

dredging in Montreal Harbour, Lakes St. Louis and St. Francis, the channels at Cornwall Island and in the Thousand Islands Section and requisite reaches of the Welland Ship Canal. This work must be partly suspended for the Winter season, but will be resumed with the opening of the navigation season next April. Of 18,160,000 cubic yards of material to be shifted by this method from the Seaway channel, 10,500,000 cubic yards had been removed at year-end, for a completion figure of 56 per cent.

Although most of the excavation at lock sites has been completed, Authority plans call for almost 21 miles of canal to be excavated "in the dry" and the total figure for dry excavation of all kinds is 55,280,000 cubic yards. Of this, 42,769,866 cubic yards have been removed, or 78 per cent of the total.

BRIDGE WORK EXTENSIVE

A dramatic operation -- the translation of the trans-channel span of the Jacques Cartier Bridge -- took place in less than five hours in the early morning of October 20. This bridge is one of the major highway arteries between Montreal and the South Shore. Its Southern portion is being permanently raised to provide 120 foot overhead clearance for shipping which will use the Seaway.

The former deck-truss span was removed and a new through-truss span set in its place thus providing 30 feet of the 80 foot increase in vertical clearance required. False-work was built downstream of the bridge and the new span was erected on false-work upstream of the main structure.

The supports of both spans were set on rollers, moving upon a system of rails. By means of hydraulic jacks the 1500 tons of the old span and the 1600 tons of the new one, (each span 250 feet in length) were moved in a horizontal direction downstream a distance of 78 feet. The new span was then secured in place and the old one dismantled. New grade separations at the Southern approaches to the bridge will speed highway traffic using the bridge.

New roadways and approaches on the South Shore end of Honore Mercier Bridge, also near Montreal, are being constructed. For the support of these, which will provide permanent elevation of the bridge over the Seaway channel, concrete piers were built this year near the Indian village of Caughnawaga, upstream of Lachine Rapids.

Nearby, the work is well along for installation of two travelling lift spans for the double-track line of the Canadian Pacific Railway's Caughnawaga Bridge.

At Victoria Bridge, near which the St. Lambert Lock is being built, the diversion of high way traffic is already accomplished. Lift spans are being installed on the main bridge for highway and rail traffic and similarly on the diversion bridge, just upstream of the lock.

At Côte Ste. Catherine Lock the Authority is building a service bridge of the bascule type across the lock. A bridge of this type also serves to handle essential motor pedestrian traffic across the lower entrance to the Iroquois Lock.

SOLE TUNNEL, OTHER BRIDGES

The only highway tunnel under the Seaway in Canada (there will be a smaller one in the United States) was opened to traffic in the Summer of 1957. It is a four-lane highway tunnel located at Melocheville, Que.; it carries Highway No. 2 in two tubes under the Seaway channel just upstream of the Lower Beauharnois Lock.

At the upstream end of the Upper Beauharnois Lock, three-quarters of a mile to the westward, installations are being made for a swing bridge to carry the New York Central right of way over the Seaway channel. Nearby, the channel enters the Beauharnois Canal and The St. Lawrence Seaway Authority is building lift spans in two road and rail bridges crossing the Canal -- one at St. Louis and the other at Valleyfield, Que.

The Canadian entity is building the substructure of a new bridge for highway traffic over the South Channel of the St. Lawrence River at Cornwall Island. The United States entity is building the superstructure.

CONSIDER OPERATING PROBLEMS

As construction of major Seaway facilities goes forward on schedule, planning for the operation and maintenance of the Seaway is growing in importance as the time of opening approaches.

The question of tolls, their probable quantum, method of application and collection is one which occupies much of the attention of officials of The St. Lawrence Seaway Authority.

The Canadian and US entities announced last July that the maximum vessel dimensions compatible with efficient operation, expeditious dispatch of traffic and with regard for the safety of navigation and property in the normal handling of traffic on the Seaway are to be of an overall length of 715 feet and a beam of 72 feet.

Ships having an overall length of up to 730 feet and a beam of up to 75 feet can be accommodated subject to non-interference with other traffic.