

1962

## EC62-720 Corrugated Metal Pipe Drop

H. R. Mulliner

H. W. Richardson

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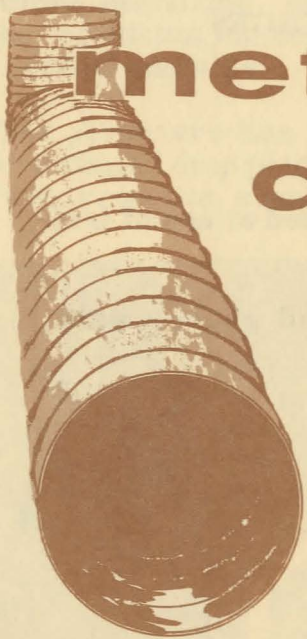
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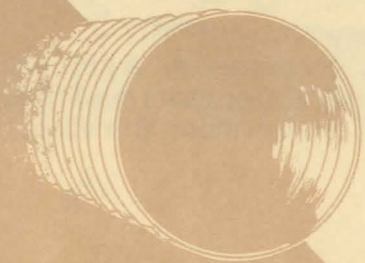


# Corrugated metal pipe drop



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# Corrugated Metal Pipe Drop...

H. R. Mulliner and H. W. Richardson<sup>1/</sup>

## ADVANTAGES

- 1 - Easy to install.
- 2 - Permanent.
- 3 - Ditch can be closed at end of irrigation season.
- 4 - Very little hand shovel work.
- 5 - Few weeds.

<sup>1/</sup> Asst. Professor, Agricultural Engineering (Agricultural Extension) and Work Unit Conservationist, Soil Conservation Service, respectively.

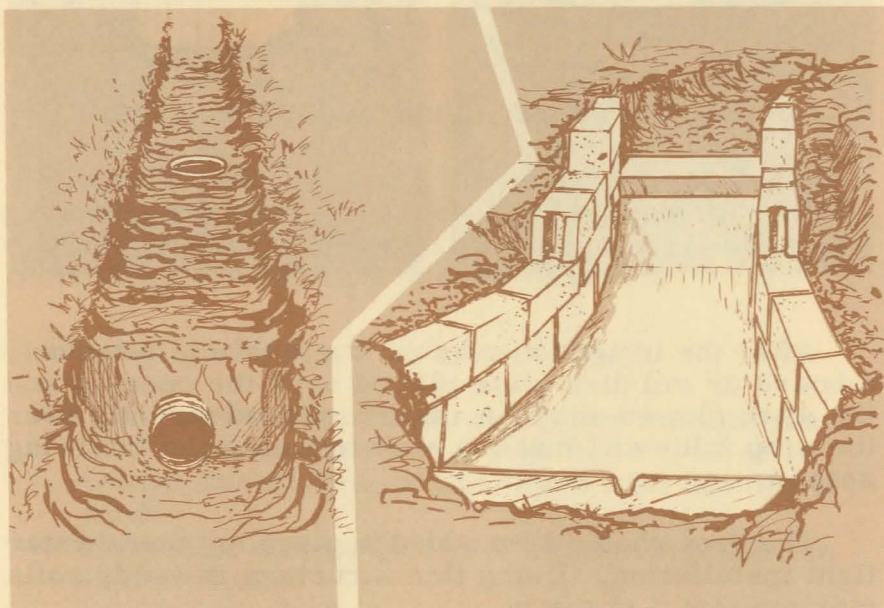
Drops are used to stabilize grade where water flows with a free surface. Properly placed, drops save labor, stop soil erosion, and permit irrigators to leave water unattended without worry of washout.

Water control is one of the most important items in successful irrigation. The metal pipe drop with removable sleeve gives this control efficiently and economically.

Farmers in the Minden, Nebraska area have used this for several years with excellent results. The structure is easy to install and use.

Before installing, consult your Soil Conservation Service technician for help in determining proper location, grades and size.

This structure has the advantages of a concrete "drive-through" drop plus being easy to install and cover after the irrigation season.





This drop differs from the conventional pipe drop. It has a removable sleeve which can be adjusted to raise or lower the water surface in the ditch. The sleeve, which has handles to aid adjustment, is  $1\frac{1}{4}$ ", not to exceed  $1\frac{1}{2}$ ", larger than the outside diameter of the drop structure pipe.

The structure must be installed so that the top of the main pipe on the upper side of the ditch is flush with the ditch bottom (see Figures 1, 2, & 3).



