



# Kansas LTAP Fact Sheet

A Service of The University of Kansas Transportation Center for Road & Bridge Agencies

## Road Drainage Complaints and You

By Norm Bowers



*Many rural residents think the road ditch is to improve drainage on their property. However, the ditch is there to improve drainage on the ROAD.*

There is an old saying: “The only thing you need to know about drainage is that water runs downhill.” Water certainly runs downhill, but the rest of the saying is incorrect—because drainage is one of the more complicated issues, and there’s a lot to know. This article covers a few of those issues seen at the county level.

### Ditches are for roads, not fields

The only reason a county needs a road ditch is to keep water off the road. A ditch collects precipitation that runs off the road, and maintains a more stable road base by draining water that could saturate the base. Also, where adjacent land slopes toward the road, the road ditch intercepts the water coming off the fields before it runs onto the road.

At some places where the road has been built up and is higher than the adjacent land, ditches are not needed. However, some adjacent landowners see the road ditch as a way to improve drainage on their field, or as an area to

be landscaped, if in front of a house. So they may want the county to maintain ditches in front of their properties even if the roads don’t need them.

My first winter in county work was 1972-1973. The winter was continually wet, which was unusual for central Kansas. The bottom just fell out of the roads that did not have sufficient rock or where the roadside drainage was not adequate. We received a lot of drainage complaints that winter, but the surprising part to me was that over half the drainage complaints did not involve road drainage. I found out that many rural residents think the road ditch is to improve drainage on their property, and that once any water runs into the road ditch or a culvert it becomes the county’s water, and any damage caused by the county’s water is the responsibility of the county. These perceptions are not true.

Surface water in Kansas belongs to the state. Also, the Clean Water Act gives the Corps of Engineers jurisdiction over work in channels

below the ordinary high water line, so the federal government is claiming jurisdiction of the channels.

### Drainage law regarding altering flow

The general drainage law in Kansas is that, at the property line, the land owner is not to change the course (location), current (speed), or content (volume) of water flow. So we need to think about this when we work on drainage. Violating the general drainage law is not a criminal violation, but a civil matter, so a person could be liable for damages caused by their actions. However, if you are doing something the land owner wants, no one will complain and the new drainage eventually will become the established drainage.

There are special considerations for bridges and culverts. If we put in a bigger bridge or culvert we are likely making the flow more like it was before the road and bridge were originally constructed, and this is seldom an issue with the land owners. If we put in a smaller bridge or culvert, or raise the road, this may cause backwater upstream and may increase the velocity immediately downstream, so putting in a smaller structures should be done only where these factors will not be an issue. The Division of Water Resources (DWR) usually looks at these issues if the drainage area is large enough to require a DWR permit.

There are two things that you should never do without a US Army Corps of Engineers permit, which you could probably never get anyway. First, a ditch should not be deepened to drain a wetland. Wetlands are usually under



federal jurisdiction. Second you should not divert water from a natural channel into a ditch. Once you do that, the ditch could be considered the natural channel and then it is under Corps jurisdiction.

### **Times have changed but drainage space limitations remain**

When roads were opened in the 1800s, road ditches had not yet been invented. The only maintenance a road received was when a horse-pulled drag knocked down the ridges into the ruts and thereby smoothed the road. In about 1900, horse-pulled road graders started being used. The blade on these graders could be adjusted to put a crown in the road, and theoretically cut a little ditch. However, when the roads were opened, adequate right of way was not provided for large road ditches, as there was no thought at that time of road drainage or ditches.

Road ditches are not wide enough to handle much drainage. A grass waterway in a field designed by the Natural Resources Conservation Service (old Soil Conservation Service) might be 40 ft. wide, and a farmer may want us to capture this water in a road ditch that is 10 ft. wide at the top and 2 ft. wide at the bottom. That just won't work. You cannot control drainage in the limited right-of-way, even if you wanted to. But that doesn't mean that people won't ask.

### **Responding to drainage complaints**

Let's imagine you are at home and the neighbor comes over and says water from your property is running onto his property and he wants you to do something about it. Assuming you haven't done anything recently to change how water flows, probably your answer will be that you didn't cause the problem, the water always ran that way, and if it is causing some problem he needs to do something about it on his property.

A county official really needs to take the same position at work as he or she would at home. That is, if you didn't cause the problem, it is not your problem to fix. That is not always a

popular opinion, but a person could spend all day, every day working on drainage issues and not help the road conditions or traffic safety at all.

In eastern and central Kansas people don't want water running across their cultivated fields. I understand the problems that surface water causes: the erosion, sedimentation, and wet areas. I sympathize with the problems, but it is not the county's problem. We just happen to be close and easy to find.

The three main requests by adjacent land owners are: 1) Make the ditch deeper to drain the wet spot in the field, 2) Construct a berm along the right-of-way line to keep water in the ditch, and 3) Change the location or remove a crossroad culvert to keep water from running across a field. These may be a good idea for the farmer, but usually a bad idea for the county.

Even though water runs downhill, property owners usually want water to run sideways along the property line in your ditch. There are a few obvious signs that you may be changing the course of drainage. Any time you have to dig a deep ditch in order to get the water to drain you are probably fighting the existing grade, which means you are basically trying to get water to run uphill. Anytime you build a berm to hold water in the ditch you are preventing water from running downhill, fighting the natural drainage.

Be careful when you do drainage work along the road that you do not change the natural drainage. Because if you do, then you become responsible for maintaining the changed drainage pattern. Mother Nature will consistently make you pay for changing the natural drainage by erosion, sedimentation and the need for ongoing maintenance to maintain the changed drainage. One thing is certain, once you change the natural drainage the local land owners will expect you to maintain it forever, no matter the cost. Even though they may be the beneficiary, the public will have to bear that cost.

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*When it comes to drainage, you as a county official really need to take the position ... that ... if you did not cause the problem, it is not yours to fix.*

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