

Part 1. A Road or 158 Driveways – It Is Your Choice

When it comes to the question of surfacing our road we are unfortunately well down that path without an informed long-range plan in place. Some of us are hell-bent on asphalt paving, others on chipsealing (oil and stone), some for loose gravel topping, and others who wish to leave the road “as is” and/or have no opinion or don’t care. Left unresolved, the future of the road will be an extension of the patchwork quilt of toppings we drive on now, and a potential harbinger of lots of costly future maintenance problems because of the various options we have chosen. For the past few years the Association emphasis has been on promoting the concept of paving the road surface as the proposed solution for most of our road problems. It is a great goal PROVIDED we are smart about how we get there and there is a risk we may have gotten ahead of ourselves. If you have read any of the earlier information made available to you, people who manage, design, and maintain roads for a living suggest that the idea of paving a gravel road needs significant consideration and investment of both time and information, as well as development and approval of a long term plan. Professionals agree that you cannot sustain driveability on a road by making cosmetic coverups of the surface, and that doing so could represent a costly solution when it comes to future maintenance.

In Part 2 of this attachment, we look at the most likely topping options and compare some pro/con considerations and pricing for each. Before we go there, however, there is a very important caveat to mention. If you read the earlier attachment on Basics of a Good Gravel Road, you hopefully recognize the importance (and time and expense) of establishing a sustainable base and drainage before EVER attempting to apply a surface topping regardless of what type we ultimately choose. Here is another excerpt from Cornell. “A surface treatment is not considered a structural layer. Like shingles on a roof, a surface treatment gives a waterproof cover and provides resistance to abrasion, but it adds very little structural support. A good, clean, non-frost-susceptible base, and good drainage are essential to have a long-lasting surface treatment”.

Why is the prep so important? Well, as was also mentioned in our earlier Basics of a Good Gravel Road attachment, the professionals recommend preparing a base that can accommodate the largest vehicle that will use the road under normal conditions. Let’s look at some typical weights for vehicles we find on Honoco Road. Clearly the heaviest, and thankfully our most infrequent visitors on the road are either a fully loaded cement truck, or a loader 10-wheeler dump truck that can both weigh in in excess of 70,000 lbs! Next are the loaded propane and septic trucks which are frequent road visitors and run from 30,000 to 35,000 lbs. Pickup trucks average between 5,000 and 9,000 lbs., and average cars weigh in at around 4,000 lbs.

Think about these numbers for a moment. This year we added 2 inches of “surface course” asphalt (meaning small stone size designed for smoothness and appearance, not strength) on top of random unconsolidated dirt at the beginning of the road. On a hot summer day we are going to send a 70,000 lb construction truck or a couple of 35,000 lb septic trucks over that heat-softened 2 inches of asphalt topping which isn’t supported by any rigid base underneath it. What do you think is going to happen? According to a Cornell workshop on Asphalt Paving Principles, “The truck tires compress (push down) the top layers of the pavement, and cause tension (pulling) stresses in the bottom layer (the layer next to the dirt) which want to pull the pavement apart. If the deflection is large enough and occurs enough times, cracks begin to form at the bottom of the asphalt which eventually migrate upward until they reach the surface. Surface water (rain, snowmelt) can then penetrate through the crack into the dirt

and further soften it. This causes larger deflections in the adjacent pavement and more cracks until pavement failure (alligator cracking) occurs.” If you want to see what alligator cracking looks like, just take a walk down any of the earlier paved sections of our road which have only been in place for five years. Repairing failed asphalt is a much more expensive proposition than repairing a gravel road.

Base Prep

The traditional Association cost per square foot for asphalt topping falls considerably short of the actual expenses required to properly apply a surface topping. There are significant costs associated with adequate preparation of the road base which should be accomplished before any topping is applied, so what is required?

Paving contractors say two major things about roadbed or driveway preparation. At a minimum, you need a continuous layer of large, highly-compacted, crushed rock or gravel, from 1” to 1-1/2” in size, as a base layer to provide the rigidity to resist deflections from our traffic loads. If you don’t provide this layer, and our current road surface definitely does not qualify as an appropriate base, the road surface will only last a couple of years before it needs to be re-done. Preferably this base layer has a “binder” associated with it so it resists lateral movement when a traffic load is applied. In the case of asphalt, lacking an adequate base, contractors usually add an additional asphalt “base course” layer of large stone under the asphalt topping layer. You also need a base profile that adequately drains water, so the base has to be crowned or sloped in order to make sure water does not collect on (and under) the road surface and weaken the road base.

Prepping the road according to these principles was part of an experiment that was run by several homeowners on Honoco Road in 2016. In order to address building an adequate base, two adjacent owners added 40 tons of recycled asphalt to the top of their 240 ft section of road and deliberately raised and compacted one side of the road 4” higher than the other side in order to drain water from the road. On top of this recycled asphalt they added 40 tons of 1-1/2” limestone crusher run and compacted it with heavy equipment into the recycled asphalt on a very hot day. The result was a rigid, asphalt-bound, sloped surface that was subsequently covered with a layer of chipseal which has remained pothole, puddle, and maintenance-free for 2-1/2 years. Two additional layers of chipseal were planned for this year before the project was cancelled. The current surface is in need of those additional layers. Here are the costs for the original work:

For 240 Inft of Honoco Rd:

40T of recycled asphalt at \$18/T delivered = \$720

40T of 1-1/2” Crusher Run @ \$18/T delivered = \$720

Labor/Equipment = \$2600

Result: Base prep price per sqft = \$1.87 (excluding chipseal)

This price example for road prep clearly represents a major unaccounted for expense prior to providing a surface topping for the road, and likely a reason it has not been adequately addressed in previous (and probably future) road topping projects. At our 2018 prices, chipseal with this road prep would be \$2.47 per sqft, and asphalt with this road prep would be \$3.47 per sqft. Our 120 ft x 9 ft driveway would cost

almost \$2700 for chipseal and over \$3700 for asphalt at these prices, both of which might cause most homeowners to think twice about committing to a road topping for their property.

So what is the answer? As usual, it's complicated. It seems clear that the majority of homeowners who have been willing to spend the money to improve the surface of their portion of the road have already done so, and time will tell how often these folks that improved their portion of the road surface will have to do it again. In addition, it is very likely that a significant majority of properties with currently unimproved road surfaces will not be willing to do so at their own expense. In addition, they have legal justification behind them if they choose not to do so. This simply extends our randomly surfaced road more or less forever, with the real possibility of escalating maintenance costs, especially since we have not seriously looked into how we maintain either an asphalt or chipseal-covered road and how often it might be required.

And, most importantly, literally no one we have spoken to on the road is in favor of having the Association use membership funds from folks who have already borne the expense of improving their property to make improvements on other properties whose owners choose not to equitably participate in cost sharing of expenses for improving the road. Probably not a good idea to even try to impose this solution on the membership.

Consequently, it's likely time to collectively discuss road solutions and agree to a long range plan acceptable to everyone. Unless we can get there we are likely to continue to be a hodge-podge collection of 158 driveways that reflect the individual preferences of their owners rather than a consistent approach to defining Honoco Road and its maintenance. Let's all try to avoid a potential future nightmare in both road usage and road expenses. Your road, your money, your choice. Spend some time considering the discussion and make your choice wisely. Sage advice came from someone who once commented, "Do the right things and do the right things right". It's our turn. Thanks.