The Quarterly Review

of the Association of Professional Engineers of Manitoba

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A Message from the President

Through the medium of "The Quarterly Review" I would like to convey to our members and all others associated with us, the greetings and best wishes of the Council for the coming Christmas Season.

While expressing the hope that the New Year will bring better times for those who have found the present year unprofitable, we have to admit that our problems are almost sure to be more serious and difficult. Under these circumstances the administration of the affairs of the Association becomes of far greater importance than heretofore, and it is suggested that members should take a more active interest in the work to be done, especially in respect to the efforts now being made to assist those whose professional activities have been seriously restricted.

In the New Year let our efforts be directed towards the maintenance of a high standard of professional responsibility, both to the public and the Association, and by so doing gain the respect and appreciation of everyone whom it may be our privilege to serve.

J. W. SANGER

BUSINESS OF COUNCIL

Council Meeting of September 26th

At a Council Meeting held on September 26th Mr. R. O. Paulsen was admitted as a Member of the Association and a Registered Professional Engineer.

Financial statements were submitted by the Secretary, who requested that a survey of the securities owned by the Association should be made at the earliest possible date in order that Council might be fully acquainted with the location, the methods for safe-keeping, and the revenues derived from the investments. This survey was duly made on September 27th by the President, the Manager of the River Avenue Branch of the Canadian Bank of Commerce, and the Secretary. The survey showed that the holdings of the Association were intact, that they are safely deposited in a suitable vault, and that the revenues have been properly received and deposited to the account of the Association. The survey showed further that there were four bonds of the "bearer type" which had not been converted to registered bonds at that time. Within the next ten days these bonds were registered both as to principal and interest and have been certified as being so registered by the Canadian Bank of Commerce.

Joint Committee on Unemployment

The activities of Council since the last issue of "The Quarterly Review" have been principally connected with the Joint Committee on Unemployment of the Winnipeg Branch of the E. I. C. and the Association of Professional Engineers. This Committee has been enlarged, the present personnel being Professor J. N. Finlayson, Chairman; T. C. Main, Chas. T. Barnes, W. P. Brereton, J. W. Sanger, and Herbert Hunter.

As a result of four meetings of the Joint Committee, subsequent to the last issue of the Review, it was decided to call a Special Meeting of the Association for the purpose of dealing with a specific question, namely: Assistance to Engineers facing destitution. The matter having been discussed by the Joint Committee, by the Executive Committee of the Winnipeg Branch of the E. I. C. and the Council of the A. P. E. M., it was decided that the President should give an outline, to the Special Meeting, of a definite proposal for the assistance of destitute engineers and that members attending the Special Meeting be requested to make additional proposals, which might be considered by the Meeting, and that the Meeting be requested to authorize Council to act, with or through the Joint Committee, upon whatever proposal should meet with the approval of the Meeting.

Special Meeting of A. P. E. M.

The Meeting was duly held on October 13th, in the Engineering Building of the University of Manitoba, and in order to make any action of the Meeting valid a special register of attendance was signed by all those present. The notice assembling the Meeting was read and the President addressed the Meeting outlining the proposal that had been considered by the Council, the Executive Committee, and the Joint Committee, as follows:

"In order to approach this subject properly it is well that I should explain what has happened at some of the Council Meetings, firstly with respect to unemployment, and secondly, about the subject which we have met together tonight to discuss.

"The question of unemployment has frequently come before Council and in order that something of value might be done, a system of registration was put into effect covering both registered engineers, and students of the University of Manitoba.

"The value of such work, or such assistance, as the members of Council have been able to give has not been very great and I regret to say that we have not had the success for which we had hoped. One or two members of Council have done very good work but the amount that we have been able to do has in no measure approached the amount required to be done. In order that a better attack might be made on the condition of unemployment, a short time ago your Council and the Executive Committee of the Winnipeg Branch of the E. I. C. met together and formed a Joint Committee on Unemployment. This Committee has discussed considerably a proposal made as to assistance that might be given to members of the Association and of the Institute who might be destitute. It was also the opinion, at that time, that anything the Association might do to relieve unemployed and destitute engineers

could only be done for registered members of the Association. After further discussion and thought it was concluded that this view is not quite right. Most of the Council is now of the opinion that any effort made in this respect should be a joint activity. In discussing the subject at the meetings of the Joint Committee it was decided that, before any action be taken to ascertain the extent of destitution among engineers, it should be first ascertained how much money could be used for the purpose of relieving such destitution. At first it was thought best to find out to what extent relief might be needed. The feeling now is that we first should know what funds are available and then inquire into the extent of destitution.

