

MOUNTAIN HIGHWAYS AT HAMILTON, ONT.

Report Submitted by Noulan Cauchon, of Ottawa, Plans Access to Stadium and Park Development with Ruling Grade of Three Per Cent.

AT the request of the city council of Hamilton, Ont., Noulan Cauchon, of Ottawa, consulting engineer and town planner, has presented a report outlining the development of the "Mountain Top" and planning highway approaches. Mr. Cauchon's report is accompanied by a plan showing a 3% grade to the proposed stadium and park development on the heights overlooking Hamilton. Following are excerpts from Mr. Cauchon's report:—

The Mountain Park of Hamilton is a rare natural health resource of exhaustless value to its citizens. It is the city's great playground—its training camp of potential energy and efficiency. Town planners and sociologists, all those concerned in the welfare of the public, no longer look upon parks as mainly ornamental features to a city, but as being of essential economic necessity in fostering and sustaining the development of human energy and efficiency in the rising generations, who are the citizens and workers of to-morrow. The mountain face park stretches for five miles along a populous area, but is separated from it in large measure by a railway barrier which denies to much of this population the free enjoyment, the recuperation and enhancement that is within its gift, and theirs by right.

Lack of easy access for attaining its benefits, lack of ease in surmounting, its almost impassability to normal traffic seeking its summit, have deprived this marvellous asset from benefiting the dwellers at its base and from fostering the expansion of life upon the very attractive and desirable tableland stretching back from its summit.

Railway Tracks Retard Development

The obstacle retarding development has been primarily the railway trackage upon and along a considerable stretch at the base of the mountain, with level crossings at rare and distant intervals—instance the distance of two miles from Wentworth to Kenilworth Ave., with only one, a level, intermediate crossing over the multiple tracks of the Toronto, Hamilton & Buffalo Railway at Ottawa St., and at that within half a mile of one end of this stretch, and on the Grand Trunk Railway Co.'s mountain line, only a level crossing about opposite the previously mentioned one, and one other, also level, approaching "incline." This abnormal state of affairs, further, has prevented the adequate development of roads for access and for overcoming with reasonable grade the declivities within the physical limitations of the site, the legal road allowances, moreover, having been largely projected straight up the hill at impossible angles.

New Road System

A system of roads has been devised and their grades determined to facilitate the transmission of city traffic to and from the mountain top. Moreover, this road system will enable access for the enjoyment and for the further development of the park, as such, and of its amenities. An easy and ruling uniform grade of 3% has been obtained not only throughout the main arteries, but also realized throughout the minor tributaries, this notwithstanding the necessity of adjusting numerous road junctions within the limits of this grade, and of finding fortunate turning points throughout free from the large areas of steep side hill. The subsequent work of building these roads will in general not entail any abnormal cut and fill beyond the usual well-balanced cross-section. There will be some heavy cutting at the approach to the summit, where routes have been concentrated from the various tributaries into one main deep portal through the brow of the mountain in the hospital grounds.

Recommends Immediate Trail Construction

I strongly recommend, as a means of enabling the public immediately to realize their heritage in the park, that a selection from the grades forthwith be opened pro-

gressively as narrow footpaths to begin with, thus giving prompt access for inspection and use by the citizens, that they may see and understand the problem and its solution; also that they may begin to enjoy the wide vision of city and hills and valley and lake, and determine to their satisfaction the needed progression in widening the trails into arterial highways.

Attention is drawn to the manner of road junction that eliminates or reduces to a minimum what are known as "collision points," and also to the advantages derived from making turning points level, so compensating for curvature and diminishing resistance to pull; in other words, increasing the tractive capacity and the loads which may be hauled up these hills with any given power.

The Railway Tracks

The elimination of the railway trackage within and along the base of the Mountain Park is now under consideration by the Dominion Railway Board. For the purposes of this highway report these tracks are taken as they stand and under or over crossings of the railway suggested, as seem necessary under the circumstances and merits of the case, to maintain a ruling grade of 3%.

Justification for Ruling Grade

The adoption of this 3% ruling grade claims justification by factors of height, distance, haulage, capacity, climatic effect on surface, and the exigencies of pavement, of ideal residential area development, of attainment of park facilities—in sum, justification on the broad and comprehensive principle of civic enhancement and amenity.

Grade Separation

Of the two grade separation schemes heretofore considered by the city in relation to James St., I hold the alternative one of track depression as therein submitted to be the lesser evil of the two, in the city's interest, but even at that not depressed enough.

Under the modern dispensation of motor transport, a city should claim the right to protection of its factor of haulage efficiency, the ruling grade of its arterial highways, as determined within and without. In grade separation schemes through cities, the principle of respecting the ruling grade of the arterial highways and main streets should prevail on its merits of paramount public importance. To date, the tendency has been unquestionably to allow railways their ruling grade, adjusting that of the community as of minor importance, usually at 5%. Where economically possible, both ruling grades should be attained; otherwise the disabilities, like the whole costs, be distributed proportionately on their merits.

Further, whilst the grade of a street at a given point may be altered without lessening its ruling grade of the whole artery, yet it may cause locally serious disfigurement, depreciation of property values and of amenity.

In a comprehensive scheme of grade separation throughout Hamilton as may be submitted by the railways in balance against their removal, as is now sought by the city, there should be no question of kinking or humping a number of the principal streets of the city.

Advocates Removal of Tracks

This dissertation on comparative evils in no way alters my firm conviction that the proper and most advantageous solution for the city is to labor and negotiate towards their removal, saving such spur connection as may be necessary for maintenance of existing industrial service.

Grade separation, at its best, will eliminate but life danger, one only of the many afflictions that evolve from the strenuous activities of railways in the wrong place—injuriously affecting general well-being.

Poor's Manual will give you detail as to the worthy stature enjoyed, as a private corporation, by the Toronto, Hamilton and Buffalo Railway, and, let me add, through able, courteous and effective management—yet the city of Hamilton embodies an aggregate corporate entity of about