

Dr. R. M. Brumfield.

Roseburg, Oregon.

Dear Sir:-

Pursuant with your request, I have walked over and examined the route of the proposed new wagon road from the west end of Alexander's Bridge in the North-west $\frac{1}{4}$ of the North-east $\frac{1}{4}$ of Section Twenty-five, in Township 27 South, Range 6 West, in Douglas County, Oregon, to a point in the North-east $\frac{1}{4}$ of Section 34 .

Alexander's Bridge connects the eastern terminus of your proposed new road with South Mill Street in the City of Roseburg. This bridge is controlled by Mr Jas. Chr. Alexander of this City.

From the Eastern terminus at the bridge, the route will go west on Portland Street in Umpqua Park addition to Roseburg to Kendall Avenue. Portland Street as well as Kendall Avenue each have a width of fifty feet and have been dedicated to the public. Plat filed June 18th., 1909. From the intersection of Portland Street with Kendall Avenue, the route will go south along Kendall Avenue to the road on the north side of Block 33, Umpqua Park Addition. Thence in a south-westerly direction along this dedicated road to a point approximately near the South-east corner of Lot 2, Block B, Umpqua Fruit Lands. This last mentioned dedicated road from the end of Kendall Avenue, is not of sufficient width to pass the requirements of the County Court, namely a minimum width of forty feet. Consequently this road would necessarily have to be widened.

From the South-east corner of Lot 2, Block B, the proposed road will commence to climb on an ascending grade through Lots 11, 10, 9, 8 and 7 in Block B,

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intersecting the west line of Lot 7 a few hundred feet north of the corner to Sections 26-27-34 and 35 in Township 27 South, Range 6 West. At this point the road will enter the lands of Mr A. C. Marsters and will continue to climb until the summit of the divide is reached in the North-east $\frac{1}{4}$ of Section 34, in Township 27 South, Range 6 West.

The estimated length of the line from the end of Alexander's bridge to the summit is, with all its developments, between $2\frac{3}{4}$ and 3 miles.

The approximate elevation of the road near the South-east corner of Lot 2, Block B is 500.00 feet above sea-level. The approximate elevation of the summit in the north-east $\frac{1}{4}$ of Section 34 is 1000.00 feet above sea-level giving a difference in elevation of 500.00 feet. This 500.00 feet must be overcome in approximately the $1\frac{1}{2}$ miles from the point near the South-east corner of Lot 2 to the summit. This would give an estimated grade of about 7.6 per cent or in round numbers 8 per cent. Very likely by inserting a few short stretches of 10 per cent in difficult spots, some distance might be eliminated or a stream or ravine crossing avoided.

From the summit in the North-east $\frac{1}{4}$ of section 34 to a point selected by Mr Marsters, where the connection with the old road could be made, the difference in elevation is approximately 400 feet. On the basis of a straight ten per cent grade the length from the summit to this point would be about 4000 feet. By using an 8 per cent grade the length would run about 5000 feet in length, nearly a mile. In order to get this length some development will be necessary, but good supporting ground will be found throughout.

The total length of the road from Alexander's bridge to the point mentioned will run about $3\frac{3}{4}$ to 4 miles. A straight line between the two objective points has a length of $2\frac{1}{2}$ miles showing a development of from 1 to $1\frac{1}{2}$ miles. Taking into consideration the topographic features, this can not be called an unreasonable length.

In forming the roadbed, both rock and earth will have to be excavated. Possibly some shale will also be found.

Sheet two/

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That part of the roadway in rock formation would need no hardsurfacing but through the black mud and other earth formations, gravelling would be necessary.

No survey has been made of the proposed new road by the writer, but before any definite conclusions can be reached, a complete survey should be made, on which data so gathered, a profile and alignment sheet can be prepared. Cross-sections would also be taken with sufficient accuracy that a complete estimate of the rock and earth yardage can be figured. This would then place the matter in such shape that definite data would be at hand so contractors could figure intelligently on the work. This survey would not cost a great deal of money and is absolutely essential in order that you and your associates as well as the County Court, can have reliable figures on which to figure.

Respectfully submitted.

Engineer.

Roseburg, Oregon.

July 22nd., 1915.