"As far as this Association is concerned, we have capital assets to the value of about $11,000, of which $9,100 is in the form of bonds deposited in the vault of one of our banks. From these bonds we receive interest every year amounting to about $500. It was therefore proposed, at one of our recent meetings, that the interest from the bonds be set aside for the purpose of relieving destitution. The method proposed was to make loans to destitute members of the Association, in order to take away from the scheme the appearance of charity. The amount of relief that could be given from this fund ($500.00 a year) would not be very great and could only relieve extreme want. At our last meeting several other schemes were discussed, one of which was proposed by Major Taunton.

"Major Taunton's impression is that it is not right for us to take any of the funds of the Association, for purposes of relief, as these funds should be kept intact. He proposes that we go among the members and obtain loans from individual members of the Association, who may be in a position to make such loans, bearing interest at the rate of 3 per cent per annum, the first interest payment to become due two years hence. The interest from the bonds of the Association would be put in a special reserve fund as security to pay interest on the borrowed money as it becomes due and afterwards to retire the capital debt when it becomes due. If we should succeed in obtaining say $6,000, which amount Major Taunton suggests, and we are required to pay only 3 per cent on the loans, the interest from the bonds would be sufficient to supply the interest and to provide a sinking fund for the retirement of the loan in a certain number of years. If this scheme meets with your approval we should be able to pay, not only the interest on the borrowed money but, by using whatever money is repaid by members who have borrowed, it is quite probable, I would say almost certain, that the capital debt would be retired in a period of five or six years, provided of course that conditions return to normal from the viewpoint of the engineering profession.

"We desire a full discussion of the wisdom, or otherwise, of proceeding with such a scheme as has been suggested. First, you should decide whether or not you think this is the proper function of the Association. If you think so, should we create a fund as large as that suggested ($6,000)? If so, how should we go about raising this fund? Should we take it from the funds the Association now possesses or should we keep those intact and go about among the members to raise $6,000?"

Mr. T. C. Main opened the discussion: "As the Joint Committee has been appointed to deal with this question, would it not be wise to discuss, first of all, the part to be played by the Winnipeg Branch of the Institute? If you decide to raise $6,000, in the form of loans, the men who would be loaning that money would in all probability be members of both the Association and the Institute. Would the fund be administered by the Association or by a Joint Committee of the two bodies?"

Mr. Sanger: "It is my opinion that the Association cannot hypothecate any of its funds for the assistance of others than registered members of the Association. This is not a ruling of Council, or of the Association, but my own personal opinion. However, I do not see why it would be difficult to act jointly with the Institute because, in many cases, we would find that those receiving assistance are members of both the Association and the Institute. If it were not for the Association's funds being placed as security for the loan the matter would be quite

simple. If the Institute decides that it has no funds available for this purpose, at the present time, it should be possible for the Institute to earmark a certain amount of money each year for this purpose, just as the Association has proposed to do. If the Institute were to look very closely into expenditures, it would find that several hundred dollars could be saved and it then could put up sufficient money to secure the loans of those who are members of the Institute and not of the Association. All members of the Association could be carried by the Association and the few who are not members of the Association could be taken care of without much strain on the funds of the Institute. I shall now ask Professor Finlayson, who is Chairman of the Joint Committee on Unemployment, to express his opinion on the subject for the benefit of the members."

Professor Finlayson: "The Joint Committee on Unemployment, which has met fortnightly during the greater part of the summer, has a steadily growing list of unemployed members. We have tried to secure employment for as many members as we could. Although we have had no direct appeal for assistance from those of our members who are being hard pressed, yet, from a canvass of the situation, we feel sure that there will be a number of our members requiring assistance. I feel that it is a function of the Association, and a function of the Institute to be, as far as possible, first on the spot to render aid to our brother engineers in need. While I have no definite proposal to make, the members of the Committee do feel that we should do something. The proposals are to use the interest on the bonds, held in the name of the Association, and the proposal of Major Taunton. Would we be justified in selling a portion of the bonds? The purpose of the bond investment fund, when we decided to accumulate it, was that it should be reserved for defraying the cost of possible litigation. So far we have had no calls on our funds for this purpose. I would like to hear an expression of opinion from the members. We all feel that something must be done and we must have funds at our disposal."

