



Dennis Reuss <d.reuss@townofboulderjunction.org>

Estimated Town Road Reconstruction Costs

1 message

Mark Barden <mark@tcengineers.net>

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To: "d.reuss@townofboulderjunction.org" <d.reuss@townofboulderjunction.org>

Cc: "d.duke@townofboulderjunction.org" <d.duke@townofboulderjunction.org>

Dennis,

I've reviewed the estimates for road construction and have revised the asphalt estimate based on current asphalt pricing. The chip seal and gravel estimates (Highlighted below) seem reasonable to me, if not a bit high. For your presentation, that seems fine.

	GRAVEL	CHIP SEAL	ASPHALT
GRAVEL	\$40,000.00	\$ 60,000.00	\$115,000.00
CHIP SEAL		\$ 95,000.00	\$115,000.00
ASPHALT			\$115,000.00

As I discussed with you and Greg on Tuesday, the asphalt pavement prices are low. My suspicion of the price in your current table is that is based on a one layer thickness of 2.25 inches. This is typical of what many towns use for low traffic volume roads. I would be more comfortable with the 3.5 inches due to the unknown thickness of the base course material.

I have provided new estimated costs in the table below, with the following assumptions:

	GRAVEL	CHIP SEAL	ASPHALT
GRAVEL	\$40,000.00	\$ 60,000.00	\$197,000.00
CHIP SEAL		\$ 95,000.00	\$216,000.00
ASPHALT			\$216,000.00

My assumptions are as follows:

Dimensions:

- Length – 1 mile
- Pavement width – 22'
- Shoulder width – 2'

Costs NOT included:

- Additional gravel. The road will be constructed at the same line and grade.
- Ditch grading or grass restoration. Current drainage will be maintained.
- Undercut of soft material. Assumes all roadway is solid.

- Driveway reconstruction.

Other:

- Asphalt costs are based on current pricing
 - \$68/ton for binder course (2 inch thickness)
 - \$70/ton for surface course (1.5 inch thickness)
 - The 3.5 inch depth is based on presentation materials and the board discussion. You could bring this down to 3.25 inches which is the typical thickness in other communities. This would save about \$10,000.
- Existing chip seal and asphalt pavements must be pulverized **(\$19,000)**
 - This cost can be seen in the asphalt pricing. The difference between existing gravel and chip seal to new chip seal is \$35,000 based on your table. This is quite a bit more, however, I would keep your current number here to be conservative.

The table below uses the same assumptions above but the following assumptions are included:

	GRAVEL	CHIP SEAL	ASPHALT
GRAVEL	\$ 93,000.00	\$ 113,000.00	\$ 250,000.00
CHIP SEAL		\$ 167,000.00	\$ 288,000.00
ASPHALT			\$ 288,000.00

Costs DO include:

- Additional gravel. Assume 3 inches of gravel to be added prior to pulverizing. This will necessitate shouldering, grass restoration work and matching into existing driveways. **(\$26,000)**
- Ditch grading and grass restoration. I drove several of the roads on Tuesday and there seems to be a lack of ditching and proper drainage. I have assumed ditches will be needed on 25% of the roadways and will be 10 feet wide, 2' deep. However, more may be necessary. **(\$6,000)**
- Grass restoration – topsoil, seed & mulch. Needed where ditching is done and to match into new shoulder height. **(\$12,000)**
- Undercut and backfill. This assumes 5% of the existing roadway base course is too soft to support the new pavement and will be removed. In this case, we would generally remove the soft portion to a depth of 1 foot and replace with 3 inch breaker run material. The 5% assumption may be low, but that can be discussed. **(\$9,000)**
- **The total of the above included cost is \$53,000**

Costs NOT included:

- Driveway reconstruction. Typical asphalt driveway reconstruction costs are \$25/square yard.
- Culvert replacement

- Additional 8 foot wide asphalt bike lane
 - \$68/ton for binder course (2 inch thickness) **(\$31,000)**
 - \$70/ton for surface course (1.5 inch thickness) **(\$40,000)**
 - One foot depth of gravel **(\$35,000)**
 - **Total cost per mile = \$110,000**

As I stated above, I drove some of the roads on Tuesday. With the snow, it may be deceiving, but it appeared that there is a lack of ditches on many of the roads (High and Fishtrap Road, Allen and Fallon). It was unclear to me if ditching could be achieved in some of these areas as they seem to be fairly flat and there is no apparent outlet for proposed ditches. If proper drainage can't be achieved, the base course material will remain saturated and will lead to premature failure of asphalt pavement and it may be more effective to stay with a chip seal or gravel on these roads. Further investigation is definitely required. Newcomb Lane is the other road I drove yesterday. Ditching shouldn't be an issue there.

Please keep in mind that these are ballpark costs and they may vary once you have done the actual design.

Feel free to call me at your convenience to discuss.

Thanks,

Mark

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