

Of course, the condition of the aggregate has a great deal to do with such recommendations. However, on the type of work that we are doing, I believe in taking into consideration the manufacturer's recommendation of the amount to be used, as well as the character and the body of the cutback asphalt to be used. Consequently, I have been able to turn out considerably improved construction with much lower maintenance costs over a period of time. This procedure seems more sound than to try and work these things out myself, thereby having job failures or wasting the money from motor-vehicle taxation that is donated to us to do our road work. I think that we all should ask more questions of the manufacturer from whom we purchase bituminous material, regardless of the type or kind that is purchased, and develop all of the information possible before starting the work contemplated in our programs. The more we can learn from them, the better will be the class of work turned out. This same condition applies not only to bituminous materials but to the stone and gravel used. These representatives should be able to tell one many things about aggregates and how they should be used. Such information will be invaluable to the men in charge of road work in our counties.

We must remember that road improvement has been going on for a long time before we took charge and that many of our pet ideas have been tried somewhere already and found to be either valuable or worthless. Yet with all of the brains working on this science of road building, we have not yet reached the pinnacle of a perfect highway.

It has been my practice in the past and will be in the future to get the very best quality cutback asphalt that we can buy. Even though the price on these materials may be the same from many companies, I carefully watch the specifications to see which cutback asphalt will give the best value for that price.

There are many things to be learned about bituminous materials before the actual use of them. No superintendent, supervisor, or engineer can excuse continued failures in bituminous surfaces when there are so many sources of reliable information to help him. It is up to you engineers or supervisors to take the initiative, and when this is done you will find the manufacturer willing and eager to assist and educate you in the handling and use of cutback asphalt for better and longer-lasting bituminous roads.

NORMAL PROCEDURE IN CLEANING OUT DRAINAGE DITCHES

Robert J. Pfeiderer,
Kosciusko County Surveyor, Warsaw

We surveyors are cleaning drainage ditches in our various counties under the 1933 and 1935 drainage laws. Naturally,

with the help of our county attorneys, each of us interprets the several parts of the drainage laws just a little differently from his ninety-some brethren. So, the Road School furnishes us with an opportunity, annually, to diminish the number of these differences and to continue our work more nearly on a common basis.

During the winter months we always ask the advice of our township trustees as to what ditch or ditches should be cleaned out the following spring and summer in their respective townships. In adhering to this rule you will have future protection, in that you were not the prime mover in selecting the ditch for clean-out. In counties with a large mileage of open, petitioned ditches, not all ditches can be cleaned out every two years. In our county we have nearly 600 miles of ditches. So, after consulting the trustees, we select those most needing the clean-out.

We then proceed to allot the ditch according to the records of previous clean-outs we have in our town office. When no records are available in our office, we use those in the files of the auditor's office or the clerk's office. The list of names is corrected to present ownership, and the allotments, if any land has been divided, are corrected, as the case may be. Much information and aid can be gained from any original ditch plats on record. If none are available, plats should be made in a book for that purpose, using the original petitions. The allotment sheet should contain the name of the owner, the description of the land owned, giving the section, township, and range, the acreage owned and the acreage benefited, the beginning and end of the allotment in stations, the length of the allotment, and the date when the allotment should be completed. Naturally, the allotment at the end of the ditch should be given the earliest date for completion, and so on back up to the ditch. If the upper end of a petitioned ditch is tiled, and there is an allotment on record of the tiled part, those allotments should be carried along with each clean-out for future reference in repairing the tiled portion of the ditch. If a ditch has never been allotted, allotments should be made, based on the amount of assessments on the last petition.

NOTICES

When a ditch has been prepared for a hearing, five notices should be posted at least ten days before the hearing, in five public places in each township where lands are allotted a portion of such ditch. A notice should also be sent to the trustee of each township, the county road supervisor, and the officers of each corporate road or railroad and municipal corporations allotted a part of such work.

The 1935 Acts of the Indiana General Assembly provide that, when a system of ditches has been constructed under

separate petitions, the surveyor may combine such ditches in one allotment and hold a hearing on the allotment. This amendment has been very beneficial both to the owners and to the surveyor.

On the day of the hearing, all objections should be presented in writing. The allotments should be corrected, if necessary, and confirmed as soon as possible. The date of the confirmation should be definitely stated.

Notices giving the name of the owner of the lands to which the allotment is given, the name of the ditch, a description of the allotment, and the length thereof, must then be sent to the owners of the lands to which allotments have been given through the trustee of the township containing such lands. As long as the ownership of the land in question is the same, no new notices need be sent for the biennial clean-outs. However, we always send out an entire new set of notices for a biennial clean-out. It saves time and arguments.

If any owner refuses to take care of his allotment at the proper time, we always send a final notice, although this is not necessary. His allotment is then forced down according to law, and the costs are placed on the tax duplicate.

An inspection can be made at any time of the clean-out. It is best to wait until the ditch is completed, if the clean-out goes along smoothly. If any allotment has to be forced down, the work should be given out at a certain price per hundred feet.

Stakes are set every hundred feet on each ditch to be cleaned out. Levels are then run from bench marks carried down from former surveys. Our cuts are the distance down from the ground at the side of the stakes to the finished channel.

If there is every any demand for the clean-out of a ditch where there are no bench marks left from which to run the grade line, keep clear of the clean-out. Inform the people interested that they will have to petition for a new grade line.

If the ditch you are cleaning is the outlet of a lake of legal size, run your clean-out to within only 1,000 feet of the lake.

At any time after two years from the time any allotment of any ditch is made, or has been allotted, a petition to the surveyor may be made for a reallocation, if accompanied with a bond.

All our ditch data are recorded in two record books entitled: *Drainage Clean-out Record* and *Record of Time for Completion of Ditch Allotment*.

Our clean-out work has all progressed very satisfactorily except from one point of view. The state highway department has refused to clean its allotments this summer. It refuses to clean except within the right-of-way. This has placed us in a very embarrassing position and will place an added burden on our road department or on the ditch fund.