Mr. Sanger: "I would like to hear from members of the Association, or the Executive Committee of the Winnipeg Branch of the Institute, and from all those men who have not had an opportunity of bringing their opinions before the Committee or members of Council. I would also like to hear the opinions of any unemployed engineers who may be here tonight. In Major Taunton's proposal I do not think it was the intention to raise $6,000 all at once but as found necessary to meet the conditions."

Member A: "Are there any limits placed on the disposal of the funds of the Association?"

The Secretary read Clause 16 of the By-laws, "Care of Funds," in answer to this member's question.

Member A: "Has Council obtained legal opinion as to its powers in disposing of funds?"

Mr. Sanger: "In Council's opinion, all that is necessary is the ruling of this meeting."

Member B: "It seems to me that the field for collecting a fund, such as that proposed by Major Taunton, is very limited. A great number of us have our own relatives to look after and feel that we should help them first."

Mr. Sanger: "Would you go to the extent of approving of the use of the interest, or selling a portion of the bonds to provide the necessary funds?"

Member B: "Yes, if these funds are available for use in the time of need I do not see why they should not be used."

Mr. Sanger: "If funds can be raised, by obtaining loans from the members able to make such loans, have you any objection to such a scheme?"

Member B: "None."

Professor Finlayson: "In regard to the distribution of the funds, should they be distributed in the form of small loans with, or without, interest? This point should be settled. Some members have been receiving City relief and three are not eligible to receive City relief on account of certain obstacles. I should like to ask Mr. Hunter to explain how relief is distributed by the government."

Mr. Hunter described the system of the distribution of relief and then proceeded to discuss Major Taunton's proposal. He stated that even if we could raise $6,000, this amount could only help ten families to the amount of $50.00 a month for one year. City relief allows

only clothing, food, shelter and fuel. If a man earns anything, or is in receipt of any income while on relief, his relief is decreased by the amount so received, except that now the City allows a man to retain twenty-five per cent of such earnings or receipts.

Mr. Sanger: "Mr. Hunter has cleared up quite a number of points upon which we had no information. There are practically no cases in which a man becomes ineligible for relief. It would seem that anything the Association can do would be small as compared with what can be done by the relief authorities. Therefore it would be unwise for us to go into the question of major relief. There is still, however, a large field in which we could operate if we had the necessary funds. I would ask you to consider authorizing Council to use the interest on the bonds to help out the conditions under which some members of the Association are labouring. If the amount of $500.00 proves insufficient we would be prepared to come back to a general meeting again and ask for authority to go further. I would like to know to what extent the Institute might be prepared to help by economizing along certain lines."

Mr. Sanger was advised that the Winnipeg Branch has funds which barely cover the operating expenses.

Mr. Hunter answered a question by one of the members, the question being: If the Joint Committee paid a member's arrears of dues to the Association or the Institute, would such payment be considered by the relief authorities to be income, thus making the member ineligible for relief? Mr. Hunter answered in the negative.

Member C was asked for his opinion as to the possibility of the Committee furnishing relief to members. Member C stated that in his opinion, in addition to the Committee furnishing men on direct relief with such incidentals as could not be covered by the city relief allowance, the Committee assist members who were not on direct relief but whose incomes had been reduced to an extent which made it impossible to carry on by advancing funds to pay off fuel bills, etc. Member C believed that funds for this purpose could be raised as loans among the membership, but in order to start things going he would favor using the income from the bonds of the Association in such a manner as the Committee might see fit for the relief of members, and should the income from the bonds prove insufficient, the calling of another Special Meeting to get authorization to go further and dip into the reserve funds of the Association for this purpose.

Moved by *Member C,* seconded by *Member B:* "That Council be authorized, either through itself or through a Committee appointed for the purpose of dealing with cases of destitution, to advance money up to the amount of the income from the securities of the Association in the form of loans to be made with or without interest, as that Committee sees fit.

After a very considerable discussion, Amendments were moved and seconded by Members D, E, F and G, modifying the amount indicated in the original motion and adding a clause covering the raising of further funds by means of loans from members. These Amendments produced much discussion. Finally, at the suggestion of the President, the Amendments were withdrawn and Member C, with the consent of his seconder, modified the original Motion to the following form:

"That Council be authorized, either through itself or through a Committee appointed by Council, for the purpose of dealing with cases of destitution, to use the revenue from the securities of the Association, or a sum amounting to $500.00, in any way it sees fit, for the purpose of rendering financial assistance to members of the Association facing destitution."

