

(9) Other paving materials such as brick, granite blocks, etc., may be tested in the same way as the concrete.

A comprehensive series of tests on the effect of size and grading of aggregates, using gravel, crushed limestone, granite and slag is now under way. Tests have also been made on a large number of wear blocks molded in the field on concrete road construction.

(Continued in our next issue)

ENGINEERING INSTITUTE OF CANADA ELECTIONS AND TRANSFERS

AT a meeting of the council of the Engineering Institute of Canada held July 23rd, 1918, in Montreal, the following elections and transfers were announced:—

AYARS, WM. STEWART, of Halifax, N.S., was elected Member. He was born at Wilkes-Barre, Pa., and educated at Lehigh University. He was for a time sea-going engineer, and during the Spanish-American war was chief machinist and acting assistant engineer. He is a professor at the Nova Scotia Technical College, but since 1917 has been chiefly engaged in re-educational work for the Military Hospitals Commission.

BERTRAND, HENRI, of Montreal, has been transferred from the class of Student to that of Junior Member. He was born at Isle Verte, P.Q., and received his education at Laval University and has, since that time, been acting engineer for the St. Lawrence Pulp Company, and also for the Phoenix Bridge and Iron Works Co. Mr. Bertrand is at present in charge of lining of the G.T. Ry. tunnel through White Mountains, 1st Dist.

BROWNE, ERNEST FRANK, of Ottawa, Ont., has been transferred from the class of student to that of Associate Member. After taking his degree of B.Sc. at Queen's University, Mr. Browne was for a time assistant surveyor on D.L.S., and is at present a Corporal with the Engineering Field Company, C.E.F., France.

BRUNTON, ROBERT, of Victoria, B.C., has been transferred to Associate Member. He was born at Glasgow, Scotland, and educated at the Technical College in his native city. After completing several engineering engagements, Mr. Brunton became resident engineer on location for the C.N. Ry., and is at present time Commissioned Officer, Intelligence Staff, Military District No. 11, Victoria, B.C.

CHARLESWORTH, LIONEL CLAN, of Edmonton, Alta., has been elected Member. Born at Windsor, Ont., and educated at S.P.S., Toronto, he has since served in various engineering capacities in Ontario and elsewhere. Since 1915 Mr. Charlesworth has been Deputy Minister and chief engineer, Department Public Works, Alberta.

CORBETT, ALBERT HAROLD, of Winnipeg, Man., was born at Springfield, Man. He has been transferred from Member to Associate Member. After completing his education at the University of Manitoba, Mr. Corbett became for a time resident engineer in various districts of Manitoba during which time he superintended the construction of bridges, roads, etc. He is at present in charge of general municipal drainage and roadwork in Northern Manitoba.

DAVIS, WILLIAM EDGAR, of Winnipeg, Man., elected an Associate Member. Mr. Davis was born at Guernsey County, Ohio, in 1877, and was educated at Ohio State University, taking all elective branches in engineering and science. From 1906 to 1910 Mr. Davis was resident and assistant engineer on the G.T.P. Railway on location, grading and substructures, North Saskatchewan River crossings and on Division Engineer's staff, Edmonton; 1910-13, assistant engineer in chief engineer's office, G.T.P. Railway; 1913-15, contracting for railway structures under firm names of Davis & Brienbrock, and W. E. Davis; at the present time Major, O.C. 11th Battalion, C.R.T., France.

DICKINSON, JOHN ARTHUR, of Hawkesbury, Ont., elected a Junior Member. Mr. Dickinson was born at Liverpool, England, in 1888. From 1912 to 1917 he was engaged as a draftsman on the head office staff, Welland Ship Canal, St. Catharines, Ont.; 1917 to date, with Riordon Pulp and Paper Co., Ltd., Hawkesbury, Ont.

