



In most projects it also includes drainage work so that water can get off the road. It is understood that drainage is a very important aspect.

The gravel base is the second most important aspect of road improvement. A good base establishes the frame and support for the entire road. If the base is not stable then the road will not last for the life expectancy.

That is why road professionals will not simply put an overlay over a damaged road. A new surface will not hold up if the base is not substantial.

After the gravel base has been leveled, asphalt is laid. Asphalt functions like a roof over a strong gravel base. Asphalt pavement is usually laid in layers until the proper depth is achieved. That is why it seems to take so long because the crews must give one layer a chance to set before the next layer is applied. The base layer is a leveling course, the top layer is a wearing course. The thickness of the asphalt is designed according to the weight of the vehicles that generally use the road. Lesser traveled roads are paved with a different depth than the more heavily traveled expressways.



When the paving is done the restoration work (which includes reseeding the right-of-way and grading the shoulders) is completed to help keep the water (potential ice in winter) off the road.

Through continued innovation, asphalt provides a reliable and durable weather resistant surface available in no other medium, fulfilling the needs of both large and



small projects.

*This brochure is meant to give the reader an overall understanding of road reconstruction and/or rehabilitation. Each project may not include all the work described in this brochure. If you have questions regarding the project being performed in your area, please call our office.*



## Understanding Paving Methods: *Asphalt*



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# Paving

The Monroe County Road Commission (MCRC) is committed to improving and maintaining the county roads for the safety of the traveling motorist. The MCRC takes seriously our responsibility to be good stewards of the funds provided to our agency from



the State fuel taxes and licenses fees. The funds are never enough to handle all the projects that need to be done, however we do our best to stretch the available monies to preserve, maintain and upgrade the existing surfaces and road drainage.

One method of reaching this goal is paving. Since we began this operation we have increased the number of miles of new and refurbished road surfaces throughout Monroe County.

The operation is expensive, however using MCRC crews has proven to be a cost effective and competitive method of making good use of the available funds.

The MCRC has developed Road Improvement Guidelines with minimum pavement and grade widths for Routine, Preventative and Heavy Maintenance. These guidelines are used in conjunction with the Capital Preventative Maintenance program and Asset Management.



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These guidelines are applied whether the MCRC handles a project or the project is bid out to other contractors, and are used in concert with the Capital Preventative Maintenance and Asset Management Programs. The MCRC also works with township officials to maintain these practices on projects on local roads as well.

Capital preventative maintenance (CPM) is a planned strategy of cost effective treatments to an existing road system that preserves the structural integrity, extends the service life, retards future deterioration and maintains or improves the functional condition of the system.

Asset Management is a process of managing public assets (i.e. roads, bridges, etc) based on long-range condition of the entire transportation system.



The strategy combines long-term fixes (reconstruction), medium-term fixes (rehabilitation) and short-term fixes (preventative maintenance). In this "mix of fixes" approach, each fix category has a critical role in improving the future condition of the road network.

**Reconstruction** involved the complete replacement of the pavement structure with a new equivalent, long-term action that is designed to last at least 20 years. Deemed as the most

# Way

favorable, it is also the most costly fix.

**Rehabilitation** applies structural enhancements to improve a pavement's load-carrying capability and extend the service life at least 10-20 years. This process still involves a prohibitive level of investment. Rehabilitation can provide a marginal increase in pavement performance, the results are not optimal.

**Preventative maintenance** applies lower-cost treatments to retard a road's deterioration, maintain or improve the functional condition, and extend the pavement's service life. With various short-term treatments, preventative maintenance can extend pavement life an average of 5 to 10 years.

Combing these three programs into a comprehensive strategy achieves the most manageable road system network. The challenge is to ascertain the right time to apply a treatment to achieve the maximum benefit or return on the investment.



Surface treatments for flexible pavement surfaces include microsurfacing, chip seals, slurry seals, crack sealing, and overlays of ultrathin hot-mix asphalt. Treatments for rigid pavements include full-depth concrete pavement repairs, joint sealing, dowel-bar retrofits, minor small repair, crack sealing, and diamond grinding.



**Road rating** is based on standard criteria such as distress, ride quality, friction and rutting. Detailed data are collected for the pavement