

## TO THE CITY OF MONTREAL.

## THE SPECIAL COMMITTEE ON INUNDATIONS

*Respectfully report,*

That, as directed by the Council, they have been engaged, during the past three months, in carrying on the work necessary to test the feasibility of the plan proposed in a former report, for the protection of the city from sewer floods. This consisted in constructing puddle dams near the outlets of the main sewers leading to the river, with the view of preventing the rising waters, on the breaking up of the ice, from backing up into the street drains, and thence into the cellars of business places and streets in the low-lying districts.

The outflow of the sewage being thus obstructed, pumping stations were required to pump the sewage over these dams into the river.

It was deemed advisable, this year, to limit the work to those sewers west of the Custom House, which receive and discharge the sewage and surface water of the St. Ann's ward, that being the district which suffers most from these periodical floodings, although the portions of St. Antoine, West and Centre wards, which drain through McGill, St. Francois Xavier and other streets into the William street tunnel (having its outlet in front of the Custom House), likewise enjoyed the benefits resulting from this undertaking through the blocking of St. Francois Xavier street drain at the foot of that street, and its connection, with the pumping cut by a wooden box drain 2' x 2' and 60 feet long, which your committee caused to be constructed.

Six pumping stations were established: No. 1 being in Commissioners street, near the Custom House, which received the contents of the sewers of William, McGill and other streets as far east as St. Francois Xavier. The sewer at this place is 14 feet six inches wide and 12 feet deep. The cut was 40 feet long, 16 feet wide and 18 feet deep, (with two side cuts 10 x 8 x 15) in which was constructed a solid dam of puddle clay, 20 feet on the surface, tapering to 12 feet at the bottom, and properly secured by heavy timbers, with a flume and sluice gate of the full dimensions of the William street tunnel; the other twenty feet required for pumping and discharge basins. In excavating here, an object of great interest was discovered, the existence of which seemed to be known to very few, viz: the ancient stone bridge, erected during the occupancy of the French, to span the open creek, which at that time ran along the present line of Commissioners street. The masonry seems as strong and substantial to-day as when first erected.

The cut at No. 2 station, in Mill street, near the canal tail race, at Tate's Dock, was 41 feet long, 24 wide, and 17' 6" deep, with

a dam of blue clay, flume and sluice gate, protected by timbers 20' 6" x 8'. This station received the contents of a large number of drains in Point St. Charles.

Nos. 3, 4 and 5 stations were located at the foot of Forfar, Conway and Britannia streets.

No. 6 station, in St. Etienne street, near the abutment of the Victoria Bridge.

For the further protection of this part of the city, it was found necessary to construct an earth embankment from Forfar to Britannia street, 477 feet long, average depth 7' 6" ft., average width 9' 6" ft., with a small flume and flood-gate in surface drain on Britannia street, and a similar embankment, south of that street, on river front, 12 feet long, 4 feet wide, 3 feet deep, with a sluice and gate.

It was also found necessary to erect embankments at various places above Victoria Bridge on the Rifle Range and the Nuns' farm. These consisted of:

1. A dam and embankment at top of ranges, 22 feet long, 20 feet wide and 7 feet deep, with flume and flood gate, the flume being 20 feet long, 2 feet wide, and 3 feet deep;

2. A long embankment, about 350 feet, average width 5' .6", average depth 5' .6", with one flume and gate, the flume being 20 feet long, 1' .6" x 2' ;

3. A second embankment, length 273 feet, average depth 4 feet, average width 5 feet, with flume and flood gate, the flume 14 feet long, 1' .4" x 1' .9";

4. A dam and bank at back of Butts 18 feet long, 10 feet wide, 6 ft. deep, size of flume 13 ft, 1' .10" x 1' .15";

5. A dam in front of Butte, 12 feet long, 7 feet wide, 7 feet deep, with flume and gate, size of flume 13 feet, 1' x 1' .2";

6. A bank and dam north of Rifle ranges, 12 feet long, 12 feet wide, 4 feet deep, with flume 13 feet long 1' .4" x 1' .5";

7. A dam and embankments, on the Nuns' farm, 24 feet long, 12 feet broad, 6 feet deep, with flume 21 feet long 3' x 2' .6";

8. An embankment and dam, also on the Nuns' farm, 50 feet long, 8 feet wide, 3 feet high, with flume and gate; flume 12 ft. long 12' x 12'.

The work was not given out by contract, but was done under the immediate superintendence of Mr. Richard McKeown, who carried it out to the entire satisfaction of the Committee. The same remark is applicable to Mr. James Wright, engineer, who had charge of the machinery.

The Committee had the advantage of the co-operation of Messrs. Walter Shanly, M.P., C.E., John Kennedy, Harbor Engineer, Louia Lesage, Superintendent of the Montreal Water Works, P. W. St. George, City Surveyor. F. B. Lavallée, Deputy City Surveyor, also took an interest in the work and gave very valuable assistance.