DYER, ARTHUR FREDERICK, of Halifax, N.S., elected an Associate Member. Mr. Dyer was born at Giridih, India, in 1885, and was educated at Edinburgh University and Heriot Watt College, taking a course in civil engineering. In 1910 Mr. Dyer was for five months employed as a draftsman with the Dominion Bridge Co., Lachine, P.Q.; 1910-12, manager, Clinton Fireproofing Co., Montreal; 1912-15, resident engineer for Sir John Kennedy on construction of new pier at Halifax; 1915 to date, in charge of construction and general consulting work for Furness, Withy & Co., Halifax.

GORDON, JAMES MacKENDRICK, of Toronto, Ont., elected a Junior Member. Mr. Gordon was born at Toronto in 1884, and took a two-year course in mechanical and electrical engineering, School of Practical Science, Toronto. 1910-17, paving superintendent with the Warren Paving Company, in full charge of bitulithic paving construction, in Port Arthur, Fort William, St. John, N.B., New Glasgow, Halifax and Moncton.

GREATREX, WILLIAM KERR, of Toronto, Ont., has been transferred from the class of student to that of Junior Member. He was born at Peterborough, Ont., and took his B.Sc. degree at the University of Toronto in 1917. Mr. Greatrex was for a time instrument man in the Department of Roadways, Toronto, and later assistant engineer of tests with the Toronto Hamilton Highway Commission. At the present time he is engineer for the Imperial Ministry of Munitions.

HACKNER, JOSEPH WESLEY, of Toronto, Ont., elected an Associate Member. Mr. Hackner was born at Uxbridge, Ont., in 1882, and received his degree of B.A.Sc., School of Practical Science, Toronto, in 1909. He has since been employed by the Department of Public Works, Ontario.

HALFORD, ABRAHAM, of Toronto, Ont., has been elected Member. He was born at Maidstone, Ont., and educated at the University of Toronto, in a special science course. Mr. Halford is with the Ontario Public Works Department as chief engineer, and is general superintendent of construction of bridges, locks, etc.

HAYWARD, CHARLES, of Sault Ste. Marie, Ont., elected an Associate Member. Mr. Hayward was born at Rochester, England, and received his degree of B.A.Sc., Toronto University, in 1915. Mr. Hayward is at present with the Algoma Construction & Engineering Co., Ltd., on concrete designs, also preliminary work on a power development scheme, etc.

HORSFALL, HERBERT, of Leaside, Ont., elected an Associate Member. Mr. Horsfall was born at Sheffield, England, in 1880. From 1900 to 1910 he was assistant superintendent and later general superintendent of the Dominion Wire Mfg. Co., Lachine, P.Q.; 1910-18, works manager, Canada Wire & Cable Co., Ltd.; at the present time works manager of the latter company, Leaside Munitions Co., Toronto; also St. Catharines Steel & Metal Co., St. Catharines, Ont.

MACKAY, ROBERT, of Calgary, Alta., elected an Associate Member. Mr. Mackay was born at Duntocher, Scotland, in 1880. From 1910 to date he has been engaged as superintendent and electrical inspector, city of Calgary, Alta.

MACKENZIE, CHARTERS GORDON, of Moose Jaw, Sask., elected an Associate Member. Mr. Mackenzie was born at Lucknow, Ont., in 1887. From 1910 to 1911 he was engaged by the Dominion Government as inspecting engineer on the construction of the Saskatchewan River bridge on the Hudson Bay Railway. At present Mr. Mackenzie is assistant engineer, bridge department, C.N.R.

McCULLY, ROBERT CHESLEY, of Winnipeg, Man., was born at Shediac, N.B., and has been transferred from student to Junior Member. After receiving his degree at Mt. Allison University, Mr. McCully became clerk of the Topographical Survey Branch Department of the Interior and later draftsman with the G.T.P. Ry. He is at present in charge of construction for the Imperial Oil Co., of Winnipeg.

McHUGH, JOHN, of New Westminster, B.C., elected an Associate Member. Mr. McHugh was born at Liverpool, England, in 1879. For several years he was with the C.P.R., G.T.P. Ry. and N.T. Ry. In 1913 he was for eight months municipal engineer, district of Surrey, B.C., and since then resident engineer, Department of Naval Service, Fisheries Branch, New Westminster, B.C.

(Concluded on page 91)