This motion was put to the Vote and Carried.

Council Meeting of November 24th

At the Meeting of Council of November 24th a special committee was appointed for the purpose of investing $1,000 from the current cash account in suitable bonds. The committee consisted of Messrs. Sanger, Finlayson and Cole.

Arrangements were made to have a survey of the Library of the Association completed for the purposes of the Chairman of the Library Committee. This survey has now been made by Mr. J. C. D. Taylor, who has reported at length on the volumes actually on hand, as well as those missing, or not returned by members who have taken them out of the Library.

The minutes of the Special Meeting of the Association were presented to Council and, as a result, the sum of

$500 has been set aside for the purposes of the Joint Committee on Unemployment, in accordance with instructions given to Council by the Motion passed by the Special Meeting.

The matter of holding a public dance to augment the funds at the disposal of the Joint Committee for the relief of destitution among engineers was considered. Council felt that this is not a proper function of the Association but that it might probably be so considered by the Winnipeg Branch of the Engineering Institute of Canada.

Council authorized the Chairman of the Entertainment Committee (Mr. S. E. McColl) to proceed with the matter of making arrangements for an engineering dance, the said dance to be self-supporting.

Four applications for membership were considered, two of which were recommended to take the Examination of the Association. The remaining two, Messrs. C. L. Fisher and G. W. Oliver, were accepted and these two gentlemen are now members of the Association and registered professional engineers.

For some years past the Secretary has been bonded with a Fidelity Company in the sum of $2,000. It was felt by Council, in view of the fact that at no time are there on hand cash funds in excess of $100.00 or cheques cashable by the Secretary, that the amount of the bond is excessive. Therefore, to decrease needless expenditure, the Secretary is now bonded in the sum of $1,000.

The Nomination Committee has been convened and is at work preparing nominations for the office of Councillors for the next two-year period. The work of this Committee does not relieve the membership of the Association at large from its responsibility in the matter of making nominations. The real function of this Committee is to produce at least one complete set of nominations selected in such a manner that the old complaint that the same members are nominated year after year shall no longer be justified. The membership is therefore requested to show its interest in the Association by returning the nomination blanks, which shall shortly be issued, properly filled in with the names of nominees and sponsors thereon.

Council has gone on record in advising the Secretary of the Federal Civil Service Commission that, in Council's opinion, the minimum qualification for appointees to positions of engineering responsibility in the Dominion Civil Service should be equivalent to those required for full membership in the Provincial Associations of Professional Engineers and that the minimum requirements for appointees to positions in the engineering service of the Civil Service, where such appointees may become eligible for promotion to positions of engineering responsibility, should be matriculation into a recognized university.

Council has decided to issue, in pamphlet form, to the Members, new copies of the Engineering Profession Act and the By-laws of the Association. This pamphlet is now being prepared by the Secretary and printer.

MINING

Some new achievements were recorded during 1932. Flin Flon commenced the recovery of a sixth metal, cadmium in the form of cadmium sponge, soon after the new year and gradually increased operations until a daily capacity of 4,300 tons was reached. The San Antonio mill started treating ore in May and attained a production of gold exceeding $50,000.00 monthly by August. Gold ores were milled at the Gem Lake, Oro Grande and Cryderman mines in the Central Manitoba area and at the Ferro property at Herb Lake.

Prospecting was active in the gold areas, particularly at Island Lake where diamond drilling confirmed the discovery of important bodies of gold ore. New discoveries were reported at Wallace Lake and God's Lake, Bigstone Lake, Tartan Lake and Herb Lake, and the bright spot in the picture is the marked increase in gold production over 1931 and all previous years.

Activity in Gold Prospecting

Gold mining in Canada is more active and prosperous today than it has ever been before. With every factor in their favor, labour at high efficiency, low cost of supplies, exchange premium on production—the only adverse one being the general rise in taxes—the mines are showing lowered costs and increased profits and are working at maximum capacity, a condition which, perhaps, no other industry can show.

This prosperity has stimulated the search for new mines and prospecting

for gold has been carried on actively across Canada, almost to the neglect of other metals, the sole exception, in fact, being the work in the silver and radium field at Great Bear Lake. The results of the past two years have been the discovery of several deposits of some merit in north-western Quebec, Ontario and Manitoba.

