accordance with the instructions and recommendations set forth by Ritchie Industries, including in the Installation Instructions. The warranty excludes labor and shipping charges.

The warranty is transferable to the next purchaser of the watering system prior to expiration of the warranty period, but any such transfer will not extend the original warranty term. Proof of purchase must be submitted with any warranty claim, and all warranty claims shall be processed through an Authorized Ritchie Dealer or Distributor.

Ritchie Industries’ liability for any defects in material or workmanship with respect to accepted goods shall be limited to repairing the goods or replacing them as Ritchie Industries shall elect. Parts used in warranty repairs will be warranted for the balance of the water system’s warranty period, with all parts replaced under warranty becoming the property of Ritchie Industries.

The limited warranty periods begin upon delivery of the watering system to the original purchaser. Upon delivery of the goods, purchaser assumes all liability, including but not limited for all personal injury and property damage, resulting from the handling, possession, or use of the goods.

WARRANTY COVERAGE AND LIMITATIONS

Limitations of Warranties and Remedies

Ritchie Industries’ watering systems are designed and manufactured to provide years of reliable use when installed and operated consistent with Ritchie Industries’ instructions and recommendations. However, the potential for improper installation, modifications and misuse of the goods exists. Therefore, the limited warranty provided shall be as follows:

This limited warranty shall not apply to any appearance items and shall not apply to any product which has been subject to misuse, abuse, abnormal service or handling, negligence, or accident, nor to any product that is installed and/or used contrary to Ritchie Industries’ installation instructions and instructions for use. The limited warranty shall also not apply to any product whose exterior has been damaged or otherwise defaced, that has been repaired, altered, or modified by anyone, other than Ritchie Industries, in a way so as in Ritchie Industries’ judgment it adversely affects the product’s operation, performance, durability, or intended use, nor to any product where removal of parts, modification(s) or use of parts or accessories not manufactured or approved by Ritchie Industries has caused damage.

Coverage and Warranty Periods

<table>
<thead>
<tr>
<th>Unit Type</th>
<th>Coverage and Warranty Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poly Units</td>
<td>Base, top, and ball closures. Ten-year limited warranty: 100% for first five years, then declining 20% per year for remainder of the 10-year period.</td>
</tr>
<tr>
<td>Stainless Steel Units</td>
<td>Stainless trough and stainless valve chamber frame. Ten-year limited warranty, plus ten years of corrosion coverage, at 100% for entire 10-year period.</td>
</tr>
<tr>
<td>Component Parts</td>
<td>One-year limited warranty on all component parts, such as floats, valves, and heating elements.</td>
</tr>
</tbody>
</table>

Exclusions of Liability

EXCEPT AS OTHERWISE EXPRESSLY STATED HEREIN, RITCHIE INDUSTRIES MAKES NO OTHER WARRANTY OR REPRESENTATION OF ANY KIND, EXPRESSED OR IMPLIED. THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXCLUDED FROM THIS LIMITED WARRANTY. TO THE EXTENT THEY CANNOT BE DISCLAIMED, THE IMPLIED WARRANTIES ARE LIMITED IN DURATION TO THE LIFE OF THE EXPRESS WARRANTY. THIS LIMITED WARRANTY EXCLUDES INCIDENTAL, CONSEQUENTIAL, AND SPECIAL DAMAGES. THIS EXCLUSION OF CONSEQUENTIAL, INCIDENTAL, AND SPECIAL DAMAGES IS INDEPENDENT FROM AND SHALL SURVIVE ANY FINDING THAT THE EXCLUSIVE REMEDY FAILED OF ITS ESSENTIAL PURPOSE. THE REMEDIES SET FORTH IN THIS LIMITED WARRANTY ARE THE ONLY REMEDIES AVAILABLE TO ANY PERSON UNDER THIS WARRANTY. SOME STATES/PROVINCES DO NOT ALLOW FOR THE DISCLAIMERS, LIMITATIONS, AND EXCLUSIONS IDENTIFIED ABOVE AND, AS A RESULT, THEY MAY NOT APPLY TO YOU.

No agent, employee or representative of Ritchie Industries, and no Ritchie Industries Dealer/Distributor, is authorized to bind Ritchie Industries to any representation or warranty regarding the goods except as specifically included in this limited warranty.
Installation Instructions for

Thrifty King CT4-2000 Fountains

Congratulations, you have just purchased the finest watering fountain on the market. This unit is built to give you excellent service when properly installed and maintained. Please follow instructions carefully. Read and understand all instructions before installing.

Ritchie Industries, Inc.
800-747-0222
www.ritchiefount.com
@RitchieWaterers
NOTE:
MOUNTING HOLE LOCATIONS ARE APPROXIMATE. DUE TO VARIATIONS IN MOLDING PROCESS, IT IS NOT RECOMMENDED TO USE THIS DRAWING FOR LOCATING CONCRETE ANCHORS. IT IS RECOMMENDED TO WAIT UNTIL UNIT IS AVAILABLE FOR MEASUREMENT.
Fencing will be installed to exclude cattle from the stream. Gates will allow flash grazing to keep grass present. Wintering location will be moved to the west to reduce runoff into stream and avoid seasonal waterways. A winter water facility with underground pipe will be added on a concrete slab to facilitate the move. A constructed windbreak with high tensile electric fence will be added to allow the wintering location. Rain gutters will be installed to direct roof runoff away from manure storage facilities.