

sill at high water ordinary spring tides of 35 ft. Floating dry docks of a lifting capacity of 25,000 tons. The second class included dry docks estimated to cost \$2,500,000, of the following dimensions: Clear length on bottom 650 ft.; clear width of entrance 85 ft.; depth of water on sill at ordinary high water spring tides 30 ft., if in tidal waters; or 25 ft. on sill, if constructed in non-tidal waters. Floating dry docks of a lifting capacity of 15,000 tons. The third class consisted of

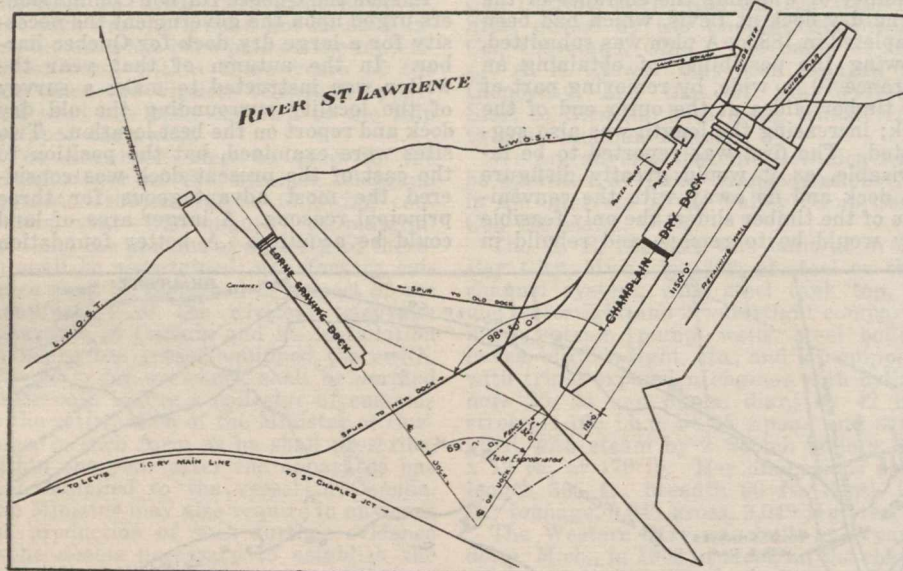
1,150 ft.; width of entrance 125 ft.; depth on sill at high water spring tides 38 ft. A subsidy of 4½% on the estimated cost of \$5,500,000 is allowed, payable half-yearly for 35 years from the time of completion. By this amendment no bonds or debentures are to be issued until \$1,000,000 shall have been expended on the construction of the dry dock.

After the passing of the act of 1910, shipbuilding firms were invited to build a dry dock at Lauzon, in Quebec harbor,

the eastward of the Davie shipbuilding yard, so that both the old and new dry docks would be easily accessible from the shops. Tenders for the construction of this work were advertised on May 12, 1913, to be received on June 30, 1913. The contract was awarded to the lowest tenderers, M. P. & J. T. Davis, and was signed on Oct. 7, 1913. The new dock was at first intended to be built on a line parallel to the old dry dock, but this was objected to from the point of view of navigation. A commission was appointed in the autumn of 1913 to investigate and find out which direction would best suit the entrance facilities, and it was decided that the centre line of the dock should form an angle of 69° with the direction of the old dry dock, or approximately 45° n.e., and it was so laid out. Owing to the limited time available before the calling of tenders, general plans only were prepared, together with an estimate of the cost. The requirements as to details for the machinery and caissons were stated in the specification; the contractors were requested to furnish during construction all detail plans, to be submitted for approval by the department. The dry dock has the following general dimensions. Total length from outer caisson to head wall 1,150 ft., divided into two compartments. Outer part 500 ft.: Inner part 650 ft.

Width of entrance	120 ft.
Width at coping	144 ft.
Width on floor	105 ft.
Depth on sill at high water s.t.	40 ft.
Depth on sill at low water, s.t.	22 ft.
Spring tides rise	18 ft.
Coping of side wall above high water s.t.	7 ft.
Floor at outer end below outer sill	4½ ft.
Slope of floor transversely	1 in 100
Western guide pier	400 ft.
Eastern guide pier	500 ft.
Depth in entrance channel at low tide	30 ft.