In Manitoba, much interest has been shown in the area northeast of Lake Winnipeg. In 1931, a discovery of gold veins on a small island in Island Lake was made when the water level was low. The property was optioned and intensively drilled last winter by Eastern interests. They have considered the results to be sufficiently good to justify, not only the installation of a mining plant to explore the veins at depth, but the erection of a 50-ton mill. The materials are to be shipped to Island Lake this winter and, if expectations are fulfilled, there should be production of bullion by late summer. An interesting feature is that the deposit lies in a channel 200 feet wide, between two large islands, being exposed on an islet 250 feet long and 60 feet wide, so that it can only be explored by diamond drilling and underground work and the mining will all be done beneath the lake.

In the summer just past, two gold discoveries were made on Elk Island and a small island to the northwest in God's Lake, 70 miles north of Island Lake. Only some preliminary surface trenching and pitting has been done on them, but some further development appears to be justified. Plans for this are under consideration.

Beyond the north end of Lake Winnipeg, towards the Palaeozoic rocks to the northeast, are several areas of favorable formation that deserve investigation. Besides those already mentioned, at Island and God's Lake, there are others at Oxford, Knee, Munro and Beaverhill Lakes, not to speak of considerable unexplored territory, about which nothing is known. In previous years there has been a certain amount of prospecting, but chiefly confined to the examination of shore outcrops and there is plenty of room for exploration for years to come. A great difficulty lies in the fact that much of these areas of favorable formation is covered by lake and cannot be prospected in the usual manner. The presence of mineralized float is then the chief evidence of ore bodies and sometimes by detailed geological mapping their location may be found. There is also the situation where an ore body is found on the mainland or an island and possibilities of a repetition of the geological structure may exist beneath the adjoining lake. Work of this nature is usually beyond the capabilities of the average prospector and the thought occurs that here is an opportunity for the employment of some of the younger technical graduates on prospecting parties to more advantage than usual.

Economics

In the last quarter the copper industry has watched, with great interest, the effect of the 4c a pound duty placed on imported copper in the United States. Apparently the effect has been more detrimental to the United States than beneficial, because they have been left with about two billion pounds of copper on hand, which prevents the price from rising in the United States, and other countries have been forced to take such steps as they are able to protect themselves against the import of cheap copper which ordinarily has been distributed equally through the consuming countries. It is understood that a meeting of all the copper producers will be held in New York, in December, in an attempt to organize the industry on intelligent lines, but few people have much hope that this will produce anything constructive.

The condition of the zinc market is the best of all the metals because there are no stocks on hand and production is less than consumption, and while enormous potential productive capacity is available, nevertheless the producers have been holding their production to well within consumption.

Lead is in the worst slump in its history.

The nickel market seems to get worse and worse, and while the price is always maintained at 35c a pound, the sales have continued to decrease and no improvement is at present in sight.

The gold mines are all working profitably and the depreciation of currency, both in England and Canada, has materially aided their operations. The Canadian Government is purchasing gold produced by these gold mines at the world's price and while this is called a premium at present, it is merely the retention of gold in Canada by purchase at the same price at which it would have to be bought abroad.

Nevertheless, there are some encouraging features to the world situation. Every country is trying to get down to more work and equal play, but less extravagance than in the past. Labor is accepting reduction in wages and business has reacted favorably to this condition. Several of the larger companies have been able to meet their capital payments and business is stirring. Indications are widespread that there is a slow but distinct recovery. This will probably not be reflected in market price of securities nor raw products for some time, but the year 1933 should show some marked improvement.

The United States have held their general election and the Democrats have been elected and will take office on March 4th. The business of the world is watching with interest and some anxiety what policies will be initiated by them.

