ENLARGED ST. LAWRENCE CANAL SYSTEM

Will Yield Immediate Economic Benefits, Say Montreal Harbor Commissioners—View with Concern Completion of New York State Barge Canal

THAT the Harbor Commissioners of Montreal view with concern the completion and equipment of the New York State barge canal is shown by the annual report of the commissioners for the year 1918, which has just been published. "The New York State barge canal," says the report, "will be a considerable factor in the diversion of Canadian products through the United States ports. The whole question must be looked at and studied from a broad consideration of transport, especially of grain, from the head of the great lakes to Europe. The thought in some Canadian minds is that the new Welland Canal when completed, will throw the advantage Canada's way.

"This is open to doubt, for the reason that this canal is free of charge to United States ships, though constructed at the sole expense of the Canadian people, and the United States will be enabled to bring their large lake boats through Lake Ontario to Oswego, N.Y., and thereby still further reduce the cost of transporting grain from Buffalo to New York. The ideal and proper method to pursue to get full benefit of the Welland Canal is a simultaneous development of all the canal systems to Montreal, no matter by what scheme.

"The canalization of the St. Lawrence River, with its immense power possibilities, is in the opinion of the commissioners, preferable to deepening and widening the present canal system. The completion of a scheme of such magnitude would require expense and time, but it is one that must be carried out and should be aggressively proceeded with.

"If it is not found possible to proceed with the whole scheme simultaneously, the opinion of the Harbor Commissioners is that the portion of the island transportation system which is most immediately required, and which will give the most immediate benefits, is the section of the canal system commencing at Montreal working westward. They feel that the proceeding in the first place, with the lower end of the enlarged St. Lawrence canal system, starting with the Lachine canal, will yield economic results which will give immediate benefit to Canadian transportation, without resultant benefit to foreign competitors, and the continuation of such a policy of development by proceeding westward with the Soulanges and Cornwall canals as soon as the Lachine canal is completed, would place Canada in a more outstanding position to handle its products through Canadian ports without benefit to others."

It has been decided by the village council of Mimico, Ont., to spend about $45,000 on construction of sewers and water mains. About twelve streets will benefit by this work.

In this issue is published the official advertisement for tenders for construction of sewers and water mains in Timmins, Ont. The engineers, Sutcliffe and Neelands, of New Liskeard, will receive bids until June 24th.

According to information received from C. E. Walker, township clerk at Gorrie, Ont., no action has as yet been taken by the township council with regard to awarding contract for drainage works for which tenders closed May 21st.

A. F. Stewart, chief engineer of the Canadian National Railways, has called for tenders until June 21st for rock filling, rip rapping, broken stone, ballasting, etc., on the St. Lawrence subdivision, between Cap Ronge and Portneuf. All the work is in connection with the rebuilding of the roadbed and track.

C. B. Brown, chief engineer of the eastern lines of the Canadian National Railways, has called for tenders until June 28th, for construction of railway section houses in the various subdivisions. Specifications may be seen at the offices of the resident engineers, at Edmundston, N.B., Campbellton, N.B., Quebec, P.Q., and at the office of F. P. Brady, general manager, Montreal, P.Q.

SENSE OF ART IN ENGINEERING*

IN a paper by C. W. Boynton and J. H. Libberton on "The Decorative Possibilities of Concrete," read before the Western Society of Engineers at Chicago, the authors refer to the old maxim that the designer should ornament his construction, and not construct his ornamentation. They add, however, that this rule should be subordinated to another, namely, that he should ornament his structure only if he lacks the skill to make it beautiful in itself. The structure should preferably be beautiful and not be beautified. The question of pleasing effects depends not only on the surfaces and the surface treatment, but on the combination of design with the surface texture. Notwithstanding the excellent decorative work which has been done in plain and reinforced concrete, as such, there are, nevertheless, numerous advocates of tile decoration. Instances are many where the use of brick or tile emphasises the color and enlivens the surface at very little expense. A little touch of color always relieves the monotony of a single-toned exterior.

Terra-Cotta for Ornamentation

Some American designers have produced pleasing work upon the assumption that concrete should never be used for the ornamentation upon buildings of the same material. Terra-cotta is successfully used for decorative parts, such as panels and column capitals, the high individual cost of the panels being small when compared with the total cost of the building. With colored aggregates it is generally possible to obtain many color variations. Care has, of course, to be taken that the aggregates in such cases shall be properly exposed. It matters not æsthetically whether the aggregate in the concrete has been bonded by Nature or by the hand of man with Portland cement as the binding material. This practice should not be termed an "imitation" of stone, for the ingredients are largely the same as are found in real stone. Nature's process of employing time and gravity has simply been superseded and accelerated by man's mechanical ingenuity. So far as permanence is concerned, concrete has already proved beyond a doubt its superiority to many of the natural stones.

Lattice work on the exterior, made of wooden laths, painted green and harmonizing with surrounding foliage, has been used with good results, while wood panelling will also break up large areas of concrete surface, and is entirely in keeping with the old half-timbered style of architecture, so familiar to our forefathers. Buildings of plain-faced concrete blocks have the monotony successfully broken up by the insertion of smaller squares and bands.

H Heathcote Statham, in a paper read before the Royal Institute of British Architects on "The Architectural Element in Engineering Works," said that in the nineteenth century engineers had played a more important part in the world than architects, and had had opportunities similar to those enjoyed by the architects when the mediæval cathedrals were built in the thirteenth, fourteenth and fifteenth centuries. Engineering works, properly so-called, are those in which structural and practical requirements alone are taken into account, without any special consideration of æsthetics, or any special effort at what may be called architectural effect. In a general way, it may be said that it is the effort to make them "ornamental," in the popular sense of the word, which spoils them.

Iron Needs Paint Pots

The most serious drawback to iron structures, considered in their relation to scenery, consists in the necessity for painting them. In stone we have a natural material which harmonizes with the landscape; in brick we have a material which takes on tints from weather, and, therefore, ultimately harmonizes; in the case of iron we are reduced to the paint-pot. Simplicity of design, absence of anything like pretentiousness, a simple definition of the practical lines of the structure, are the conditions under which it will have the

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*From "The Engineer," London, Eng.