

in position of light. 296. Ontario, Georgian bay, east side, southeastward of Roberts island, Honey harbor, beacon erected. 297. Ontario, Georgian bay, east side, approach to Parry Sound, red rock characteristic of fog alarm.

Comprehensive Scheme for Toronto Harbor Improvements.

The Toronto Harbor Commissioners have approved of a comprehensive scheme for the improvement of Toronto harbor, which was prepared by the commissioners' engineer, E. L. Cousins. The plans call for an expenditure of \$19,142,088.91 within the next 10 years, it being apportioned as follows:

Commissioners' work, raised by debentures on property	\$11,215,920.85
City's work (essential only)	146,500.00
Government work	6,123,284.66
Total	\$17,485,705.51
Further city payment if council accepts park and boulevard scheme	1,656,383.40

Grand total\$19,142,088.91

The plans have been submitted to the Dominion government, and it is expected that some provision will be made in the estimates at the current session, so that work may be started next spring.

The commissioners have submitted the following summary of the scheme:

A modern harbor, with a uniform depth of water capable of accommodating any vessel with a draught of 24 ft.

Modern, permanent docks on the central waterfront served by 24 ft. of water, and equipped with the best of freight sheds, warehouses, and appliances.

A dock and industrial district at the foot of Cherry street, equipped with freight sheds, warehouses, and the first of a series of factory buildings to serve the needs of the east end.

A similar area at the foot of Bathurst street, to take care of west end business.

Proper co-ordination of rail and water traffic at all three of the above points, in order to properly develop the port.

An industrial area containing 644 acres of available land in the Ashbridge bay district, which will be known as the Toronto harbor industrial district, capable of accommodating factory buildings with a value of \$30,000,000, and producing a ground rent revenue of \$500,000 a year.

A ship channel, 6,800 ft. long, 400 ft. wide, and 24 ft. deep, with turning basin 1,000 ft. square at its east end, serving the industrial district and the eastern portion of the city generally, and equipped with three miles of dockage.

A dock area on the west face of the industrial district capable of development, so as to provide an additional dock frontage of 2½ miles.

A new lakefront park and waterway, extending from the eastern channel to the foot of Woodbine avenue, and containing 352 acres protected by a breakwater three miles long. Inside the breakwater will be ample accommodation for east end aquatic clubs.

A protected waterway, with an average width of 600 ft., behind a breakwater from Woodbine avenue to the east city limits.

Additional park areas on the Island totaling 352 acres. New park areas in the district from Bathurst street to the Humber river containing 190 acres, and fronting on a protected waterway 500 ft. wide, which is separated from the lake by a breakwater.

A total area of new park lands of 894 acres.

A bathing beach 1-1.3 miles long, from Sunnyside to the Humber. A similar beach 4¼ miles long, from the eastern channel to Victoria park.

A lakefront boulevard system of drive-ways, bridle-paths, and walks across the waterfront for 11 miles.

A protected waterway 12 miles long, from east to west along the city front.

A terrace promenade 6,880 ft. long and 55 ft. wide, from Sunnyside to the Humber.

A double-deck combined traffic and recreation pier 300 by 20 ft. in front of the exhibition grounds.

A location for aquatic clubs 1,000 by 300 ft. north of the new western channel, with an anchorage basin of absolutely protected water covering 42 acres. A similar location at the foot of Roncesvalles avenue, 800 by 250 ft., fronting on the protected waterway formed by the western breakwater.

A public playground covering 3½ acres east of the foot of Roncesvalles avenue. A public square 600 by 500 ft. west of Roncesvalles avenue.

A reservation 80 ft. wide, from the Humber river to Sunnyside crossing as a right of way for radial lines.

A new Lake Shore road 66 ft. wide, to the south of the radial railway reservation.

Large Lake Passenger Steamboats.

The Detroit and Cleveland Navigation Co.'s steamboat City of Detroit III., which was put in service between Detroit, Mich., and Buffalo, N.Y., during the past summer, was claimed to be the largest vessel of its type on the great lakes, if not in the world. She is 470 ft. long overall, 455 ft. on the keel, 55 ft. beam of hull and 22 ft. deep. But she will be outclassed by a vessel which is being built for the Cleveland and Buffalo Transit Co. to run between Cleveland, Ohio, and Buffalo, and which will be 500 ft. long overall, 58 ft. beam, 96½ ft. wide over the guards, and have a displacement of 7,000 tons.