PUBLIC WORKS

City Engineer's Department

The City Engineer's Department has carried on, during the past season, a limited volume of work: 16,424 cubic yards of gravel have been taken from Bird's Hill, 36,194 cubic yards of stone from Stony Mountain and 11,986 cubic yards of concrete have been turned out of the Central Mixing Plant—24,842 square yards of concrete sidewalks having been placed, along with the following pavements:

Asphalt No. 1:					
24 ft.	Sutherland Ave.	King	to	Schultz	2,752 sq. yds.
30 ft.	Memorial Blvd.	St. Mary's	to	York	1,403 sq. yds.
	Total				4,155 sq. yds.
Asphalt No. 2:					
24 ft.	Ellice Ave.	Sherburn	to	Downing	2,609 sq. yds.
24 ft.	Emily St.	McDermot	to	Bannatyne	761 sq. yds.
30 ft.	Ellice Ave.	Ingersoll	to	Sherburn	804 sq. yds.
24 ft.	Harold St.	Robert	to	George	1,045 sq. yds.
36 ft.	York Avenue	Kennedy	to	Memorial	2,938 sq. yds.
	Widening Maryland St.	Portage	to	Broadway	926 sq. yds.
	Widening St. Mary's Ave.	Vaughan	to	Memorial	495 sq. yds.
	Total				9,578 sq. yds.
Concrete Pavement:					
24 ft.	Sinclair St.	Mountain	to	Burrows	6,121 sq. yds.
24 ft.	Yarwood Ave.	Arlington	to	Alverstone	711 sq. yds.
24 ft.	Einarson Ave.	Burnell	to	Banning	913 sq. yds.
24 ft.	Dudley Ave.	Pembina	to	Stafford	9,152 sq. yds.
24 ft.	Dudley Ave.	Pembina	to	Daly	523 sq. yds.
	Total				17,420 sq. yds.

Four concrete lanes were completed, covering 5,375 square yards of surface.

Repairs were undertaken on the 18 million gallon reservoir, the first permanent repairs made since it was placed in operation in 1913. Settlement had taken place and many of the column capitals were broken. The cost of this work amounted to $6,000.00.

Arlington Street Bridge was also repaired this season at a cost of $5,185. This included replacement of beams, repairs to reinforced concrete sidewalks and painting.

Salter Street Viaduct

The completion of Salter Street Viaduct took place recently, the official opening being October 26th. The bridge is of the steel deck girder type, steel towers and bents across the railway tracks and concrete approaches. The Federal Government paid 50% of the cost, the Provincial Government 25% and the City 25%. The cost of the Viaduct will be considerably below the original estimate. The overall width of the bridge is 64 feet 2½ inches and the length 2,180 feet: 9,132 cubic yards of concrete, 550 tons of reinforcing steel, 1,420 tons of structural steel and 83,000 lineal feet of piling were used in the building of the structure. The labour cost was $420,000.00.

As one stands in the centre of this imposing structure, from where one can

see the main buildings which make the City's skyline, and observes the deck with its easy grades, sweeping curves and wide roadway outlined with ornamental lamps and fence, one cannot help but remark on the beauty of the bridge as seen from the roadway, which is practically the only view of it which the citizens of Winnipeg will have.

This bridge is made necessary by the tracks of the Canadian Pacific Railway which, while joining Winnipeg with outside points in all directions, at the same time divide the City into two parts. It is the fulfilment of the hopes and wishes of many who have looked forward for years to the time when a suitable crossing would be provided to join north and centre Winnipeg at this point. It is another link, and a very important one, in the cross-town highway for which a number of our citizens have worked for a long time, both in and out of season, and in spite of the many postponements and discouragements which have beset their favourite project.

In this structure one can see the careful consideration of our Federal, Provincial and Civic representatives as they devised ways to provide employment for those who so sorely needed it; the days of careful consideration and planning by the engineers who decided on the general features and type of construction to be used; the weeks of calculation and development of the many details; the labour of nearly 3,000 men who, in mill, shop and at the site, worked faithfully to complete the structure. One sees these same men, with their wives and families, enjoying the necessities and comforts of life, made available to them by the wages which they received for their work, the more fully enjoyed because they feel such wages have been justly earned.

Membership

REGISTERED PROFESSIONAL ENGINEERS

Only such persons who are Members of the Association of Professional Engineers of the Province of Manitoba and are registered as such under "The Engineering Profession Act" are entitled to practice as professional engineers in the Province of Manitoba.

Affleck, Garnet
Aldridge, William
Alexander, F. W.
Andrews, R. H.
Armstrong, John
Attwood, C. H.

