

the present situation, and the existence of a good hotel overlooking the lake and situated in what can be made a beautiful park.

The above were existing features which could be taken into account from the beginning. A new factor, however, was introduced by reason of a plan to construct a water conduit, which is shown to intersect the whole town and for which provision had to be made in preparing a plan. As an indication of the difficulties which have to be overcome, even when a plan is being prepared, the location of this penstock was not determined until after the original plan was prepared, and readjustment had then to be made to fit in with it.

#### 8 ft. Conduit Above Ground

Having regard to the very steep contours of the land, this raised all sorts of difficulties. The only approaches between the small area of the town on the south of the conduit and the larger area on the north was to be obtained by bridges over the conduit, which is above ground and eight feet in diameter. The grades of the streets, therefore, had to be determined, not only with due regard to the contours of the land but also in relation to the artificial obstruction created by the conduit. It presented the kind of difficulties which are to be found when a canal and railway or an embankment are close together and parallel to each other.

The plan as finally prepared is illustrated, and shows that the main approach from the station is obtained by two curved roads leading to the central square in different directions. A direct approach is impossible because of the character of the ground, except by means of a wide pathway which will be provided with stairs in the steepest portions.

The site of the central square is the only level area of any size suitable for the purpose after leaving the low level occupied by the village green. It will be seen that the contours rise from 650 to 1,000 ft., which is the datum level shown above the projected road indicated by dotted lines. From the central square there is a main avenue running parallel with the lake and following an easy grade.

#### Most Grades Less Than 5%

The houses on the west of Ridge Road stand at the top of a high cliff and overlook the lake. Care has been taken to give the houses a good aspect and ample air space and open surroundings to each house. The suggestion on the plan shows mostly semi-detached houses, but there are a few individual houses for the staff and some groups of three to six for the smallest types of houses.

The plan will be adhered to so far as the location of streets is concerned, but the architects will be permitted to use their discretion with regard to the grouping, size and location of the houses. In general, however, they will adhere to the building line indicated and to the position of the public buildings. Any variation will only be carried out in consultation with the Commission of Conservation.

Notwithstanding the steepness of the ground, the grades of most of the streets are less than 5 per cent. Had the land been laid out in the usual rectangular form to secure conformity with the provincial survey, the grades in some cases would have amounted to 18 per cent. The accompanying profile illustrates the comparison between the grade of the main avenue in the plan of the townsite and the customary rectangular plan, which is shown on a smaller scale.

#### Water Supply and Sewers

The plan having been prepared and consideration given to the levels for purposes of drainage and to the probable source and means of water supply, the next step taken was to consult R. S. & W. S. Lea, Montreal, with regard to the preparation of a detailed plan of water supply and sewers and sewage disposal. It was found that no readjustment of the plan was necessary to enable an economical system to be designed. A portion of the site was selected as the cheapest and best to develop in the first instance. This comprises the area lying between Kipawa Road and Gordon Creek in the form of an oblong, in which the hostel and the institute are situated, together with the crescent on the north of Kipawa Road.

Two plans of sections of the town have been prepared, one showing the complete development which is to be carried out in the first year, and another the development to be carried out in the second stage, after the first section is completed.

The designing of the houses has been entrusted to Ross & Macdonald, Montreal, and the first houses have been erected. It is expected that there will be a large number of houses erected this year and that the mill will be completed and in operation.

A town manager and engineer (G. J. Lamb) has been appointed, and a substantial beginning made in the development of what will become one of the most interesting of our Canadian towns.

## The Engineer's Library

### AMERICAN HIGHWAY ENGINEERS' HANDBOOK

REVIEWED BY E. D. GRAY  
*Highway Engineer, Imperial Oil, Ltd.*

By Arthur H. Blanchard as editor-in-chief and seventeen associate editors. Published by John Wiley & Sons, Inc., New York; Canadian Sales agents, Renouf Publishing Co., Ltd., Montreal 1,658 pages, including 559 articles, 369 tables and 607 figures. Bound in flexible fabrikoid; \$5 net.

The contents are conveniently divided into twenty-nine sections, treating all branches of highway engineering in such a reliable and comprehensive manner as to make the book most useful for reference purposes. An excellent detailed table of contents is given, enabling the user to refer readily to the subjects desired. Moreover, a complete bibliography appended to each chapter gives references to authoritative books and important literature contained in the proceedings of societies and technical periodicals.

The book commences with a glossary of terms used in highway engineering, followed by sections giving much essential and usable information pertaining to the sister sciences, such as mathematics, mechanics, structural materials, engineering geology, and the design and preservation of superstructures and sub-structures. Other sections deal with preliminary investigations of highway projects; the details of surveys and office practice; the planning of road and street systems; grading, drainage and foundations; dust prevention; street cleaning, collection and disposal of waste; and snow removal.

Such prominent engineering specialists as the editor-in-chief, Arthur H. Blanchard, consulting highway engineer, New York City; Prevost Hubbard, chemical engineer, United States Office of Public Roads and Rural Engineering; Francis P. Smith, consulting chemical and paving engineer, New York City; George W. Tillson, consulting engineer, La Grange, Illinois; and Lieut.-Col. Walter Wilson Crosby, U. S. Engineers, have contributed valuable information on pavements of all types, giving descriptions of the characteristics of the materials; the standard methods of testing; the uses of mechanical appliances; authoritative specifications covering materials and the methods of construction; the reasons for failures; and maintenance and cost data.

The closing sections on the financing of highway improvements and the organization and administration of highway departments, deal with these subjects very thoroughly from the standpoint of the rural district and the town as well as the city. The information in these two chapters alone should commend this handbook to the administrators of our municipalities as well as to all municipal highway engineers.

George Mountain, chief engineer of the Board of Railway Commissioners, is preparing a report on the proposed Red Hill cut-off at Hamilton.