

Character of the
work from
Orangedale to
the Summit, 17
miles.

17. Between Orangedale and the head of Whycocomagh bay, a ridge 100 feet above the Sea Level has to be crossed. The gradients will be, in two or three places, from 50 to 70 feet to the mile. There are some cuttings and banks, one cutting being 20 feet deep for some distance. With one exception this is the deepest. There will be only three or four small bridges, besides eight or ten small culverts in this distance of about four miles. Beyond this along the head of the Bay, there may be a little rock, and some protection will be required, as the line, in one or two places, will be partly in the water. Up to the 8th mile the line will be nearly level. The bridging will be, if anything, less than in the first four miles. At the 8th mile Skye River will be crossed. This will be the largest structure on the Line. The span for the main channel will require to be 100 feet, and some extra water way should be left, to pass the spring floods. From this on to Indian Rear $1\frac{1}{2}$ miles farther, the work will be light, (except for some little protection, in places, from the river) and the rise about 25 feet to the mile. One or two culverts will be required. From Indian Rear to McQuarrie's Brook, $6\frac{1}{2}$ miles farther on, the average rise will be about 16 feet to the mile, with very little earthwork and a few small bridges. Through McQuarrie's gorge, a maximum gradient of 80 feet to the mile will be necessary for about $1\frac{1}{8}$ miles. The object of going up this brook is to shorten the Line by about two miles, instead of going round by Brook Village. There will be some rock, much of it loose and easily moved. There is a sandstone quarry of excellent building stone close by, which has been worked a little. Here is the highest point on the line, about 260 feet above the Sea, about the 17th mile.

From the Summit to the top of the descent to the mines at 29 $\frac{1}{2}$ miles.

18. From the Summit to Lake Ainslie about 6 miles, there will be a descent of about 30 feet and a rise of 15 feet in a distance of 2 miles and in the next 2 miles about 40ft. descent down Hay River valley. There will be little bank or cutting and only a few small culverts. At the 21st mile a deep cutting of about 30 ft. at its highest point, will be required to cross a projecting ridge. Beyond this, to where the Lake shore is reached at the 23rd mile, the line will be nearly level, and the work light. Round the shore of the Lake, in some places the bank is steep, necessitating some side cutting. The Line will be undulating a little, the gradients being about 20 feet to the mile, at a height of from 10 feet to 30 feet above the level of the Lake, as far as the 27th mile. Here is the crossing of Black River where the Survey for the Inverness & Richmond Railway reaches Lake Ainslie, at the 51st mile from Port Hawkesbury. A bridge of 50 feet opening or less, will be required here. The ground is meadow, overlying a deposit of soft mud, of from two feet to six feet in depth, below which appears to be hard sand. Black River is subject to overflow, and spreads over a considerable width during floods. There is only one stream of consequence near the 25th