Baldock, J. W.
Barker, A. W.
Barritt, Nelson
Battershill, J. W.
Bayne, H. A.
Beetham, H. S.
Bemister, S. C.
Berg, H. E.
Bickle, W. P.
Blair, M. P.
Blanchard, C. H.
Bodie, G. F.
Borgford, Th. B.
Bowman, R. S.
Brekke, Hans
Brereton, L. R.
Brereton, W. P.
Briercliffe, H. C. D.
Brockwell, H. E.
Broughton, W. K.
Brown, E. L.
Brown, George J.
Bull, W. J.
Burbidge, G. H.
Burke-Gaffney, P. O'D.
Burns, William
Burrows, J. A.

Calvert, N. W.
Cameron, H. S.
Campbell, Alex
Campbell, G. W.
Campbell, V. H.
Caton, E. V.
Cavanagh, A. L.
Chace, W. G.
Charles, J. L.
Clendening, C. A.
Coburn, G. W.
Cochrane, H. G.
Collins, G. E.
Collinson, F. E.
Cole, G. E.
Connell, A. G.
Corbett, A. H.
Cormick, J. H. S.
Coutts, George
Cowan, E. C.
Craig, John

Davidson, J. M.
Davidson, R. A.
Davies, F. DeC.
Davison, J. E.
Dillabough, J. V.
Dines, W. W.
Dixon, H. A.
Donaldson, H. L.
Dorsey, J. W.
Douglas, J. A.
Dowman, E. A.
Drybrough, John
Duncan, Andrew

Easton, L. I.

Ferguson, H. F.
Fetherstonhaugh, E. P.
Findlay, Allan
Finlayson, J. N.
Fisher, C. L.
Flint, Charles
Fosness, A. W.
Fourneaux, Joseph
Fowler, F. S.
Fox, C. H.
Fraser, J. P.
Fuller, H. P.
Fulton, William

Gemmel, H. W. R.
Goodspeed, F. G.
Gordon, John
Gordon, J. P.
Gow, D. B.
Gray, C. F.
Gruber, W.
Guildford, Jos. R.
Gunn, C. H.
Guthrie, L. A.

Hagarty, B.
Hall, J. G.
Hall, N. M.
Hanks, A. W.
Harding, W. K.
Hardy, G. F.
Harrison, George
Harry, W. E.
Hazel, F. B.
Henderson, H. B.
Hill, E. M. M.
Hill, G. R.
Hobbs, W. E.
Hogarth, B. B.
Holden, J. C.
Hopkins, L. D.
Hunt, W. H.
Hurst, W. D.
Hunter, H.

Ingimundson, B.
Irving, G. F.
Irving, J. C.

James, E. W. M.
Johnson, E. E.
Johnson, E. N.
Johnston, B. A.
Johnston, Louis
Junkins, S. E.

Kennedy, D. J.
Kennedy, S. S.
Kennedy, J. L.
Kent, E. S.
Kipp, Theodore
Kirby, Thos. H.
Kellett, J. E.
Krumm, J. C.

Lamont, A. W.
Landon, C. S.
Lang, J. L.
Lawrence, J. B.
Lill, C. D.
Lloyd, H.
Lloyd, F. L.
Lorimer, Henry
Lyons, M. A.
Lys, C. R.

Macdonald, A. E.
MacDougall, D. A.
MacGregor, J. Grant
Mackay, L. B.
MacKay, H. A.
MacKay, T. W.
MacKenzie, W. D.
MacLean, F. A. W.
MacTaggard, N. B.
Main, T. C.
McColl, G. B.
McColl, S. E.
McDonald, J. M.
McGibbon, W. S.
McGillivray, A.
MacGillivray, J. A.
McKenzie, R. J.
McKinnon, R. W.
McLean, D. L.
McLeod, H. W.
McNair, Hugh
McFayden, A. J.
McLellan, R. A.
Martin, T.
Meindl, J. A.
Melsted, V. J.
Michie, Victor
Miles, G. E.
Millidge, E. R.
Millidge, L.
Moffatt, R. W.
Monkman, G. H. N.
Montizambert, H. B.
Mooney, J. P.
Morris, A. J.
Morse, G. P.
Morton, J. M.
Murphy, James
Muller, C. G.

Oldham, W. F.
Oliver, G. W.

