

AL 305 / PEX WATERLINE PRACTICE STANDARD

Purpose

The purpose of this practice is to provide a dependable and adequate supply of water for livestock by conveying water from a well, spring, pond, rural water system, or pumping plant to one or more livestock watering facilities. This practice improves grazing distribution and pasture utilization, reduces livestock access to streams and other environmentally sensitive areas, protects water quality through off-stream watering, and reduces soil erosion, compaction, and resource degradation at natural water sources.

Resource Concern

This practice addresses the following resource concerns:

- **Water Quality Degradation:** Reduces nutrient loading, sedimentation, and pathogen transport by limiting livestock access to streams and ponds.
- **Soil Erosion and Compaction:** Minimizes trampling and soil disturbance at natural watering areas.
- **Inadequate Livestock Water Supply:** Provides reliable access to clean water necessary for animal health and productivity.
- **Inefficient Use of Water:** Reduces water loss associated with leaking or improperly designed conveyance systems.

Management

The operator shall maintain the system to ensure continuous and adequate water delivery to livestock. Pipelines, valves, and appurtenances shall be inspected periodically, and leaks shall be repaired promptly to prevent water loss and resource damage. Adequate pressure and flow shall be maintained to meet livestock demand. Watering areas shall be stabilized to prevent mud, erosion, and compaction. Exposed components shall be protected from ultraviolet degradation and physical damage. The system shall be operated within manufacturer pressure ratings.

Requirements

The PEX pipeline shall be designed to meet peak daily and hourly livestock water demand. Pipe diameter shall be adequate to deliver the required flow at the necessary pressure, accounting for friction loss and elevation changes. The PEX pipe shall meet applicable ASTM standards and be rated for potable water use where appropriate. The pipe pressure rating shall equal or exceed the maximum operating pressure of the system, including surge pressure. All fittings shall be compatible with the selected PEX material and installed according to manufacturer specifications.

The pipeline shall be buried at a minimum of **18 inches below the finished ground surface**. In areas subject to heavy equipment traffic or vehicle crossings, the minimum burial depth shall be **18 inches**, and the pipe shall be sleeved or otherwise protected as necessary to prevent damage. Where local frost depth exceeds 18 inches, the pipeline shall be installed below the local frost line. Bedding and backfill material shall be free of sharp rocks or debris that could damage the pipe and backfill shall be placed and compacted to prevent settling. Tracer wire or detectable marking tape shall be installed with all buried non-metallic pipelines. Air relief valves, drain valves, and pressure regulators shall be installed as needed.

to ensure proper system function. Road crossings or high-traffic areas shall be adequately protected. The pipeline shall be pressure tested prior to final acceptance.

Plans and specifications shall include the pipeline location, pipe size and pressure rating, burial depth, water source, watering facilities served, design flow rate, operating pressure, estimated livestock demand, and details for valves, regulators, and protective measures.

This practice shall be implemented in accordance with sound engineering principles and manufacturer specifications to ensure durability, efficiency, and protection of soil and water resources.

Cost Estimate - The applicant will provide the District Administrative Coordinator with a detailed cost estimate for the proposed conservation practice.