

# Marine Department.

## The New Government Dry Dock at Lauzon, Quebec.

Canadian Railway and Marine World for September contained a preliminary description of the Government drydock to be built at Lauzon, two miles east of Levis, Que., near the present Government drydock and nearly opposite the city of Quebec. A plan showing the location of the new drydock with regard to the present one, is given herewith. This shows the layout of the new drydock and the arrangement of docks, buildings and approach slip to be built in conjunction with it.

The dock will have the following dimensions: length from caisson stop to head wall, 1,150 ft.; width of entrance, 120 ft.; depth on sill at ordinary high water spring tides, 40 ft. It will be divided into two parts, 650 and 500 ft. respectively; the outer entrance will be closed by a steel rolling caisson, and a ship or floating caisson will close the inner entrance. The outer caisson will also

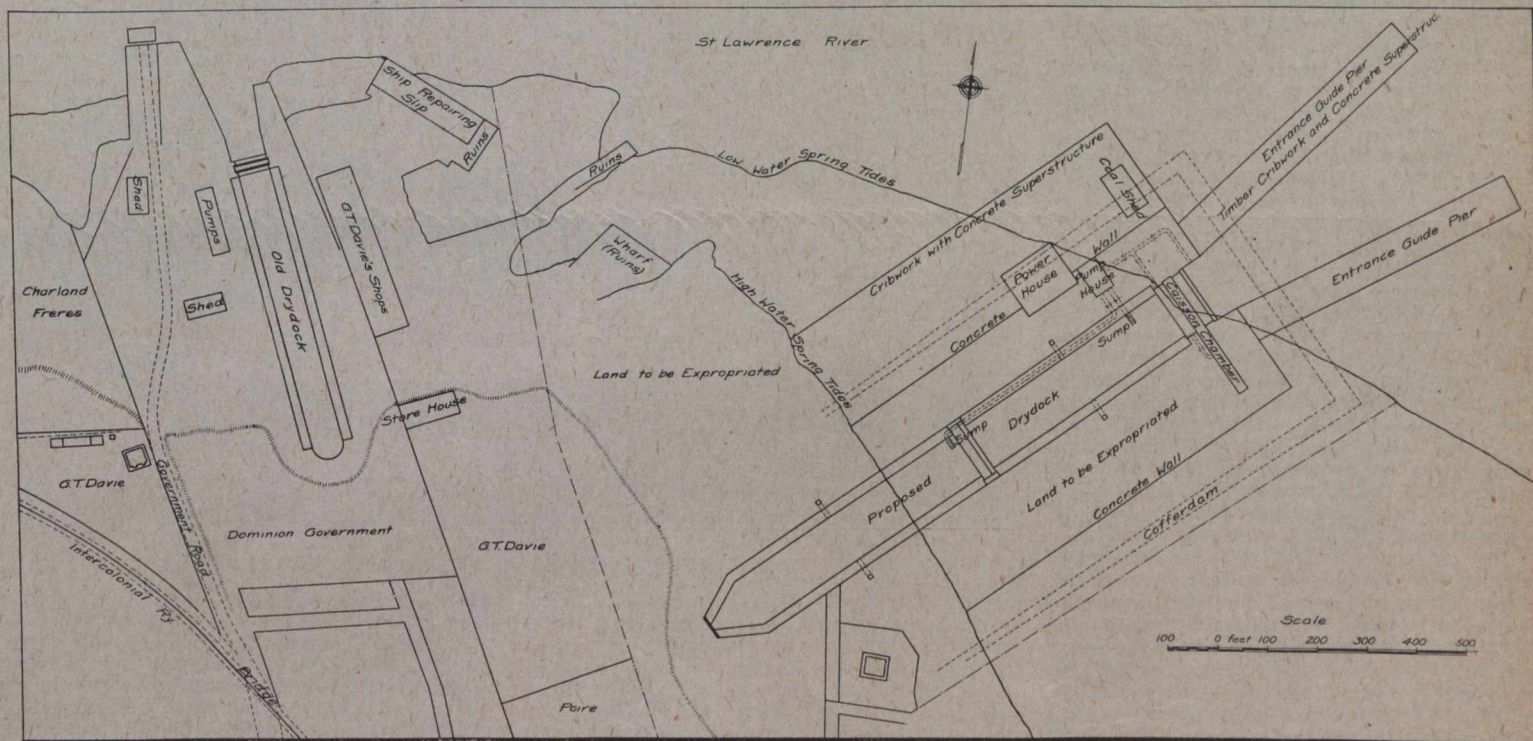
the work may be expeditiously proceeded with.

