

was equal to 10 feet per day in each tub, and this progress could easily be double where they were not hampered with a heavy traffic. When I was in the tubes under the river, the shield was working under some heavy warehouses on the Surrey side, and was generally progressing about one foot an hour; the tube was perfectly dry and sweet, when lit with gas, and with plenty of fresh air.

From that point to the Elephant and Castle, about one and one-eighth miles, nearly 6,000 feet for each tube or about 12,000 feet altogether. Mr. Greathead expected to finish in about 6 or 7 months, the delay being that all the stuff excavated had to pass under the river, be raised vertically 90 feet, and then taken away very inconveniently, as there is only room for one barge to be moored at a time.

The contractor for this subway is ready to take up the Northumberland Straits Subway. The city men who have backed Greathead in the last seven or eight years can be enlisted for the finances, and all plans, plant, patents and expense can be passed from one to the other. The contractor will pay liberally for all past expenses and outlays, and take the Government subvention on account of the pay; taking a fixed price for the whole thing from shore to shore. Greathead and myself to be joint engineers at a fixed salary to cover all the engineering and one-half of the whole to be kept back until the subway is complete and cars passing from end to end.

Yours faithfully,

(Sgd.) VERNON SMITH, C.E.

That was the view held by Mr. Greathead, who was the engineer of those subways. I may say in connection with that he has now on hand a sub-way under the Mersey at Liverpool: hon. gentlemen will remember that there is a tunnel under the Mersey which was built some two years ago by Sir Charles Fox. As Mr. Greathead states they are now about to construct a sub-way under the Mersey, on the same principle as this one to which I have referred, which is to be twenty-three feet in diameter, with a view of putting through it a double track railway. I then sent the plans again asking for something definite with regard to this question of ours, giving him all the local details, and pointing out what I thought was the difference between the work he was engaged on in London and this one. He writes me as follows on the 10th of May:—

DASHWOOD HOUSE, 9 New Broad St.
London, E. C.

HON. G. W. HOWLAN,

President Northumberland and Straits Tunnel Company.

DEAR SIR,— Having examined all the plans, charts and borings made in recent surveys of the Northumberland Straits, and after repeated interviews with Mr. Greathead, Engineer of the City of London, and Southwark Subway, now approaching completion, which is about the same length of tunnel, and passing through (as far as may be judged by the borings recently made in the Straits), the same description of ground, I can, in connection with Mr. Greathead, assure you of the entire feasibility of the scheme, which presents not nearly the engineering difficulties that have been successfully overcome on the City and Southwark Subway, and can be as easily operated and maintained as the Tower Subway, also passing underneath the River Thames, which has now been completed, and in daily use for ten years, without costing anything for repairs.

We are further prepared to find you competent contractors, who will give you undoubted security for the performance of the work, and who have necessary experience and plant for completing it within three years, from date of commencement, and who will complete the whole, from shore to shore, on the following conditions:

I may explain before reading the remaining portion of the letter, that the Prince Edward Island Railway, as I shall show presently, has caused a great deal of loss and expense to the Dominion Government in running it, and in some conversation that I have with the Government those views were made apparent. I mentioned those facts to him, sending the details of that loss. He says:—

First—The Government to hand over in good working order and sufficiently equipped the existing Island Railway, which is henceforth to be operated by your Company on a tariff to be approved by the Governor in-Council.

Second. The Government to give the right of way for the subway, and the connection with existing railways at either end, over any of the public lands, foreshore, or under water, now in their possession, required for the road and stations at either end.

Third—The Government to pay for three years, the sum of sixty thousand dollars (\$60,000) per annum, to the Company, as the presumed loss of operating the railway until the Subway is complete, this sum not however to be paid unless the books and vouchers to be produced prove that this loss has actually been incurred.