

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE SPECIFICATION**

PIPELINE

CODE 516

MATERIAL

a. Steel Pipe shall meet the latest revision of AWWA C200 or ASTM A120. All steel pipe and fittings shall be zinc—coated.

b. Plastic Pipe shall comply with the requirements of the latest revision of one of the following standards:

1. For acrylonitrile—butadiene-styrene (ABS), ASTM D 2282, ASTM D 1527.
2. For polyethylene (PE), ASTM D 2239, ASTM D 2104, ASTM D 2447, ASTM D 2737, ASTM D 3035.
3. For polyvinyl chloride (PVC), ASTM D 2241, ASTM D 1785, ASTM D 2672, ASTM D 2740.

c. Marking on plastic pipe meeting any of the above standards shall include the following:

1. The nominal pipe size; e.g., 1—1/4 inches.
2. The type of plastic pipe material in accordance with the designation as shown above; e.g., PE3408.
3. The pressure rating in psi for water at 23 degrees Celsius (73.4 degrees Fahrenheit).
4. The ASTM specification with which the pipe complies; e.g., D 3035.
5. The manufacturer's name (or trademark) and code, spaced at intervals along the pipe not to exceed five feet.
6. The seal of approval of the National Sanitation Foundation (NSF), or of another accredited laboratory, spaced at intervals along the pipe.

PLACEMENT

a. General. Any grading, shaping, or ripping of the pipeline right-of-way, as deemed necessary on the

design, shall be done prior to the layout or installation of the pipe material.

Pipelines shall be placed so they are protected against hazards imposed by traffic, farm operations, freezing temperatures, fire, or soil cracking.

Trenches for plastic or coated pipelines shall be free of rocks and other sharp materials, and the pipe shall be carefully placed to prevent damage.

Flexible plastic pipe may be placed by plow—in equipment if soils are suitable and rocks and boulders will not damage the pipe.

Pipeline installation equipment shall be capable of installing the pipeline without causing immediate or long-term damage to the pipe or pipe couplers.

b. Appurtenant structures shall be installed as designed and at the location shown in the plans. Thrust blocks will be installed at a minimum to the sizes and locations as shown on the design.

c. Testing. Pipelines placed in open excavated trenches will be tested before total backfill is completed. Backfill may be placed between the joints if needed to prevent movement of the pipe during testing.

The pipe shall be filled with water and tested at the design working-head or at a minimum head of 10 feet, whichever is greater. All leaks shall be repaired and the test repeated.

d. Depth of cover. The pipe shall be placed to the minimum depth shown on the drawings. The minimum depth may be obtained by mounding soil over the pipeline, or as shown on the drawing, on range land where site conditions such as shallow soils or rock make it impractical to attain the minimum depth of cover by usual means. Surface pipelines shall be installed as shown on the drawings.

e. Backfilling shall be completed before the line is placed in service. For plastic or coated pipelines,

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resource Conservation Service.

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the initial backfill shall be of selected material, free from rocks or other sharp material that would damage the pipe. Deformation or displacement of the pipe must not be allowed to occur during backfilling.

CERTIFICATION AND GUARANTEE

a. Contractor installed. If the pipeline is installed by a contractor, the contractor shall:

1. Certify that the installation complies with the requirements of this specification (516).
2. Furnish a written guarantee to the NRCS and the landowner that protects the landowner against defective workmanship and materials for not less than one year and identifies the manufacturer and markings of the pipe installed.
3. Identify the manufacturer and markings of the pipe installed.
4. Complete the as built portion of the job sheet.

b. Owner installed. If the pipeline is landowner—installed, the landowner shall:

1. Certify that the installation complies with this specification (516).
2. Identify the manufacturer and markings of the pipe installed.
3. Complete the as built portion of the job sheet.
4. All variations in construction from the approved design shall be authorized in a written change order properly signed and dated by the engineer authorizing the variation.

MEASUREMENT AND PAYMENT

The completed length shall be the actual distance measured to within 1 foot by any of the following methods and or as approved by the Resource Area Engineer: stadia, chaining, EDM, GPS, Total Station, or measuring wheel. Bills-of- materials are not to be accepted as measured distance.

OPERATION AND MAINTENANCE

The land owner must be informed of the necessity of scheduled maintenance to include the following and other items:

- a. Periodically check for leaks, exposed pipes, and inadequate cover.
- b. Replace defective sections of pipeline.
- c. Open and close valves to minimize water hammer.
- d. Fill pipes slowly.
- e. Inspect and test valves, pressure regulators, pumps, and switches to ensure proper functioning.
- f. Ensure that no foreign matter enters the pipe.
- g. Protect pipes intended for use in cold weather. Otherwise drain the system.