

**STOKES OVERSEERS**

READ THIS VERY CAREFULLY

Then Put It Away to Be Read Again and Again—Advice From Expert on How to Build and Maintain Dirt Roads.

When we stop to consider the number of miles of road in any county and compare this number with the small number representing the miles of specially surfaced road we can readily see that it will be a great many years—perhaps, generations—before all, or even half, the public roads are surfaced with macadam, or sand-clay. For this reason it is very important that we should give very careful consideration and thought to the construction and maintenance of the dirt road.

When properly constructed, the dirt road can be kept in good condition throughout nearly the whole year, except, perhaps, during periods of severe freezes and thaws. At the present time we have very few earth roads but what can be improved, and usually the question of the improvement is not a very difficult one to solve.

SHOULD BE BUILT UNDER SUPERVISION OF ENGINEER.

The old idea that anybody can build a dirt road is fast losing ground, and our people are beginning to realize that road construction, even of dirt roads, requires the services of men who have been trained in this line of work. As careful thought should be given to the construction of dirt roads as is given to the hard-surfaced roads; and in those counties which rely on just the labor tax for the construction of their public roads a great advance can be made if this labor tax is utilized under the supervision of an experienced road engineer.

LOCATING THE ROAD.

The location of any public road is the only permanent portion of the road; therefore, great care should be taken that when the road is once constructed there should be no question whatever regarding its relocation. In locating a road it should be done so as to permit of an easy grade—none over 4 1-3 per cent—and should be constructed so that it will readily shed the rainfall. How often do we see a road going up hill and down the other side, when, by building around the side of the hill, it could have been kept at an even grade, reaching the identical point within the same distance, or but a little greater.

If, in grading a road, we have any grades over 4 1-3 per cent., it will be necessary to construct across the surface of the road a V-shaped surface ditch to turn the water off the surface of the road, for if this is not done the water will, with the grade over 4 1-3 per cent., have momentum enough to seriously gully the surface of the road. No matter how carefully the V-shaped ditches across the surface of a road are constructed, they are very inconvenient to travel, are hard on the wagons, and should be avoided wherever possible. They can be avoided if the grade is kept below 4 1-3 per cent.

DRAINAGE.

The dirt road is more susceptible to damage by water than,

of course, any of the specially surfaced roads; therefore great care should be taken to work out an efficient system of drainage for the road. Water must be kept away from the road, and the rain which falls on the road must be permitted to run off as rapidly as possible, and by a very easy grade. It must not only be taken off the surface of the road as rapidly as possible, but also out of the side ditches. Care should be taken that these side ditches are not too steep, and that every opportunity is seized for turning the water out of the ditches into the adjoining fields.

Many of our country roads are bad because in their construction no arrangement was made for taking care of the water, and thus they are very muddy and filled with ruts and holes. Instead of the middle of the road being higher than the edges, so that the water can readily run off on each side, many of them are flat, or even concave, with the center of the road the lowest point. If the road has been constructed so that it is well crowned, with the slope about 1 in 20 from the center of the road to the side ditches, and these side ditches have been graded so as to rapidly take care of the water, and yet not steep enough to cause them to cut deep gullies on the side of the road, and if the water is taken from these ditches at every available point so as to prevent seepage of water, under the surface of the road, there should be little difficulty in keeping the road in good condition. Very often it is necessary to carry the water from one side of the road to the other; and when this is necessary, it should be done by means of either concrete, metal, or terracotta culverts or pipes which will carry the water under the surface of the road. After the system of drainage has been installed, provision should be made to keep it up, so that the drains and the culverts will not become stopped up.

HOLES OR RUTS MUST NOT BE FILLED WITH STONE—DON'TS IN REPAIRING DIRT ROADS.

The surface of a dirt road should be kept of dirt, and whenever any holes or ruts have developed in the road, they should not be filled up with stone, or brush, but with dirt, and with dirt as nearly as possible of the same character as the dirt composing the surface of the balance of the road. If, on the other hand, holes or ruts are filled with rock, gravel, or brush, the wearing effect will be uneven, and the wheels will begin to scoop and cut out holes just beyond or on the opposite side of the road from the hole filled up. If there are stumps or rocks in the road they should all be removed, so that the dirt surface can be smoothed over and brought to an even slope from the center to the ditches. After the road has been well constructed and the right slope and surface obtained, it can be kept in this condition very readily by judicious application of the split-log or King drag. This simple road machine, if used regularly after a rain when the roadbed is wet, will smooth and shape up the road, so that as soon as it has dried out it will be firm and hard.

The drag will fill up the ruts and holes and will keep the dirt road in first-class condition, with hard surface, throughout nearly the whole year.

ROAD SHOULD NOT BE SHADED.

As moisture is very detrimental to a dirt road, the sun should be permitted to strike the surface of a dirt road as much as possible; and, therefore, care should be taken not to have too much shade along a dirt road, and, where necessary, the trees should be cut away so that the whole surface of the road is exposed to the sun for at least several hours during the day. Shade is good for a macadam road, but bad for a dirt road.

In repairing a dirt road the same thought must be given as in the constructing of the road, and, when cleaning out ditches, the material should not be thrown into the middle of the road or on any part of the surface of the road, but it should be thrown into the adjoining fields; for this material is usually composed largely of fine silt and vegetable material, which holds moisture like a sponge and becomes very difficult to dry out, and is entirely different in character and consistency from the dirt surface of the road. How many times we have seen the dirt road repaired by this material being thrown up into the center or just beyond the edge of the ditch, thus preventing the surface water from flowing into the ditches, and, instead turning it down the road!

In the maintenance of our dirt roads they should be divided into sections, with a foreman or overseer in charge of each section, whose duties should be to go over every mile of his section after every rain and at least every two weeks, and wherever he finds a portion of the road needing repair, he should have it done. After each heavy rain he should run a road drag over the road to put it in shape and to fill up any ruts or holes that might have been started. We must bear in mind that roads will not maintain themselves, and that repairing a road simply once a year will not keep it in good condition.

In repairing a dirt road:

Don't fill up the holes and ruts in the dirt road with brush, with rocks on top, and a little dirt to cover the rocks; but fill up the holes with dirt of same character as the balance of the road.

Don't throw all the refuse from the ditches into the middle of the road, thus softening the surface and destroying the solid, firm bed that you have obtained by previous work; but throw this material out on the opposite side of the ditch.

Don't leave the center of the road the lowest point; but make it the highest and give the surface of the road a slope of about 1 in 20 to the side ditch.

Don't carry the water across the surface of the road from one side to the other; but carry it by means of culverts underneath the road.

Don't have grades on your road over 4 1-3 per cent; for if you do it will be necessary to build V shaped surface ditches or "Thank-you-mam's" across the road.

Don't, in working out the labor tax on the roads, try to

make a holiday of it; but give an honest day's work on the road. Let us eliminate what is often seen in those sections where the roads are maintained by the labor tax—ten or twelve men and an overseer, little gray mule, a small plow, six dogs, three or four guns, and a few tools which often are not considered worth using at home. This road force is not only hard on the rabbits, but also hard on the roads.

Don't reject the split log drag because it is a cheap road machine, but use it constantly, for it is the most efficient road machine that we can use in maintaining the dirt road.

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