and the plant was out of commission until repairs had been effected.

The timber crib dam at Lawrencetown held although 10 ft. of water passed over it at the peak of the flood. The head was entirely obliterated. Tailwater and headwater became of the same elevation, the position of the dam being indicated only by a slight disturbance in the water surface. The power-house, which is at the base of the dam, was flooded to a depth of 5½ ft., and the machines were thoroughly soaked. In an endeavor to dry them out by running the plant after the flood had subsided, several coils were short circuited. The plant was out of commission for over a week.

The wooden power-house on the Lequille River was seriously damaged. Two sides of the building and part of the floor were carried away, and the generator and exciter were soaked. Annapolis was without lights for two weeks.

A serious failure also took place at the storage dam at the foot of Grand Lake. The dam had been built just last year, and the inpounded water would have carried the

WRECKED SPILLWAY, GRAND LAKE DAM

Lequille plant over the low-water period of the coming summer. The failure is attributed directly to inadequate spillway capacity. The bulkhead section of the dam was earth fill. The spillway, designed for a length of 80 ft., was actually built only 60 ft. long and 2.5 ft. deep. It consisted of a rock and gravel fill, faced upstream and down with well laid courses of heavy stone, and covered with a slab of concrete about 1 ft. thick. Fine material had been puddled into the centre of the dam, and the upstream face of stone carried about 2 ft. below the stream bottom. The head at the dam was about 12 ft. with reservoir full.

The type of construction is, of course, open to criticism, but there is little doubt that the dam would have successfully withstood the flood had the spillway been of sufficient capacity. Over a foot of water went over the top of the embankment and a heavy current struck near the west end of the spillway, with the obvious result that the dam disintegrated at an accelerating rate. At the time of the writer's visit, more than a week after the flood, about 100 ft. of the centre of the dam, including most of the spillway, had disappeared, and a few feet of the right end of the spillway and the solid concrete sluiceway remained intact.

Following the flood, a trip was made through the district affected, and measurements and observations taken that would allow a fair approximation of the maximum rates of run-off to be compiled.

TABLE 1—TEMPERATURE AND PRECIPITATION

Date	Digby Temp. Max.	Digby Temp. Min.	Digby Rain	Annapolis Temp. Max.	Annapolis Temp. Min.	Annapolis Rain
March 12	51	35	0.05	47	34	0.35
March 13	53	42	4.12	50	36	3.26
March 14	50	22	0.05	53	25	1.21
March 15	30	20		28	17	

Date	Wolfville Temp. Max.	Wolfville Temp. Min.	Wolfville Rain	Kentville Temp. Max.	Kentville Temp. Min.	Kentville Rain
March 12	52	37	0.14	52	39	0.03
March 13	50	36	1.10	48	45	0.96
March 14	34	22	0.35	31	22	0.86
March 15	27	16		27	14	

High water marks were readily discernable, and levels were run and such other instrumental surveying and current meter work were done as was necessary. Floods were computed by extending the rating curves at regular gauging stations by the flow over dams, and in one case by the drop-off at a contracted section. The results obtained are given in the following table:—

Stream	Drainage Area, Sq. Mi.	Flood Discharge, Sec. Ft.	Flood Discharge Sec. Ft. per Sq. Mi.
Nictaux	115	2,500	21.7
Annapolis, S. Branch	35	1,200	34.3
Annapolis at Lawrencetown	414	24,500	59.2
Lequille	48	2,500	52.1
Bear, E. Branch	79	4,000	50.6
Bear, W. Branch	30	1,800	60.0
Gaspereau	143	4,150	29.0

Following are some previous Nova Scotia records:—

Stream	Drainage Area, Sq. Mi.	Flood Discharge Sec. Ft.	Flood Discharge Sec. Ft. per Sq. Mi.
Indian*	68	2,480	36.5
Margaree†	151	10,000	66.3
Philip‡	89	4,850	54.5
St. Mary‖	523	19,200	36.8

*April 6th, 1916; †May 14th, 1918; ‡October 22nd, 1917; ‖January 5th, 1918.

It is considered that the above figures should be of special value in the design of spillways, culverts and clear openings for bridges in Nova Scotia, and of some interest to engineers everywhere.

E. R. Gray, city engineer of Hamilton, Ont., has reported to the city council recommending that the city should at once undertake the construction of an artificial gas plant, preferably of the vertical retort type, of sufficient capacity to furnish the present requirements of the entire city.

W. Jackson, district engineer at Edmonton, Alta., for the Department of Railways and Canals, has completed a report on the Edmonton, Dunvegan & British Columbia Railway. The report was undertaken with a view to informing the government regarding the exact condition of the system.

Hearings on the proposal to construct a deep waterway from the great lakes to the sea, via the St. Lawrence River, and to develop power on the St. Lawrence River, will be held in a number of Canadian and United States cities in May and June by the International Joint Commission. The commission's itinerary, announced last week, includes hearings at North Bay, May 7; Marquette, Mich., May 10-11; Fort William, 13-14; Winnipeg, 16-17; Grand Fork, 18; Regina, 20; Calgary, 22-24; Billings, 26-27; Boise, 31; Cheyenne, June 2; Denver, June 3; Omaha, 5-7; Des Moines, 8; Aberdeen, 9; Minneapolis, 11-12; Duluth, 14-15; Superior, 16; Ashland, 17; Milwaukee, 18-19; Toledo, 21; Lansing, 22; Windsor, Ont., 23; London, Ont., 24; St. Catharines, Ont., 25; Hamilton, Ont., 26; Buffalo, 28-29.