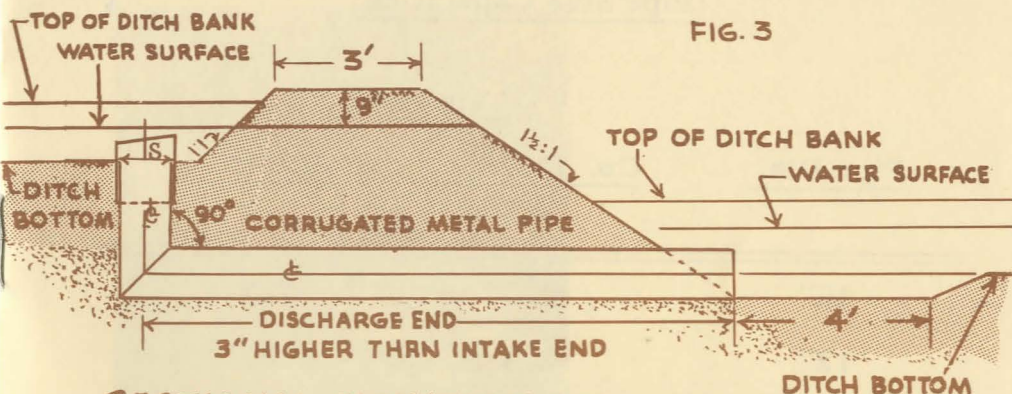
FIG. 1



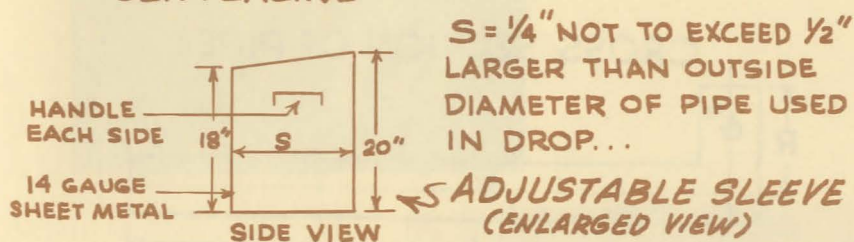
FIG. 2

After the irrigation season, the sleeve is removed, a board or old disk plate placed over the opening and the ditch plowed shut. A marker placed directly over the drop inlet will make it easy to locate the following season.

The drop should be mudded in place to insure water tight installation. Using this structure in sandy soils may present a problem.



### SECTIONAL ELEVATION ON CENTERLINE



### Cross Section With Details of Installation

We cannot overemphasize the importance of installing exactly as shown in Figure 3. The drop may trap too much air, and erosion may occur on the lower end if installation instructions are not followed.

### Key Installation Points:

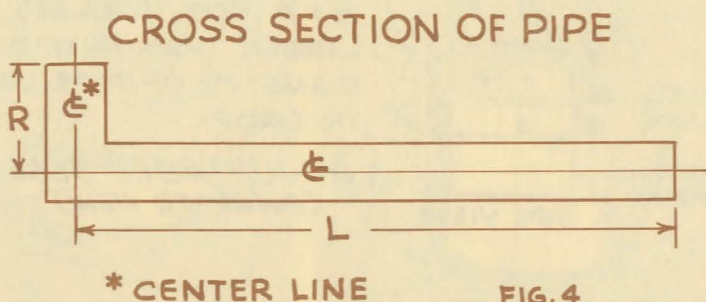
1. Pull lateral before attempting any installation.
2. Top of main pipe even with bottom of ditch.
3. Outlet center line of pipe even with bottom of ditch.
4. Bottom of discharge end 3" higher than bottom of inlet end.
5. Thoroughly mud in pipe.

## Pipe Size Capacities

Capacity in

Pipe Dia.                      Cu. Ft. /Sec.                      Gal. /Min.

10"	1.6	720
12"	2.4	1080
15"	3.7	1660



**FIG. 4**

## Pipe Length Required for Different Size Drops

<u>Drop in</u> <u>Ft.</u>	<u>Length of Pipe</u>		<u>Total Length</u> <u>L &amp; R</u>
	<u>L</u>	<u>R</u>	
1	12' - 9"	1' - 3"	14'
1 1/2	14' - 3"	1' - 9"	16'
2	13' - 9"	2' - 3"	16'
2 1/2	15' - 3"	2' - 9"	18'

All corrugated metal pipe 16 gauge.



