

NATURAL RESOURCES CONSERVATION SERVICE  
MONTANA CONSERVATION PRACTICE JOB SHEET

**FENCE (FEET)**

**CODE 382C – Pipe Corrals**

LANDOWNER	FARM NUMBER	TRACT	FIELD NUMBER
PROGRAM	CIN	DATE	
PLANNER	JOB APPROVAL AUTHORITY	DATE INSTALLED	

Application: To relocate and build new livestock confinement structures, corrals and/or feed pens away from riparian and water supply areas.

Material Options: Steel pipe and tubing; wood posts; railroad ties for posts.

Construction Criteria for Pipe: *Note: For materials other than pipe, follow the 382-Fence specification details.*

1. Eliminate the need to place concrete around posts whenever possible. Drive steel tubing posts directly into the ground with a mechanical post pounder.
2. Add a top rail of steel tubing that serves to finish the top of the fence and structurally tie all fence posts together, magnifying the strength and integrity of the entire fence.
3. Gates should be heavy-duty steel with heavy-duty hinges to minimize sagging. It is strongly suggested that a top rail of steel tubing be installed overhead from one gate post to the other. This will add additional stability to the gate. Gate posts should have concrete placed around them only when gates of 14-ft or larger are used and an overhead steel tubing is not installed. Gate hinges should not be the T-bolt, which can bend; gate hinges should be heavy flat steel hinges welded to post.
4. Pipe quality should be either #1 condition used, or new reject oil field tubing. Do not use oil field pipe that has been used in a hydrogen sulfide (H<sub>2</sub>S) environment. This sour gas environment drastically escalates the degradation of the steel tubing and offers a short life span.
5. All pipe corrals have a life expectancy of 20 years and should be installed, operated and maintained properly to achieve that lifespan.
6. Post depth: Line and corner posts shall be set at a depth of  $\geq$  3-ft. Gate posts shall be set at a depth of  $\geq$  4-ft.
7. Post spacing: For panels or steel tubing, the post spacing will be  $\leq$  10-ft. For rods or cables, post spacing will be  $\leq$  8-ft. A top rail is recommended to tie the posts together and increase the strength of the structure.
8. Stays: When cable is used, a vertical stabilizer (stay) is required at the midpoint between the line posts.
9. Corner posts and H-braces shall adhere to specifications described in the 382-Fence specification. Refer to Range Technical Note 30 for additional drawings that may not appear in the 382 specification.

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Pipe Corrals**

**Table A. – Pipe Requirements for Specified Uses**

	<b>Outside Diameter (inch)</b>	<b>Minimum Wall Thickness (inch) or Gauge</b>	<b>Notes</b>
<b>Line Posts</b>	2 3/8, 2 7/8, or 3 1/2.	0.188	Material should be new ASTM-A500, including mill rejects provided weld seams are complete and there is no open area in the tubing, and #1 quality used oil field tubing, casing and drill pipe. #1 quality means cosmetically it is satisfactory, adequate wall thickness still remains and there is no heavy pitting or holes visible.
<b>Gate Posts and Overheads</b>	2 7/8, 3 1/2 or 4 1/2.	0.188	
<b>Rails</b>	Sucker rod or cable: 3/4, 7/8 or 1.0. Steel tubing: 1 1/2 to 2 3/8.	12 ga. or 0.109	Sucker rod, cable, or various sizes of steel tubing from 1.5" to 2 3/8" outside diameter depending on the grade of steel and wall thickness.

**Table B. – Criteria to qualify used steel tubing for pipe corrals\***

<b>New Material (full wall thickness):</b>		<b>Used Material (50% or more remaining wall thickness)</b>	
<b>Outside Diam. (inch)</b>	<b>Pounds/foot of material</b>	<b>Outside Diam. (inch)</b>	<b>Pounds/foot of material</b>
2 3/8	4.6	2 3/8	3.0
2 7/8	6.4	2 7/8	4.0
3 1/2	9.2	3 1/2	5.0 to 6.0
4 1/2	9.5 to 12.6	4 1/2	9.0

\* For questionable used materials, consult with NRCS engineer as per the Engineering Field Manual guidance to determine if used material is acceptable.

1. PIPE CORRAL PERIMETER FENCE DESIGN	PLANNED					INSTALLED				
Livestock Type										
Fence Height (Inches)										
Rails (No.)										
Spacing (Inches)	Top:	2nd:	3rd:	4th:	5th:	Top:	2nd:	3rd:	4th:	5th:
<b>2. TOP RAILS, GATES AND OVERHEADS</b>										
Type										
Size (Outside Diameter (in) or Gauge)										
Amount (total length in feet)										
<b>3. LINE POSTS and STAYS</b>										
Material										
Size (Inches) and Shape										
Length (Feet) and Spacing (Feet)										
Buried Depth (Inches)										
Stays (Inches) and Spacing (Feet)										
<b>4. BRACES, including Pull Posts at Corners</b>										
Locations										
Type and Material										
Brace Wire Type and Size										
Vertical Post Size (Inches)										
Length (Feet)										
Buried Depth (Inches)										
Coating										
Horizontal Brace Size (Inches)										
Length (Feet)										
Diagonal Brace Size (Inches)										
Length (Feet)										
<b>5. OTHER</b>										

**6. SPECIAL PROVISIONS** \_\_\_\_\_

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Pipe Corrals**

**OPERATION AND MAINTENANCE:** Regular inspection of fences should be part of an on-going management program. Maintenance and repairs will be performed as needed to facilitate the intended operation of the installed fence. Fence repairs should be made with materials that equal or exceed the quality of the original materials.

**APPROVALS:**

I have reviewed the special provision, drawings, and specifications and agree to construct this project in accordance with them.

\_\_\_\_\_  
**Producer** \_\_\_\_\_  
**Date**

\_\_\_\_\_  
**NRCS Conservationist** \_\_\_\_\_ \_\_\_\_\_  
**JOB APPROVAL AUTHORITY** **Date**

**CERTIFICATION STATEMENT:**

I hereby certify that this practice has been installed in accordance with NRCS standards and specifications.

\_\_\_\_\_  
**NRCS Conservationist** \_\_\_\_\_ \_\_\_\_\_  
**JOB APPROVAL AUTHORITY** **Date**

\_\_\_\_\_  
**Date**