The land expropriated in connection with the construction of the dry dock has a superficial area of 25½ acres, of which 11½ are reclaimed beach land. The outer entrance of the dock is closed with a rolling caisson, the top of which is provided



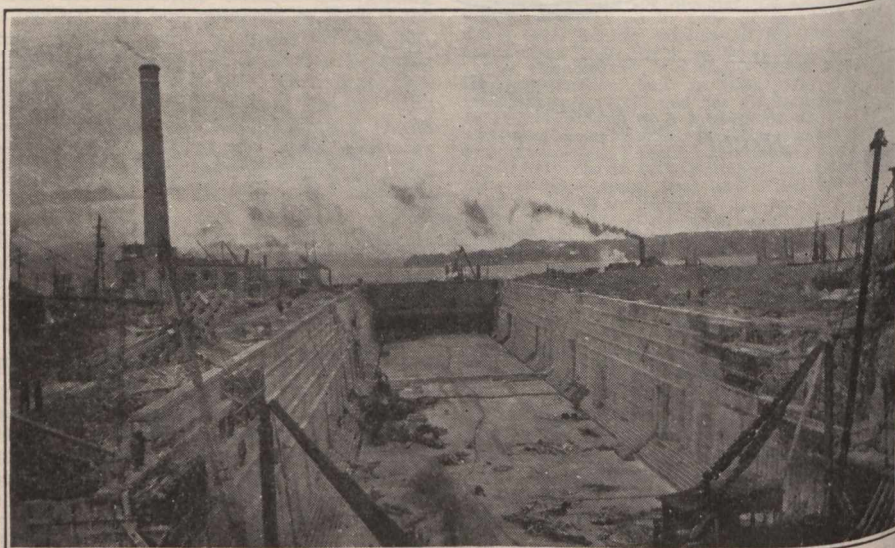
Champlain and Lorne Drydocks, Lauzon, Que.

dry docks estimated to cost not more than \$1,500,000, of the following dimensions: Clear length on bottom 400 ft.; clear width of entrance 65 ft.; depth of water on sill at ordinary high water spring tides 22 ft., if in tidal waters; and 18 ft., if in non-tidal water. Floating dry docks of a lifting capacity of 3,500 tons. The estimated cost in all cases includes the totally equipped repairing plant, capable of effecting all sorts of repairs, including machine shops and tools, foundry, administration buildings, etc., together with the dock itself, but does not include marine slips or other installation used in the construction of ships.

According to the act, the subsidy on dry docks of the first class is 3½% per annum on the estimated cost for 35 years from the time it has been reported that the dry dock is entirely completed. The subsidy on the second class is 3½% per annum for 25 years from the time of completion. On the third class, the subsidy is 3% for not exceeding 20 years from the time of completion. In all cases the company making the application must furnish plans, with a detailed list of the plant and a complete estimate of the cost. These are revised and corrected, if found advisable; and, upon a report from the Chief Engineer of the Public Works Department that the works intended to be built are in the public interest, the application is granted upon certain conditions of management and maintenance. The works are to be executed under the superintendence of an officer of the department.

The above act was amended in April, 1912, by making the length of the first class dry docks 1150 ft., the entrance 110 ft. and the estimated cost \$5,500,000. Another amendment was made in May, 1914, by which a subsidy of 4% on the estimated cost is allowed for first class dry docks. The act was further amended in 1917, by which the dimensions of the first class dry docks shall be: length on bottom

under the subsidy act of that year. Two companies submitted plans and offered to build under contract without reference to the subsidy act. In 1912 another company submitted plans for a dry dock to be built on the Quebec side of the harbor, just below the mouth of the St. Charles River, according to the subsidy act, as



Champlain Drydock, Lauzon, Que. Looking toward the St. Lawrence River.

amended in 1912. Some objection having been made to this location and with no prospect in view for any other applicant, the Public Works Department decided that a dry dock would be built by the government.

In the early part of 1913 the writer was instructed to prepare plans and specifications on which tenders could be called as soon as possible for the construction of the new dry dock, the location being to

with an automatic folding bridge; a floating caisson closes the inner entrance. This caisson can also be placed to close the outer entrance in cases when repairs are required to be made to the rolling caisson. Three main centrifugal pumps, each of 63,000 gall. a minute capacity, are used to empty the dock; two pumps of 6,000 gall. a minute each are used to keep the dock dry. All pumps are run by electric power. Eight boilers of a total capacity