Parker, B. W.
Parr, H. A.
Patterson, E. B.
Paulsen, R. O.
Pearson, F. W.
Pearson, Grant P.
Peart, J. D.
Pender, W. D.
Penrose, J. A.
Peterson, P. C.
Philips, J. B.
Philipps, P. R.
Porter, J. W.
Porter, T. H.
Pounder, T. J.
Pratt, G. R.
Pratt, R. B.
Quail, James

Radcliffe, William
Reid, John
Riddell, James
Rimmington, H. S.
Roberts, T. L.
Robinson, G. H.
Robinson, R. C.
Roney, G. V.
Rose, J. T.
Ross, D. A.
Ross, K. G.
Roxburgh, G. S.
Ruttan, J. D.

Sanger, J. W.
Schofield, John
Scott, H. D. A.
Scott, W. M.
Shand, Harold
Sharpe, D. N.
Shepherd, W. R.
Shillinglaw, W. H.
Sill, A. J.
Smith, A. W.
Smith, David
Smith, Julian C.
Stainton, H. H.
Stanley, H. P.
Stocker, N. J.
Street, L. J.
Sullivan, John G.
Sutherland, R. L.

Tate, N. S.
Taunton, A. J.
Taylor, Charles
Taylor, J. C. D.
Taylor, R. E.
Trott, Alfred
Trueman, J. C.
Tully, J. L.
Turnbull, Thomas
Turner, C. A. P.

Umphrey, F. E.
Urie, H. R.

Veitch, James
Vercoe, H. L.

Waddell, N. M.
Wakefield, J. A.
Waldon, L.
Waldron, John
Walkden, William
Walin, H. S.
Walker, J. D.
Wallace, George
Walley, C. S.
Wallis, N. J.
Warkentin, C. P.
Waterman, A. B.
Watson, James
Webster, G. B.
White, H. M.
Wijnstra, T.
Wildman, K. E. B.
Willett, N. E.
Williams, G. A.
Williams, G. K.
Wilson, T. T.
Woodman, John

Yorston, J. K.
Young, John
Young, M. D.
Youngman, Walter

Register of Students of the Association of Professional Engineers of the Province of Manitoba

Booth, K. A.
Braddell, E. S.
Brown, G. K.
Burrows, G. E.

Coombs, R. M.

Dempsey, F. C.
Duncan, D. C. M.

Fargey, F. H.
Fargey, H.
Findlay, F. M.
Friebel, W. A.

Gayfer, E. R.
Goldstone, J. S.
Griffiths, G. H. R.
Hamilton, R. E.
Harvey, B. G.
Henderson, R. L.
Hicks, L. B.
Hood, G. L.

Klempner, Harold
Knox, J. B.
Kreutzer, H. M.
Kwiatkowski, T.

Leckie, R. G.
Levin, M.
Lindsay, T. A.
Loutit, J. A.
Love, E. R.

Malby, A. L.
Malby, G. T.
Marshall, E. A.
McLean, J. N.
Meincke, P. H.
Millar, A. M.
Moore, H. D.
Morden, W. E.
Murray, W. M.

Neale, M. J. L.
Noonan, R.

Ogryzlo, L. W.

Palmason, H. E.
Park, H. A.
Peters, H. F.
Pinn, P. W.

Quilliams, W. W.

Ramsay, W. W.
Robinson, G. W.

Sandilands, A.
Scott, L. G.
Seater, R. J. R.
Smith, M. H.
Steventon, H. E.
Stewart, G.
Sutherland, G. A.

Thistlethwaite, R.
Torell, J. D.

Waddington, J. S.
Watt, W. H.
Welbanks, J. W.
Wickberg, H. V.
Willms, R. J.

With the Season's Greetings

—THE EDITOR

The play is done; the curtain drops,
Slow falling, to the prompter's bell:
A moment yet the actor stops,
And looks around to say farewell.
It is an irksome word and task;
And when he's laughed and said his say,
He shows, as he removes the mask,
A face that's anything but gay.

* * *

And in the world, as in the school,
I'd say, how fate may change and shift;
The prize be sometimes with the fool,
The race not always to the swift.
The strong may yield, the good may fall,
The great man be a vulgar clown,
The knave be lifted over all,
The kind cast pitilessly down.

* * *

Come wealth or want, come good or ill,
Let young and old accept their part,
And bow before the Awful Will,
And bear it with an honest heart.
Who misses, or who wins the prize?
Go, lose or conquer as you can.
But if you fail, or if you rise,
Be each, pray God, a gentleman.

* * *

My song, save this, is little worth;
I lay the weary pen aside,
And wish you health, and love, and mirth,
As fits the solemn Christmas tide.

—William Makepeace Thackeray