The hull of the C. & B. vessel is of steel, divided into 12 compartments by watertight bulkheads, and having a double bottom extending over the entire length. The doors in the bulkheads will be operated by hydraulic power, controlled from the engine room. There will be automatic sprinklers and an automatic fire alarm system, and the kitchen will be in a separate fire-proof compartment. The vessel will have 500 staterooms, accommodating 1,500 passengers, and will have a total capacity for 6,000 passengers and 1,500 tons of freight. All rooms will be equipped with running filtered water, electric light and telephones; ventilation will be provided by fans delivering cooled air. The main saloon will be 400 ft. long, and the dining room will have a series of alcoves with bay windows so as to afford a good view from the tables.

As to the use of side wheels instead of screws for propulsion, the company states that the former system has been adopted as affording maximum comfort to passengers, although it is thought to cost more for construction and operation. The engine is of the three cylinder compound inclined type, having a high pressure cylinder 66 x 108 ins. and two low pressure cylinders 96 x 108 ins. It will drive feathering wheels 30 ft. diameter over the buckets. At 30 r.p.m. the engine will develop about 9,500 h.p. and give a speed of about 22 m.p.h. the boiler equipment will include six single end and three double end marine boilers, each 14 ft. diameter, and these will have 24 furnaces 56 in. diameter. They will be arranged in four batteries, each with its own smokestack, the height from grates to top of stack being about 80 ft. The bunkers will have capacity for 600 tons of coal. There will be three turbo generators, supplying current for fans, motors and over 5,000 lamps.

For convenience and safety in the hand-

ling of so large a vessel in the harbors, she will be provided with double rudders, one at each end.

The Port of New Westminster, B.C.

The following information has been sent by the New Westminster Progressive Association. The city is on the Fraser river, 18 miles from salt water:—

The harbor extends from the head of Douglas island, about 28 miles from Sandheads lightship, down the north arm to salt water, south to the international boundary and up the south arm to Douglas island again. The main deep-water channel, or south arm, is 28 miles long, and the north arm, for log towing and small vessels, 14 miles. There is a depth of 14 ft. at low water and 26 ft. high water at Sandheads. When the Dominion government's work at the Sandheads is finished the depths will be 25 ft. at low water and 37 ft. at high water. There is an average depth of 40 ft. along 1.7 miles of municipal waterfront. The tides are 12 ft. at the Sandheads and 5 ft. at New Westminster. The water is fresh and good for boilers. Marine growth dies and falls off in the river in 10 days or so.

The pilotage is \$1 per foot of vessel's draught and 1c. per registered ton each way. Half charges if no pilot is employed. The harbor dues run from 50c. for vessels of 50 tons and under to \$5 for vessels over 700 tons. There are no dock dues. The wharfage is 5c. a ton. Railways make no charge on freight delivered from or to their own trains. The berthage is \$1 a day, where any charge at all is made. Towage is unnecessary except for sailing vessels, when the charge is a matter of bargain.

The wharves are as follows:—C.P. Railway, 340 ft. long; C.P. Navigation, 700 ft. long; B.C. Transport, 600 ft. long; B.C. Electric Ry., Great Northern Ry., Canadian Northern Ry. at Port Mann, 1,000 ft. long, and many other privately leased wharves.

The C.P.R., the Great Northern Ry., and the B.C. Electric Ry. parallel the waterfront and run right on to the wharves.

A Dominion government dredge is at work at Sandheads, and another on the north arm. The Dominion government contract for the first 6,900 ft. of three mile jetty will be completed by April 1, 1913, and will form part of the LeBaron scheme, which will give 25 ft. at low water from the Pitt river to the Gulf of Georgia. A municipal dredge will soon be at work improving the city water front by filling Front street and carrying the harbor line farther out to an unbroken quay over a mile long.

The Floating Dry Dock for Montreal.

The Duke of Connaught, the dry dock for Montreal, a description of which was given in Canadian Railway and Marine World for October, arrived in Montreal, Nov. 1. The dock was 60 days in making the trip from Barrow-in-Furness, Eng., being towed across the Atlantic by two tugs. The voyage was a very tempestuous one, the dock breaking away from the tugs five times. The average rate of progress during the trip to Sydney, N.S., was four miles an hour. After lying a week at Sydney, stormbound, the towing was resumed. Traffic was suspended in the river at Montreal, Oct. 31, to the afternoon of Nov. 1, in order to give the dock a free passage. The dock was formally opened Nov. 18 by the Duke of Connaught, after whom it was named.

The Richelieu and Ontario Navigation Co. has declared a quarterly dividend of 2%, payable Dec. 2, to shareholders of record of Nov. 30.