

Watering Facility

Conservation Practice Job Sheet

MA-614

Including Pipeline 516 Requirements



Definition

A trough or tank, with needed devices for water control and wastewater disposal, installed to provide drinking water for livestock.

Purpose

To provide watering facilities for livestock at selected locations that will protect vegetative cover through proper distribution of grazing or through better grassland management for erosion control. Another purpose on some sites is to reduce or eliminate the need for livestock to be in streams, which reduces livestock waste there.

Where used

Wherever there is a need for new or improved watering places to permit the desired level of grassland management, to reduce health hazards for livestock, and to reduce livestock waste in streams.

Operation and Maintenance

Check periodically to see if any type of debris has fallen into the trough which may restrict the inflow or outflow system. Check tank for leaks or cracks and repair immediately if any cracks or wall separations are found. Check the automatic water level device to insure that it is

operating properly. Make certain that the area adjacent to the trough is well protected with gravel, paving, or good cover. Be sure that the outlet pipe has a free outlet and is not causing any serious erosion problems.

If the trough has not been designed to prevent damage from freezing, it should be prepared for winter weather.

Specifications

The trough or tank shall have adequate capacity to meet the water requirements of the livestock. This will include the storage volume necessary to carry over between periods of replenishment.

The site should be well drained, or if not, drainage measures will be provided. Areas adjacent to the trough or tank that will be trampled by livestock shall be graveled, paved, or otherwise treated to provide firm footing and reduce erosion.

Automatic water level control and/or overflow facilities shall be provided as appropriate. Valves or pipes shall be protected by shields or covers to prevent damage by livestock. Overflow shall be piped to a desirable point of release. The trough and outlet pipes will be protected from freezing and ice damage if this is a potential problem. Freeze-proof troughs or electric heaters may be used at some sites. Roofs can be placed over the trough to provide shade and reduce loss of water by evaporation.

The quality and durability of all materials shall be in keeping with the planned useful life of the installation. Common construction materials are reinforced concrete, steel, and wood.

Specifications are prepared in accordance with the MA NRCS Field Office Technical Guide. See practice standard Pipeline (516) located in the Massachusetts Field Office Technical Guide.

Also refer to practice standard Heavy Use Area Protection (561), and Spring Development

(574) as appropriate if associated with this practice.

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☐ **Estimated Water Requirements:**

Type of Livestock:	Number Planned:	Estimated Gallons Per Day Per Head	Gallons Needed:
Dairy Cattle		25	
Beef Cattle		20	
Horses		12	
Sheep		3	
Goats		3	
Other:			
Estimated Total Gallons of Water Needed:			

MATERIALS	TYPE	SIZE	QUANTITY
Tubs / Troughs			
Float Valve Assembly			
Frost-Free Valve			
Pipeline			
Pipeline (Buried)			
Male Coupler			
Female Coupler			
Shutoff Valve			
Excavation			
Gravel			
Reinforced Concrete			
Other:			

Tips to help install and maintain a watering system

- Allow slack when laying out the waterline on top of the ground during summer months. Lay it out straight during cold weather months. Poly pipe contracts as it becomes cooler. (maximum 4 feet per 1000 feet of run.)
- Use shutoff valves so that portions of the watering system can be shut off without shutting off the whole system.
- System design usually consists of a large main trunk line, and smaller branch lines called laterals.
- Lay out paddock system in such a way so that a hydrant or spigot on the pipeline can supply water to multiple paddocks. Placing pipelines under fence lines will allow for this option.
- Pressure loss due to elevation equals approximately .43 pounds per foot of rise. Pressure gains about .43 pounds for every foot of fall in the system.
- Pipelines should be drained in the fall. Either install drain plugs in strategic locations (low points), or use compressed air to force water out of the lines.
- Tank size.... should be large enough to hold 100% of a one-day requirement for the herd with 1.5 inches of tank perimeter per head.

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