The dock walls, floor, portal walls of the outer and inner caissons, the culverts, pump wells, sumps and superstructures of the wharf and bulkhead, will be built of concrete, reinforcing being used in some instances.

The drydock will have a docking length of 1,150 ft., and the inner end, 650 ft. long, can be separated from this length by a floating caisson for the docking of smaller vessels. Most of the excavation for the drydock will be through solid rock, with the exception of a thin earth crust. The excavation is to be carried at the inner end of the dock to a depth of 28.5 ft. below the datum line, the latter being at the level of the low water spring tides. This excavation at the bottom will be 122 ft. wide, sloping up to ground level on a 1 to 2½ batter. From the

as to prevent any possible hydrostatic pressure that may be produced by the accumulation of water through seepage. The centre of the floor will be provided with three rows of granite blocks 18 ins. thick, the middle row being 4 ft. wide and level, and those on each side of this centre row, 3 ft. wide, and having the slope of the floor. The floor formation is to be in sections similar to the walls, to be grouted on completion.

At the end of each main section, on each side of the dock, 8 points in all, there will be stairs moulded in the concrete of the walls. These steps are to be 12 ins. wide, with a 12 in. rise. Centrally in each wall of both sections, at four points, there will be timber slides, which will be 8 by 12 ft. passages at right angles to the dock walls, sloping back at a sharp angle from the bottom of the dock to ground level. One side



New and Old Government Drydocks at Lauzon, Que.

fit the outer face of the outer sill, so as to facilitate repairs to the rolling caisson when required. The dock will be emptied by three centrifugal pumps, each having a capacity of 60,000 gals. a minute, with direct electric drive, power being derived from three turbo-generator sets receiving steam from 8 water tube boilers with a combined capacity of 3,600 h.p. The rolling caisson is to be operated by electrical means from the same source of power.

The site for the new drydock covers the section of the shore lying principally between the water lines of high and low spring tides, and will involve the making of filled land. For the proper carrying on of the work of construction, the portion of the site in the immediate vicinity of the drydock is to be completely enclosed during operations by the cofferdam shown in the plan. From this protected area, the water is to be constantly drawn off, in order that

inner end of the dock, the bottom will slope forward on a slope of 1 in 1,000, so that near the forward end, the cutting will be 29.5 ft. below datum.

The side walls of the excavation will have the slope mentioned, but the concrete walls are to be stepped, giving an average wall thickness of concrete of about 5 ft. They are to be built in 30 ft. sections leaving ¼ in. expansion joints between. Each joint is to have a 1 in. V joint. The ends of the sections are to be moulded with a groove, the whole joint to be filled with grouting on completion.

The flooring of the dock will take the 1 in 1,000 slope of the excavation for drainage purposes. The concrete flooring will be 5 ft. thick, with a 6 in. slope from the centre to the sides, for draining to a 6 by 12 in. gutter along each side. Under the floor and at the back of the side walls, drains are to be provided leading to the pump sumps, so

of each passage will be floored with granite slabs for the timber slides, and alongside the slide in the passage, will be a stairway to the surface, with 10½ in. tread and 12 in. rise.

The coping of all the altars will be granite blocks, 12 ins. thick and 3 ft. wide. Between the altars, there will be 8 galvanized iron ladders. The coping of the side and caisson chamber walls will also be of granite slabs. On each side of the dock, there will be 12 cast iron bollards, set in concrete blocks, and also located along the side walls, there will also be 9 capstans, but it is undecided as yet whether or not these will be electrically operated.

The keel blocks will be of cast iron in three pieces of a normal height of 4½ ft. The bilge block slides will be located every 16 ft. through the length of the dock. They are to be made of 3 in. white oak, 12 ins. wide. The bilge blocks will be of