

water level, that detail would be worthy of note. Again, while the construction of an ordinary country road might not appear to be of any particular interest, yet if an especially efficient contractor's plant had been employed in its construction, a description of the equipment and of the way it was used would be of unquestioned value.

As regards the matter of personal profit, it is only necessary to remind the reader that all reputable publications pay for contributed articles when they are submitted on that basis. The compensation, though not apparently large, will often prove greater in proportion to the time required to earn it than the engineer's remuneration for his regular work. In addition to the money return, there is the benefit accruing to the writer from the publication of articles carrying his name.

The objection having the least weight of all is the average engineer's lack of confidence in his ability to "write an article." While a contribution should, of course, be prepared to the best of the author's ability, its literary excellence is its least important attribute. The matter for technical journals is judged chiefly by the facts and figures it gives, and if valuable data are presented the language in which they are set forth is of minor consequence. The publication has a staff whose duty it is to look after that matter, and if the article is otherwise available, its form will be attended to.

PULP LIMITS.

Ontario must be congratulated on the business-like manner in which they are disposing of their remaining pulp limits. Tenders for the Abitibi pulp limits, consisting of 1,560 square miles of pulpwood, will be advertised by the Government in a few days in accordance with the programme announced some time ago in the matter of development and colonization of the north country.

The successful tenderer must establish a pulp mill to cost not less than \$500,000, to produce 100 tons of paper per day, to employ not less than 250 hands, and to run on an average of ten months in the year.

According to the conditions, \$100,000 must be paid down the first year, \$200,000 the second year, and the remainder, \$200,000, the third year. It is stipulated that the pulpwood cannot be touched until \$100,000 is spent. After the mill is operated continuously there must be an average output of 75 tons daily. The lessee must pay 40 cents a cord for spruce and 20 cents a cord for all other woods, subject to increases from time to time by Order-in-Council. The wood must be cut in such a manner as the Minister may direct, and it will be further agreed that no wood will be exported. The wood must all be used to supply the pulp mills. Failure to erect the mills within the specified time will entail a forfeiture of the bonus, etc.

The successful tenderer shall be entitled to obtain a lease of the Iroquois and Couchiching Falls on the Abitibi River, and the right to control the water on Abitibi Lake, subject to the stipulations that may be imposed by the Minister. Also, plans for water storage and water regulations must be approved by the Minister.

Other clauses in the conditions infer that the Crown reserves the right to erect dams or enlarge the dams of the pulp mills, to develop power to the fullest extent, and charge a fair and equitable sum for the benefits con-

ferred, the rate to be fixed by the Hydro-Electric Commission.

The T. and N.O. Railway will be entitled to the delivery of all surplus power to the extent of 10,000 horse-power.

No doubt in the early future the railway will be electrified, for this has been the ultimate intention of the Government and its Commission for some time.

COST OF SURVEYS.

The following statement shows the average cost per mile of surveys executed by surveyors under daily pay and by surveyors under contract is taken from the annual report of the Topographical Branch of the Department of the Interior:

	Surveyed under daily pay.	Surveyed under contract.
Total mileage surveyed	3,962	13,927
Total cost	\$388,600	\$376,477
Average cost per mile	\$98.08	\$27.03

The high average cost per mile of \$27.03 for contract surveys as compared with \$17.97 for 1909 is due to the fact that all the townships subdivided during 1910 were wooded while of those subdivided in 1909, 169 were open prairie; the relative rates per mile for surveys in open prairie and in solid bush are as \$7.50 to \$31.

The average cost per mile for surveys performed under day pay increased from \$49.33 in 1909 to \$98.44 in 1910. The average per mile for block outline surveys was \$175 as compared with \$167 in 1909. When the party under Mr. B. J. Saunders, D.L.S., is omitted from the calculation the average cost per mile for block outline surveys is found to be about ten dollars per mile lower in 1910 than in 1909. Mr. Saunders was compelled to abandon the survey of the nineteenth base line west of the fourth meridian when only a few miles had been run, but after all the initial expenses of organization, travel, etc., had been incurred. Other factors to increase the average cost of the surveys in 1910 were the larger number of parties working in the foot-hills in Alberta and in the railway belt in British Columbia and the smaller number engaged upon miscellaneous surveys, resurveys and restoration surveys in other parts of Alberta and in Saskatchewan and Manitoba. Owing to the nature of the country surveys in the foot-hills and in British Columbia are much more difficult than in the level and settled districts, and consequently slower and much more expensive. The average cost per mile of surveys in the foot-hills in Alberta during 1910 was \$79, and in British Columbia \$85, while the cost in Saskatchewan and Manitoba and other parts of Alberta was \$33 per mile.

COMPARATIVE RATES FOR CURRENT.

The following is a comparison of electric current rates in four of the cities of Southwestern Ontario:—

London—Dwellings, 5c. per kw., less 10 per cent.; no minimum rate. Business, same.

Guelph—10c. per kw., less 20 per cent. Business, same.

Berlin—5c. per 100 sq. ft.; 4c. per kw., less 10 per cent. Business, 12c. per kw. for first hour of installed capacity; 5c. per kw. for additional, less 10 per cent.

Woodstock—3c. per 100 sq. ft.; 4c. per kw., less 20 per cent. Business, 10c. per kw. for first hour of installed capacity; 4c. per kw. for additional, less 20 per cent.